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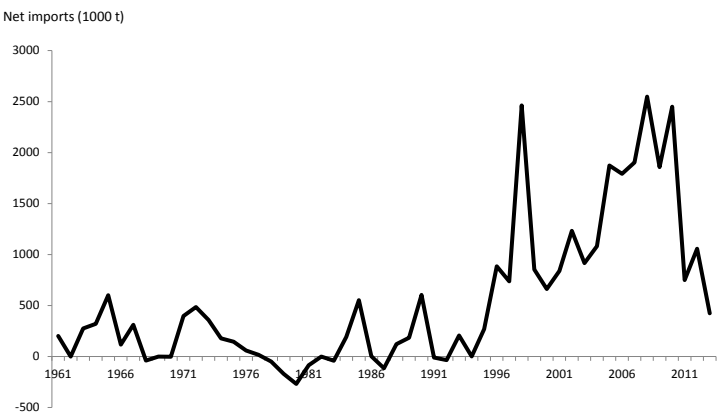
GAME CHANGER: IS PH RICE READY TO COMPETE AT LEAST REGIONALLY?

Flordeliza H. Bordey, Cheryll C. Launio, Jesusa C. Beltran, Aileen C. Litonjua, Rowena G. Manalili, Alice B. Mataia, and Piedad F. Moya

Zero rice importation or self-sufficiency has always been the elusive goal of Philippine agriculture policies regardless of political dispensation. Any inferior goal is unpatriotic and criticized as a failure of the government and the nation as a whole. Figure 1 shows the historical net rice imports of the Philippines.



Source of basic data: FAOSTAT as processed by the authors.

Fig. 1. Net rice imports of the Philippines, 1961-2013.

The government can actually ban imports and declare self-sufficiency, but this could trigger an upsurge in rice prices, long queues, and a restive constituency as experienced in the mid-1990s. With an ever-growing demand, rice imports are allowed to stabilize domestic rice prices. Indeed, food security is not just about producing enough supply but also ensuring its affordability to consumers.

KEY POINTS

- Competitiveness rests on the ability of a farmer to produce palay at the same or superior quality and at a lower cost than his local or international competitors.
- The Philippines' rice trade policy implies two things. First, it is futile to target 100% self-sufficiency given the realities of our trade commitments. Second, the country will soon face competition with the rest of the world or among ASEAN member-countries at least.
- If the quantitative restrictions (QR) were removed today and only the 35% tariff remained as trade protection, the Philippines would not be ready to compete against its ASEAN neighbors alone.

RICE TRADE POLICIES

Our country's rice trade policy confounds our quest for self-sufficiency. Our import policy is anchored on quota or quantitative restriction (QR) and tariff. This means we have to annually import at least 805,200 mt of rice (minimum access volume or MAV) with a tariff of 35%.

The government can, until 2017, limit the volume of rice imports above the MAV. The country is already on its second QR extension on rice. Besides, extending it further means we need to give up trade protection in other commodities; hence QR has a slim chance of surviving. Aside from QR elimination, eventual reduction in tariff rate looms.

Our rice trade policy implies two things. First, it is futile to target 100% self-sufficiency given the realities of our trade commitments. Second, we will soon face competition with the rest of the world or among the ASEAN member-countries at least. The big question no one wants to answer is: Are we ready to compete?

If QR were removed today and only the 35% tariff remained as trade protection, the straight answer would be: NO, WE CAN'T COMPETE. At this tariff level, a world price of rice (FOB price of 25% broken rice) around USD 400/t would lead to a wholesale import parity price (IPP) of only P29.21/kg (Table 1). IPP is the equivalent price of the imported good when sold at the wholesale market in the importing country. FOB (freight on board) is the price of a commodity at the port of the exporting country. This is 7.5% cheaper than the average wholesale price of regular milled rice (similar to 25% broken rice) in 2013, which was P31.56/kg.

Table 1. Estimation of wholesale import parity price.

Item	Value (P/kg)
FOB Price of 25% Broken Rice*	16.98
+ Freight and Insurance Cost	2.58
+ Other Charges and Costs	1.17
Cost of Commodity, Freight, and Insurance (CIF)	20.72
+Tariff Payment (35% of CIF)	7.25
+ Estimated Local Transport cost	1.23
Wholesale Import Parity Price	29.21

*FOB price of 25% broken rice is US$400/mt and converted at PhP42.45/US$.

COMPETITIVENESS

Why then are we not competitive?

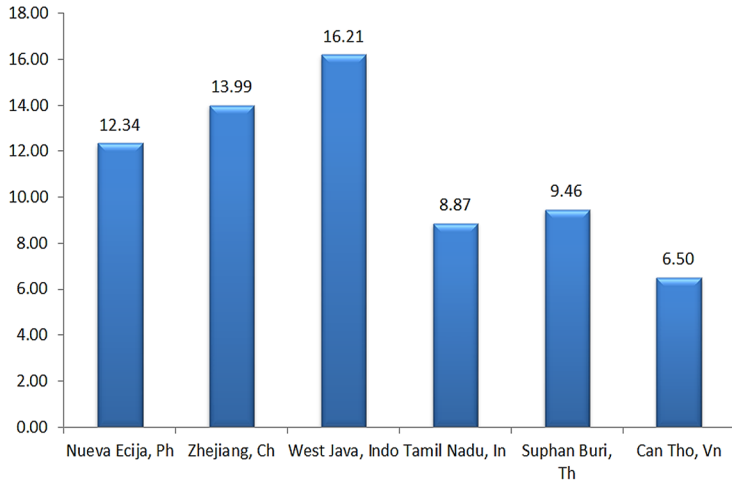
We first need to understand what competitiveness is all about.

Competitiveness rests on the ability of a farmer to produce *palay* at the same or superior quality and at a lower cost than his local or international competitors. It is an individual concept rather than a national one. Given the wide variation in the technological capacity and production environment of our rice farmers, it is not difficult to understand that some of them are competitive while others are not. Thus, instead of defining "national competitiveness level" we need to look at a local benchmark and see how it compares with "similar" producers in other countries.

PH AND NEIGHBORS: HOW DO WE FARE?

The Department of Agriculture (DA), through PhilRice in collaboration with IRRI, conducted a cross-country study in 2013 that assessed the cost of producing palay among select intensively cultivated and irrigated ecosystems in six countries: Philippines (Nueva Ecija), China (Zhejiang), Indonesia (West Java), India (Tamil Nadu), Thailand (Suphan Buri), and Vietnam (Can Tho).

Among importing countries (Philippines, China, and Indonesia), Nueva Ecija has the least cost of producing dry paddy (at 14% moisture content [MC] at P12.34/kg). Zhejiang's and West Java's were P13.99 and P16.21, respectively (Fig. 2).



Source: Benchmarking Philippine Rice Economy Relative to Major Rice-Producing Countries in Asia Project.

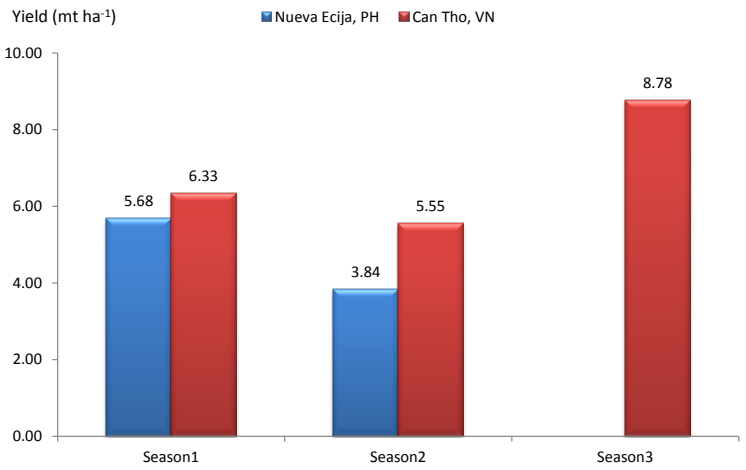
Fig. 2. Comparative cost (P/kg) per kilogram in selected irrigated areas in Asia, 2013.

Relative to exporting countries, however, it is still expensive to produce paddy in Nueva Ecija, with only P8.87/kg in Tamil Nadu and P9.46 in Suphan Buri. It is cheapest to produce dry paddy in Can Tho at P6.50/kg.

Why?

First is the wide difference in land productivity. Can Tho produces three rice crops in a year while Nueva Ecija only has two. Average rice yields at 14% MC in Nueva Ecija are 5.68 mt/ha (dry season) and 3.84 mt/ha (wet season) (Fig. 3). Can Tho boasts of 6.33 mt/ha during summer-autumn; 5.55 mt/ ha in autumn-winter; and 8.78 mt/ha during winter-spring. High rice yield is among the contributing factors to lower unit cost in Can Tho.

High labor cost is the second major reason why it is more expensive to produce rice in Nueva Ecija. On average, farmers here pay P3.76 on hired labor to produce a kilogram of paddy while farmers in Can Tho only pay P0.46 (Table 2). One can argue that Can Tho farmers probably depend on family labor. Can Tho's imputed cost of family labor is only P0.80/kg of paddy, which is slightly higher than P0.66 in Nueva Ecija.



Source: Benchmarking...Project.

Fig 3. Comparative paddy yields (14% MC) in Nueva Ecija and Can Tho, 2013.

The practice of direct seeding in crop establishment and the use of combine harvesters primarily explain the lower labor cost in Can Tho. In Nueva Ecija, transplanting, which is labor-intensive, remains popular together with manual harvesting and mechanized threshing.

Machine rental and fuel are more expensive in Nueva Ecija at P1.73/kg of paddy; only P0.80 in Can Tho. This could be explained by the use of more efficient machines in land preparation, harvesting, and threshing in Can Tho.

CLOSER LOOK AT VN AND PH

Some people contend that Vietnamese farmers are competitive probably because they receive plenty of government support like subsidies. No subsidies for material inputs, however, were documented in Can Tho during the survey period; although there's free use of water from state irrigation canals.

Even with free water, Nueva Ecija farmers would still spend P11.90/kg, much higher than the P6.50/kg cost in Can Tho.

Yet, Nueva Ecija farmers receive higher profit margin than their Can Tho counterparts. In 2013, the average price of dry paddy was P17.21/kg in Nueva Ecija; only P9.59 in Can Tho. They profited P4.87 while the Vietnamese got only P3.09/kg (Table 2).

Table 2. Comparative costs and returns of dry paddy production (in P/kg) in Nueva Ecija and Can Tho, 2013.

Item	Nueva Ecija, PH	Can Tho, VN
Seed	0.58	0.44
Fertilizer	1.94	1.35
Pesticide	0.36	0.87
Hired Labor	3.76	0.46
Family Labor	0.66	0.80
Power*	1.73	0.80
Land Rent	2.05	1.48
Irrigation	0.45	0.08
Interest on Capital	0.43	0.08
Others	0.40	0.13
Cost per kilogram	12.34	6.50
Price of dry paddy	17.21	9.59
Profit	4.87	3.09

*Power cost consists of machine and animal rent including fuel and oil.

Rice comes from paddy; hence higher price of paddy equals more expensive milled rice. Given the average milling recovery of 65% in Nueva Ecija, millers have to buy P26.48 worth of dry paddy to produce a kilogram of milled rice; only worth P14.11/kg in Can Tho at a milling recovery of 68% (Table 3).

Table 3. Estimated cost (P/kg) of rice at the wholesale market, PH and VN, 2013.

Item	Philippines	Vietnam
Price of dry paddy (14% MC)	17.21	9.59
÷ Milling ratio	0.65	0.68
Cost of dry paddy in milled rice equivalent	26.48	14.11
+ Gross marketing margin*	5.08	2.87
Wholesale Price/FOB Price	31.56	16.98

*Cost of transport, drying, milling, and other related costs to process paddy into milled rice, plus returns (profit) to marketing players.

The gross marketing margin (GMM), which includes the cost of drying, milling, transport, storage, other costs related to processing paddy into milled rice, and the profit of marketing players, is estimated to be P5.08/kg in Nueva Ecija, almost twice that in Can Tho with only P2.87/kg. The greater volume of paddy, more efficient handling, and higher milling recovery in Can Tho are the key factors for their lower marketing margin. Adding GMM to the milled rice equivalent results in the wholesale price of P31.56/kg in PH and P16.98/kg (US$400/mt) in VN.

Clearly, from farm to market, rice in Nueva Ecija is far more expensive to produce than in Can Tho.

In 2013, Vietnam had an area harvested of 7.9 million ha that produced 44 M mt of paddy; the Philippines produced 18.4 M mt from only 4.8 M ha. Vietnam's population was 91.7 M; ours was 98.4 M. Having what it has, Vietnam is no doubt in a better position to export rice.

WHAT TO DO?

Rely on the world market to supply the entire domestic rice requirement?

From 2008 to 2012, world rice exports averaged 34.23 M mt; purchases without the PH imports averaged 31.43 M mt. Therefore, the world's rice surplus available for the Philippines to buy averaged only 2.84 M mt a year. Given the country's yearly total rice requirement of about 14.97 M mt, it will be impossible to rely solely on international trade to supply our rice needs.

This means that we need to produce the bulk of the rice that we eat. We cannot count solely on imports.

We ought to improve our competitiveness to cater to our ever-increasing demand for rice. Increasing rice yield is central to being competitive. This is where hybrid rice technology helps, coupled with appropriate crop management in our suitable areas. Increasing the availability and reliability of irrigation water particularly in the dry season will lead to improved yields.

In reducing cost, the intensified use of labor-saving technologies such as the combine harvester and direct seeding is in the right direction. To alleviate rural labor displacement, jobs are to be generated outside the agriculture sector. Improving the efficiency of milling and handling can also reduce the cost of processing and marketing rice.

These are just several ways to improve competitiveness which could have an immediate impact.

CALL FOR ACTION

- Increasing rice yield is central to being competitive. Hybrid rice technology must be promoted coupled with appropriate crop management in suitable areas.
- Intensify the use of labor-saving technologies such as the combine harvester and direct- seeding but jobs must be generated outside the agriculture sector to alleviate rural labor displacement.
- Continue or increase the current irrigation program to enable farmers to plant during the high-yielding dry season.
- Invest in state-of-the-art rice R&D initiatives to create the next generation of technologies that would be sources of yield growth in the future.
- Improve the efficiency of milling and handling to reduce the cost of processing and marketing rice.

We must also invest in state-of-the-art rice R&D to create next-generation technologies that would be future sources of yield growth.

We cannot allow the rice industry to die a natural death, but we also cannot afford to be complacent and continue to produce expensive rice. We should start our quest for rice competitiveness **– now.**

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The articles featured here are grounded on solid basic and applied research.

This material looks into the competitiveness of PH rice in the ASEAN region. It defines what competitiveness is and the factors that affect it in terms of our current rice trade policies, and R&D efforts. Specifically, it measures how farming technologies, labor cost, mechanization, government subsidies, and the prices of palay differ from one country to another.

Analyzing the status quo can help benchmark PH rice relative to major rice-producing countries in Asia. It is an important step toward recommending and forming strategies, and policies to boost our farmers' competitiveness.

For comments and requests for additional copies, please write to:

Development Communication Division
Philippine Rice Research Institute
Maligaya, Science City of Muñoz, Nueva Ecija
Contact: mgm.nidoy@philrice.gov.ph • (44) 456-0258,-0277,-0285 loc. 500
PhilRice Text Center: 0920-911-1398

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Authors: **Flordeliza H. Bordey, Cheryll C. Launio, Jesusa C. Beltran, Aileen C. Litonjua, Rowena G. Manalili, Alice B. Mataia, and Piedad F. Moya**
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GAME CHANGER: HOW CAN THE PHILIPPINES IMPROVE ITS RICE COMPETITIVENESS?

Flordeliza H. Bordey, Cheryll C. Launio, Jesusa C. Beltran, Aileen C. Litonjua, Rowena G. Manalili, Alice B. Mataia, and Piedad F. Moya

The Philippine rice industry will soon bear the brunt of global competition. In 2017, the government may no longer be able to control the volume of rice to be imported. Cheap imported rice will compete in the local market as long as it is subject to 35% tariff. As a result, local wholesale price will mirror the wholesale import parity price – which is the equivalent price of imported rice after adding the costs of insurance and freight from the exporting to importing country, port charges, the tariff/tax, and local transport from port to wholesale market.

To understand how this will affect the local price of rice, let us trace the steps back from wholesale market to farm, from Manila to Nueva Ecija, for instance.

Given the price of US$400/t from the port of Vietnam, imported rice with 25% broken grains will likely be sold at only P29.21/kg at the local wholesale market (Table 1).

Table 1. Estimation of wholesale import parity and dry paddy prices.

Item	Value (P/kg)
FOB Price of 25% Broken Rice*	16.98
+ Freight and Insurance Cost	2.58
+ Other Charges and Costs	1.17
Cost of Commodity, Freight, and Insurance (CIF)	20.72
+Tariff Payment (35% of CIF)	7.25
+ Estimated Local Transport cost	1.23
Wholesale Import Parity Price	29.21
-Gross Marketing Margin**	5.08
Cost of paddy in milled rice equivalent	24.13
*Milling ratio	0.65
Highest price of dry paddy (palay) that grain traders can offer	15.68

*FOB price of 25% broken rice is US$400/mt and converted at P42.45/US$. **Cost of transport, drying, milling, and other related costs to process paddy into milled rice, plus returns (profit) to marketing players.

KEY POINTS

- Quantitative restrictions (QR) may not be extended beyond 2017 and cheap imported rice will likely be sold in the Philippines lowering the prices of local milled rice and palay.
- Farmers have to reduce their cost of production to retain their profits.
- Promoting hybrid rice in suitable areas, reducing the cost of labor and rice processing, and improving milling efficiency are some of the ways to help our farmers become more competitive.

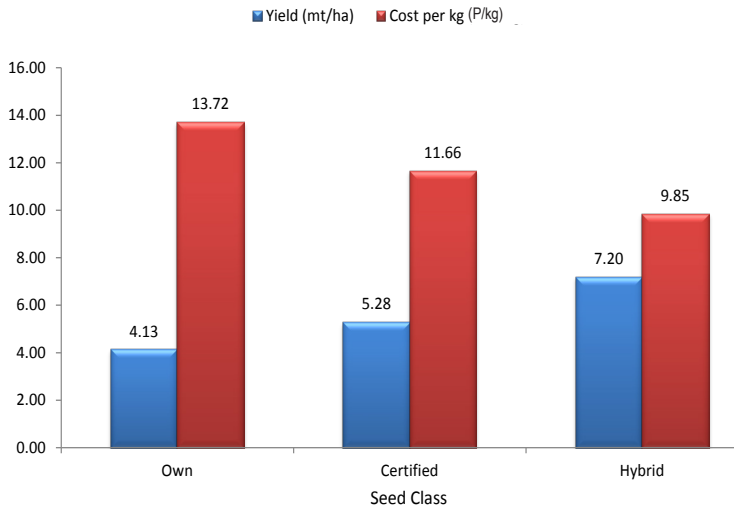
If our marketing players maintain their gross margin of P5.08/kg, the highest price for dry paddy (14% moisture content [MC]) that grain buyers could offer farmers would be about P15.68/kg only. This is about 9% lower than the 2013 average price of dry paddy. This means that farmers have to reduce their cost of production to earn the same profit that they enjoyed in 2013.

How can we help farmers do this?

HYBRID RICE

Increasing rice production per hectare at less cost can help farmers earn the same profit despite lower prices. A study of irrigated rice farming areas in Nueva Ecija in 2013 dry season (DS) showed that hybrid rice yielded 7.20 t/ha (at 14% MC).

This is 36% higher than the yield of certified inbred seeds; 74% higher than yield of farmers' own seeds. Considering its high yield, it takes only P9.85 for hybrid rice farmers to produce a kilogram of dry palay. Users of certified and own seeds have to spend P11.66/kg and P13.72/kg, respectively (Figure 1).



Source: Benchmarking Philippine Rice Economy Relative to Major Rice-Producing Countries in Asia Project.

Fig 1. Comparative yield (in 14% MC) of palay and its production cost, by seed class, 2013 dry season, in Nueva Ecija.

This shows that hybrid rice must be promoted in suitable areas to increase DS yield. Use of hybrid seeds should be complemented with appropriate crop management practices to maximize yield. However, farmers should be prudent in choosing hybrid varieties appropriate for wet season planting.

Since the removal of hybrid seeds subsidy in 2010, the private sector has intensified its production and marketing of hybrid seeds. The government can now concentrate in suitable areas that are hardly reached by the private sector, and boost R&D and extension to optimize the yield potential of hybrid rice.

SAVE ON LABOR TO REDUCE COST

Labor is costly in the Philippines. In irrigated areas of Nueva Ecija alone, labor eats up 35% of the total production cost where farmers spend P3.76 on hired labor to produce a kilogram of paddy (Table 2). The most costly farm activities are crop establishment, harvesting, and threshing where cost reduction can fuel competitiveness.

Table 2. Cost of dry paddy production, 2013, Nueva Ecija.

Item	Value (P/kg)
Seed	0.58
Fertilizer	1.94
Pesticide	0.36
Hired Labor	3.76
Family Labor	0.66
Power*	1.73
Land Rent	2.05
Irrigation	0.45
Interest on Capital	0.43
Others	0.40
Cost per unit	12.34

*Power cost consists of animal and machine rentals, including fuel and oil.
Source: Benchmarking…Project.

Since 99% of Nueva Ecija farmers transplant during the WS, transplanting was compared to direct seeding only in the DS. Hybrid seed users mostly transplant, hence were not included in the analysis. While transplanting requires 25 man-days (1 man-day = 8 hours of work), direct seeding utilizes only 2 man-days in a hectare.

Farmers can therefore reduce labor cost by P1.14/kg if they adopt direct seeding (Table 3).

Table 3. Partial budget analysis of labor cost, by crop establishment method (P/kg).

Item	Transplanted	Direct-Seeded	Difference
Hired Labor (P/kg)	3.82	2.51	1.31
Family Labor (P/kg)	0.60	0.77	-0.17
Net Labor Savings (P/kg)			1.14

Harvesting is mostly done manually while threshing is mechanized using an axial-flow thresher, both needing a total of 21 man-days per hectare. On the other hand, a combine harvester can harvest and thresh paddy in a single passing, needing less than 2 man-days. Manual harvesting costs 10% of harvest; axial-flow thresher earns 7% of harvest. Combine harvester costs only 8% of output, which is P1.56/kg less (Table 4).

Table 4. Partial analysis of harvesting and threshing costs.

Item	Value (P/kg)
Harvesting and threshing	2.95
Manual harvester	*1.74*
Mechanical thresher (axial flow)	*1.21*
Combine harvester	1.39
Net cost savings	1.56

These facts show that direct seeding and use of combine harvester can be promoted to reduce cost at the farm level. These could also augment seasonal labor shortage that occur during planting and harvesting when farm activities peak. Nevertheless, the use of labor-saving practices is opposed owing to labor displacement. Laborers need alternative jobs to regain their lost income from planting and harvesting should these activities become mechanized. Job generation outside agriculture such as in factories and construction could help absorb these workers.

SQUEEZING THE COST BEYOND THE FARM

Reducing the cost of producing rice and enhancing competitiveness fall on the shoulders of farmers and marketing players alike. Improving milling efficiency reduces the processing cost of rice. Recovering 68 kg instead of just 65 kg of milled rice from 100 kg of paddy will spell a big advantage in cost. With the P15.68/kg buying price for dry paddy rice, for example, only P230.60 worth of paddy would be needed to produce 10 kg of milled rice, if milling recovery were at 68%. At only 65% recovery, more paddy worth P241.20 would be needed to produce the same quantity of milled rice.

Milling recovery must be increased. To do this, the quality of paddy being processed must be improved. Breeding institutions, which are mostly public, must release varieties that have similar grain length and shape, and with high head rice recovery to facilitate the milling process. In addition, mechanized drying of palay could minimize the high percentage of broken rice.

To further improve milling efficiency, the capacity utilization of rice mills should be increased through provision of custom services to other market players. For example, paddy traders could venture into rice wholesale/retail business without investing in large equipment and avail of the services of underutilized rice mills. Increasing the capacity utilization of existing rice mills could reduce the milling cost.

BEYOND OPENING UP BORDERS

The strategies outlined here are only some of the ways that could improve our rice competitiveness in the medium term. They could help to immediately and significantly reduce our production cost in preparation for the lifting of quantitative restrictions in 2017. Beyond that, we need to continue improving our competitiveness by intensifying long-term investment in rice R&D to look for future sources of yield growth and cost reduction.

CALL FOR ACTION

- Promote hybrid rice in suitable areas to increase dry season yield. The use of hybrid seeds should be complemented with appropriate crop management practices to maximize yield. However, farmers should be prudent in selecting appropriate hybrid varieties suitable for wet season planting.
- Motivate farmers to use labor-saving technologies such as the combine harvester and direct seeding. To alleviate labor displacement, jobs outside agriculture must be generated for laborers to regain their lost income from transplanting and harvesting.
- Improve milling recovery by releasing rice varieties that have similar grain shape, length, and higher head rice recovery.
- Encourage palay traders to mechanize the drying process to minimize high percentage of broken rice.
- Increase capacity utilization of existing rice mills by providing custom services to lower the milling cost.
- From the total allocation for the rice commodity, the share of R&D must be increased.

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The articles featured here are grounded on solid basic and applied research.

As an offshoot of the previous issue on PH rice competitiveness, this issue gives recommendations on how the Philippines can improve its rice competitiveness. It calls for the promotion of hybrid rice in suitable areas, use of labor-saving technologies, improvement of PH's milling efficiency, and support for research, development, and extension.

Recommended strategies are significant in crafting informed decisions that would eventually help our farmers become globally competitive.

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Development Communication Division
Philippine Rice Research Institute
Maligaya, Science City of Muñoz, Nueva Ecija
Contact: mgm.nidoy@philrice.gov.ph • (44) 456-0258,-0277,-0285 loc. 500
PhilRice Text Center: 0920-911-1398

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Authors: **Flordeliza H. Bordey, Cheryll C. Launio, Jesusa C. Beltran, Aileen C. Litonjua, Rowena G. Manalili, Alice B. Mataia, and Piedad F. Moya**
Managing Editor: **Mary Grace M. Nidoy**
Editorial Advisers: **Constante T. Briones, Jaime A. Manalo IV, and Calixto M. Protacio**

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Maligaya, Science City of Muñoz, 3119 Nueva Ecija

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