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GAME CHANGER: HOW CAN THE PHILIPPINES IMPROVE ITS RICE COMPETITIVENESS?

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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.

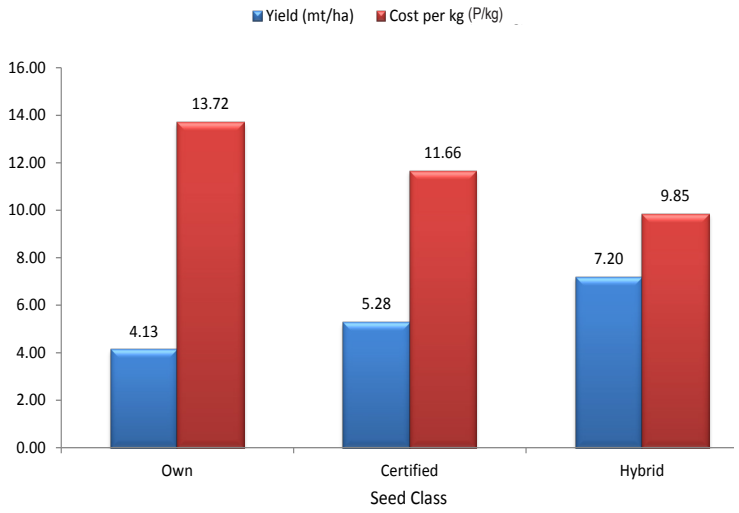
If our marketing players maintain their gross margin of P5.08/kg, the highest price for dry paddy (14% moisture content [MC]) that grain buyers could offer farmers would be about P15.68/kg only. This is about 9% lower than the 2013 average price of dry paddy. This means that farmers have to reduce their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

Rice Science for Decision-Makers is published by the Department of Agriculture-Philippine Rice Research Institute (PhilRice). It synthesizes findings in rice science to help craft decisions relating to rice production and technology adoption and adaptation. It also provides recommendations that may offer policy triggers to relevant rice stakeholders in search of opportunities to share their knowledge on rice-related products.

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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