

Rice Science FOR DECISION- MAKERS

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Is marketed surplus of farmers enough to meet their basic needs?¹

Introduction

Rationale: Figuring out the capacity of farmers to produce marketed surplus is a key to understanding their economic situation

It is crucial to find out whether or not our rice farmers in the country have marketed surplus or the excess palay supply to sell to the market after deducting their household requirements for food consumption, feeds, seeds, and payment of wages in kind. This is important because marketed surplus is a major source of cash that a farming household can spend on non-rice food and other basic needs. The aggregate volume of marketed surplus is also intricately related to our aspiration at attaining rice self-sufficiency. To be self-sufficient, the aggregate marketed surplus should be enough to feed the net consumers of rice; otherwise the country needs to import. This compels us to answer some overwhelming questions: Do our rice farmers have marketed surplus or are many of them subsistence farmers? What is the pattern of palay disposal among farmers? If there is a supply of marketed surplus, is it getting higher? Do farmers get the most from marketed surplus? To answer these, we need to ascertain the proportion of farmers with marketed surplus; determine the current level of marketed surplus at the rice farming household level; understand the disposal patterns of production; and determine the factors affecting the amount of marketed surplus.

KEY POINTS

- Farmers with marketed surplus in the Philippines reached 77% in 1996/97 and slightly improved at 84% in 2006/07. This shatters the myth that farmers in the country plant rice for mere subsistence.
- Marketed surplus is increased by palay price, rice yield, farm size and seed technology; while household size and consumption reduce marketed surplus.
- Income from rice farming is not enough for a farm household of five. Farmers need to have at least 3-4 ha land area to support the needs of their families.
- More farmers have diversified sources of livelihood compared to those who depend on rice farming alone. With farmers looking for other sources of income, they may lose interest in rice production, thus affecting farmers' decisive role in achieving self-sufficiency for the country.

¹Data cited in this issue are derived from the policy paper, "Analysis of Marketed Surplus of Palay in the Philippines" by A.B. Mataia & S.R. Francisco. 2009.

Research data on marketed surplus: key results from the ten-year survey

Do we have more farmers with marketed surplus?

Findings from the ten-year Rice-Based Farm Household Survey (RBFHS) conducted by PhilRice showed that the proportion of farmers with marketed surplus increased from 77% in 1996/97 to 84% in 2006/07 (Table 1). More farmers in irrigated than in rainfed areas have marketed surplus. The fact that more and more Filipino rice farmers are getting engaged in commercial palay production shatters the notion that majority of them are into subsistence farming.

How do farmers dispose their palay production?

Of the total palay production per farm, about half (49%) is disposed as marketed surplus. The rest is disposed as payment to harvesters/threshers (14%); payment to landlord (9%); kept as seeds for planting in the next season (1.3%); payment to creditors/permanent laborers, given away, kept for feeds (8%); and, retained for home consumption (19%).

Determinants of marketed surplus

Findings showed that marketed surplus was most responsive to **farm price**. This means that at 1% increase in palay price, marketed surplus increased by 0.45%. Thus, if the price of palay goes up, farm households would supply more to the market because of higher economic incentives.

Table 1. Distribution of farmers with marketed surplus of palay, Philippines.

Item		1996/1997			2006/2007		
		Irrigated	Rainfed	All	Irrigated	Rainfed	All
With marketed surplus	Number of farmers	2344	811	3155	2163	627	2790
	Proportion	(87%)	(59%)	(77%)	(88%)	(71%)	(84%)
Without marketed surplus	Number of farmers	360	557	917	297	253	550
	Proportion	(13%)	(41%)	(23%)	(12%)	(29%)	(16%)

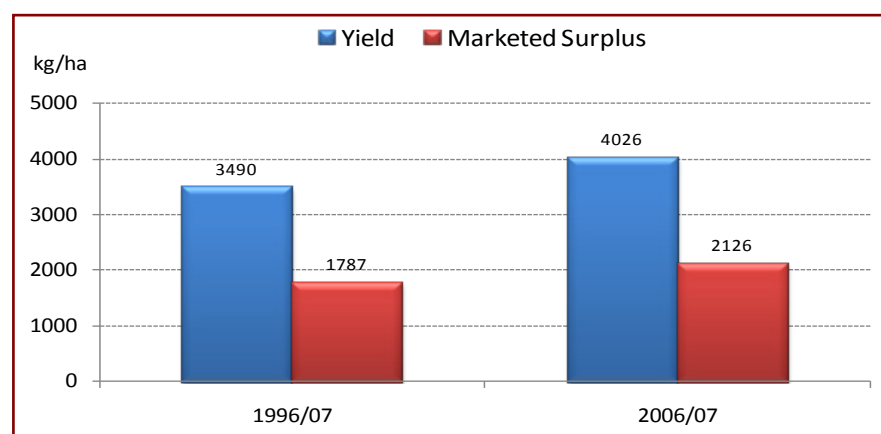
What are the trends in the volume of marketed surplus?

In 1996/97, the marketable surplus of an average rice farming household was 1,787 kg/ha or 51% of their total yield (Figure 1). By 2006/07, this increased to 2,126 kg/ha or 53% of the total yield. The volume of marketed surplus in both irrigated and rainfed areas also accelerated during the ten-year period. Marketed surplus increased by 16% in irrigated areas while it grew by 28% in rainfed areas.

Yield also pushed up marketed surplus. A 1% increase in yield meant marketed surplus would improve by 0.31%. Indeed, when the average yield level was only 3,490 kg/ha, the marketable surplus was only 1,787 kg/ha. But when average yield improved to 4,026 kg per ha, the marketable surplus also rose to 2,126 kg/ha. Thus, farm productivity could stimulate the level of marketed surplus.

Rice area also determined marketed surplus. Large farm size means bigger palay output and marketed surplus. For every 1% expansion in area, marketed surplus is raised by 0.19%. Yet, based on 2006/07 RBFHS data, about 50% of the farmers are cultivating less than a hectare, and only 4% are cultivating 3 ha and above.

Fig. 1. Yield levels and volumes of marketed surplus



Seed technology was also found to be a determinant of marketed surplus. Using high quality seeds translates to 0.038% increase in marketed surplus relative to ordinary or home grown seeds. Two other determinants, **household size** and **home consumption**, showed negative association with marketed surplus. This means that a 1.0% increase in family size would reduce marketed surplus by 0.04%

due to additional rice requirements. Correspondingly, a 1.0% increase in the volume of rice kept for home consumption would lessen the level of marketed surplus by 0.025%.

Do farmers get the most from marketed surplus?

Data from the research show that marketed surplus averaged at about 50% per hectare. At the national yield average of 3.8 t/ha in 2007 and at an average area cultivated of 1.16 ha per farm, the total marketed surplus would be 2.2 t per farm. At the average farmgate price of P10/kg in the same year, the cash value of the marketed surplus would be P44,000 per year for two croppings.² For a family of five, this is equivalent to P8,800 per capita on an annual basis. The per capita poverty threshold in 2007 was P14,103/year. This shows that the cash earned by farmers from rice farming is not enough to sustain their family out of poverty. Thus, rice farmers do not depend on rice production alone. Findings revealed that 86% of farmers have diversified sources of livelihood to augment their total household income. Considering the total household income of rice farmers, 40% of them can then be considered poor.

Equally frustrating is the situation of farmers without marketed surplus. They were found to have small rice areas ranging from 0.10 to 0.57 hectare and produced only an average of 1.4 tons (using 2006/07 data). Very few (16%) of these farmers used high quality seeds resulting in low yield at 2.69 t/ha. In addition their farms are located mostly in adverse production environments (e.g. rainfed areas). A major portion of the total palay produced by these farmers was home-consumed (55%) and none was left for market disposal. In fact, these farmers even buy a portion of their total rice requirement from the market. These are the very poor and food-insecure rice farming households.

The inadequacy and, in extreme cases, the absence of marketed surplus drive the farmer to look for other sources of income – menial jobs that would help him meet basic household needs. His supposed focus on improving rice productivity would then be lessened, which could redound to lackluster interest in deriving maximum gains. If the farmers who put food in our table cannot put food on theirs, how can we ask them to help

us in our goal to achieve self-sufficiency? The plight of the rice farmers getting poorer by the day is a scenario that we cannot allow to happen.

The call for action

It is imperative that farmers are encouraged to be market-driven. Essentially, we need to help farmers so that they will be able to produce and sell more palay. Since the marketed surplus is most responsive to price, policymakers need to assess if existing policies are indeed improving this incentive or not. Though the intention is good, current government policies that distort farmgate prices, however, tend to deter farmers from actively participating in the market. The sad predicament actually revolves around the National Food Authority (NFA) selling cheap imported rice to poor and rich alike. While it is not bad to import rice when needed, selling it below its cost plus the set tariff pulls down the market price of milled rice. In turn, this compels the private rice processors to compete and thereby reduce their willingness to pay for the main raw material of milled rice, which is palay. In this way, the “sell low” policy not only bankrupts the NFA but also has a detrimental effect to the market incentives of rice farmers. The recent government initiative to privatize rice importation is a welcome move, but would only be beneficial if proper tariff would be continually imposed until the cost of local rice production becomes internationally competitive.

Yield, which was found to be a vital determinant of marketed surplus, can be considerably improved through seed technology. The Department of Agriculture’s initiative to increase farmers’ access to modern seed technology through community seed banking, seed buffer stocking, and linking seed producers with credit conduits should be supported. The effort of the department to develop upland farming (not necessarily upland rice alone) should also be encouraged as this will improve the household food security status of the very poor farmers.

Equally important is the strengthening of the technical and other extension services to further augment the productivity of rice farming. Increase in yield also entails government to intensify investments in small irrigation and the rehabilitation of the national irrigation system. Irrigation is proven to have

Poverty incidence in rural households remains high (37.84%), compared to urban households (14.32%). Data derived from the Family Income and Expenditure Survey (quoted by ADB 2009) showed that the magnitude of poor population in the country had increased from 2000 to 2006; poverty was “a predominantly rural phenomenon...(given that) agricultural growth has not been sustained for many reasons....” Most of the poor work in agriculture and forestry (52.49%). The 2006 FIES data further emphasized that family size positively correlates with poverty incidence and vulnerability. Less than 20% of households with four members or less are poor; 40% or higher when the household size is six or more.

²This is an upper estimate of the net income of a rice farming household since we have not eliminated their costs for other inputs such as fertilizer, pesticides, herbicides and hired labor.

a positive impact in rice yields and can increase the cropping intensity in rice areas. Increased cropping intensity of course equates with increased output.

If farmers depend on rice farming alone, 92% of them would be below the poverty threshold if rice area is below 3 ha. Yet, RBFHS shows that only 4% of the surveyed farmers are cultivating 3 ha and above. Based on costs and returns and breakeven analysis, farmers with irrigated farms should have 3 to 4 ha of rice land to have a per capita income above the poverty line. However, in inflation-adjusted income, even with 4 ha land, per capita income was still below the minimum income required to meet the food and non-food basic needs. This tells us that allowing the consolidation of rice farms into a more efficient scale (to increase average farm size) can be better for rice farmers. This implies the need for further study of the implications of legal and institutional constraints in doing so.

Finally, partners and stakeholders should opt to focus on identifiable pathways toward improving farmers' welfare – bearing in mind the responsiveness of marketed surplus to palay price, yield improvement, and rice area; while minding that there are non-food requirements which vitally shape the quality of life of the rice farmer.³ Provision of these requirements, such as health, education, housing, and other amenities in life,⁴ should be sustained. These would all hopefully lead to a reenergized and flourishing rice sector that is at the core of the country's goal toward achieving self-sufficiency in the soonest possible time.

³According to the Human Development Index, a citizen's quality of life has these three calculable facets: purchasing power, a long and healthy life, and access to knowledge.

⁴Republic Act 8425, otherwise known as the Social Reform and Poverty Alleviation Act, refers to the poor as those that cannot afford the said basic needs, aside from food.



CALL FOR ACTION

- Policymakers need to revisit policies that distort farmgate prices at a level severely detrimental to farmers' interests;
- Support the DA initiatives to improve rice productivity such as investments in irrigation, technology development and extension, and increasing farmers' access to high quality seeds;
- Encourage the promotion of rice-based farming systems in marginal rice areas (e.g. rainfed and upland) to improve their household food security; and
- Conduct further study about the implications of legal and institutional constraints to consolidation of rice farms.

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 policies.

The articles featured here are grounded on solid basic and applied research in agronomy, biology, chemistry, and engineering; but it also underscores major contribution from the social sciences.

This issue analyzes the marketed surplus of palay in the Philippines. It presents data showing proportion of farmers with and without marketed surplus, the disposal patterns of palay production, the pattern of trends on the level of marketed surplus, and the relationship of the level of marketed surplus to yield and rice area. It reveals socio-economic factors to which marketed surplus responds and policy imperatives that correspond to addressing constraints underlying these factors.

Being informed of the role of marketed surplus in assessing farmers' situation would lead to certain insights on strategies to ultimately increase rice productivity. This dimension assigns significance to the human aspect of R&D, a crucial component in fulfilling our country's aspiration to achieve rice self-sufficiency by 2013.

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