

# POLICY BRIEF

POVERTY AND ECONOMIC POLICY RESEARCH NETWORK–COMMUNITY-BASED MONITORING SYSTEM

Volume II, Number 1

ISSN No. 2094-3342



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## ANALYSIS OF THE IMPACT OF THE CHANGES IN THE PRICES OF RICE AND FUEL ON POVERTY IN THE PHILIPPINES

In 2008, prices of rice and fuel in the Philippines have dramatically increased following the trends in the global market. Although the movements in the farmgate (producer) and retail (consumer) prices of rice is fairly stable during the period January 2006 to December 2007, prices significantly increased starting January 2008 (Figure 1). The average retail prices of rice for the period January to September 2008, in fact, increased by 34.3 percent as compared to 3.7 percent growth in the previous year. Meanwhile, farmgate prices increased by 26.7 percent in January to September 2008 as compared to the previous year's growth of only 4.5 percent. During the period, price of rice was at its highest in June 2008 with farmgate and retail prices of ordinary rice at P27.98 per kilogram and P35.78 per kilogram, respectively.

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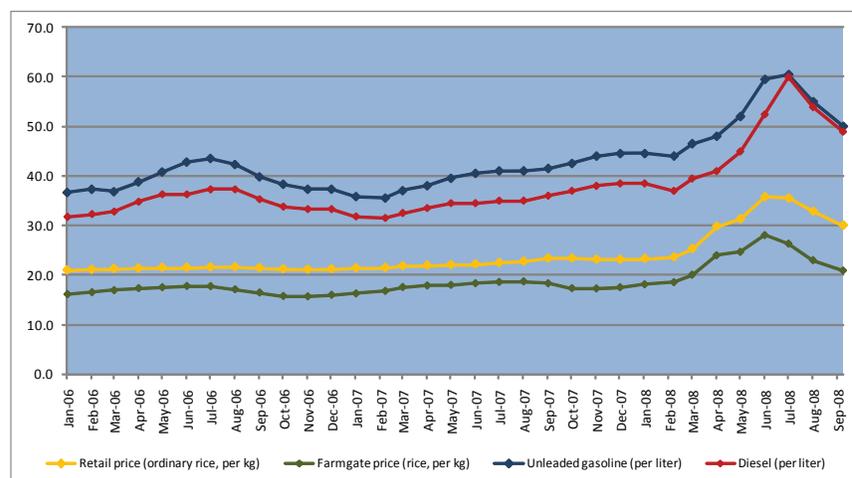


Figure 1. Trends in Rice and Fuel prices, January 2006 to September 2008

Notes: International prices cover prices of white broken rice, Thai A1 Super, f.o.b Bangkok (Friday closing price). Farmgate price is calculated as the rice equivalent price (palay price/0.65) Sources: Department of Energy (DOE), Bureau of Agricultural Statistics (BAS); Food and Agriculture Organization (FAO)

Meanwhile, data on fuel prices also showed fairly stable prices, particularly of unleaded gasoline and diesel, during the period January 2006 to September 2008. However, the prices of fuel significantly increased in 2008. During the period January to September 2008, the average price of unleaded gasoline increased by 31.6 percent as compared to 2007 when unleaded gasoline prices stood at 2.5 percent lower than in 2006. Moreover, average prices of diesel increased by 36.9 percent in January to September 2008 as compared to the previous year's decline of 3.11 percent.

Despite these prices increases in 2008, the estimated pass-through rates of prices reveal that there is no complete pass-through of changes in the foreign price of rice and fuel. This may be partly due to the interventions provided by the government in these sectors during the period.

Direct estimation based on changes in the Consumer Price Index (CPI) resulting from rice and fuel price increases during the period could force more than 1.8 million additional people to fall below the poverty threshold (Table 1). This translates to a 2.0 percent increase in poverty incidence among families.

On the other hand, using the 2000 Input-Output Accounts of the Philippines to estimate the direct and the indirect impact transmitted through other sectors of the economy, the simultaneous changes in the prices of rice and fuel would cause an increase in poverty incidence among families by about 2.5 percent.

Table 1. Changes in Poverty Measures After the Rice and Fuel Price Increases

INDICATOR	Direct Estimation Based on CPI	Estimation Based on I-O Tables
% Increase in general prices	4.1	5.2
Proportion of poor HHs (%)	2.0	2.5
Magnitude of poor (population)	1,828,392	2,277,265
Headcount Index	2.2	2.7
Poverty Gap Index	0.9	1.1
Poverty Severity Index	0.5	0.6

Note: Poverty measures are based on poverty indices from Foster, Greer and Thorbecke (FGT) 1984 class; Source of basic data: 2006 FIES (NSO)

This translates to an increase in the number of poor people by about 2.3 million, holding other factors constant. Other measures, including the poverty gap index and severity of poverty, also reflect a worsening of the living condition of the households in the Philippines generally as a result of the rice and fuel price hikes.

### Impact of Rice Price Increases

The effects of rice price changes may vary depending on whether a household is a net producer or a net consumer. Hence, the net benefit ratio (NBR), as used by Deaton (1989), is used as the main indicator to capture the duality (i.e., both producer and consumer of rice) of households in the Philippines. The important results are as follows:

- Most of the households in the Philippines are net consumers, rather than net producers of rice. Based on the NBRs, about 85.5 percent of households would be negatively affected while only 12.1 percent would benefit from the increase in rice prices. The rest of the households (2.4%) are not directly affected by rice price changes. These would include households whose rice

(palay) income share is equal to the rice budget share, as well as those households which do not have income from palay and do not consume rice at the same time.

- Not all rice producers would benefit from rice price increases and at the same time, not all gainers are rice producers. The latter include household which allow other households to use their piece of land for rice production and receive a net share of rice (or palay) during harvest. The poorest farmers tend to be the most adversely affected as shown by the large proportion of losers (40.3%).
- There are more nonpoor gainers (75.7%) in the Philippines than poor gainers (24.3%) in both urban and rural areas. Households in the lower income deciles (i.e., 1<sup>st</sup> to 5<sup>th</sup> income deciles) tend to be the most adversely affected group.
- Urban households would be the more adversely affected as compared to those living in the rural areas.

### Impact of Fuel Price Increases

The impact of higher fuel prices include the following components:

i) direct effect on the petroleum products consumed by the household, and ii) indirect effect on the prices of other goods and services consumed by the households that use fuel as an intermediate input. Households in the Philippines in general spend a relatively small proportion of their budget on fuel (including petroleum and LPG) amounting to only about 1.5 percent of their total expenditures. The amount of fuel expenditures increases as households move from one income decile to a higher level. However, the overall fuel budget share of the poorest group of households is higher compared to the richest households (i.e., the 10<sup>th</sup> income decile).

The increase in fuel prices would affect sectors that are highly dependent on fuel as a major input, including the transportation sector and agriculture-related industries (e.g., manufacture of pesticides, insecticides and fertilizer). This would mean that farmers, especially those who are poor, would also eventually be affected by fuel price increases.

### Household-Level Impact and Coping Mechanisms Adopted

To come up with specific case studies, data were collected in three barangays using the CBMS methodology. The selected villages (barangay) represent urban and rural areas, namely: Barangays 51 and 85 in Pasay City representing the urban areas, and Barangay Sta. Rita in Capas, Tarlac representing a rural area. Results show that about a quarter of the households living in

each barangay perceived that they have become worse off as compared to their condition six months prior to the survey. Although this may not be attributed solely to the price shocks, the fact that rising prices reduce purchasing power, especially of the poor households, may have contributed to their perception of declining economic situation.

Holding other factors constant, poor farmers are less likely to benefit from price increases unless the household can get hold of sufficient capital to expand rice production. This is the tipping point where government intervention is most welcome. Credit programs can enhance poor rice farmers' capacity to effectively respond to incentives posed by increases in prices. The provision of affordable agricultural

inputs would likewise lower the risks of incurring huge debts by the farmers, thereby decreasing costs and increasing profits.

In response to the price shock, households adopted various coping mechanisms. For instance, some households modified their expenses on food, health and education which may have negative consequences in the long-run (Table 2). For instance, some households changed their health seeking behavior by shifting from private clinics/hospitals to government health centers/hospitals. Some even resorted to self-medication or shifted to herbal medicines. Other coping strategies adopted by households include tapping various fund sources and seeking additional sources of income (Table 3).

Table 2. Modifying Households Expenses as a Major Coping Strategy Adopted by Households

Major Coping Strategy	Rural		Urban	
	Santa Rita		Pasay	
	Poor	Non-poor	Poor	Non-poor
<b>Modified household expenses</b>				
Changed health-seeking behavior	60.6	38.8	24.1	18.5
Decreased electricity usage	45.5	22.2	6.1	12.3
Shifted to NFA Rice	42.3	17.8	4.8	6.8
Changed electricity consumption pattern	36.6	26.5	36.5	43.5
Changed food consumption pattern	22.5	14.9	34.9	22.9
Food market preference changed to NFA rolling store/TNG	21.4	13.3	6.9	7.1
Children stopped attending school	8.5	6.7	4.8	0.8
Changed conduct of recreational/leisure activities	6.8	8.2	66.7	45.4
Shifted to low-cost cooking fuel	5.6	3.3	2.4	0.8
Transferred children from private to public schools	0.0	1.1	0.0	0.8
Decreased usage of cell phone	0.0	0.0	33.3	36.8
Shifted to cheaper means of transportation	0.0	0.4	0.0	0.4

Source: 2008 CBMS Survey

**Table 3. Tapping Various Fund Sources and Seeking Additional Source of Income as Major Coping Strategies Adopted by Households**

Major Coping strategy	Rural Santa Rita		Urban Pasay	
	Poor	Non-poor	Poor	Non-poor
<b>Tapped various fund sources</b>				
Borrowed money	76.1	71.6	41.6	34.1
Pawned properties	14.1	26.9	3.5	4.4
Sold properties	12.7	15.3	5.2	2.0
Used savings	7.0	16.4	10.4	23.8
<b>Sought additional sources of income</b>				
Sought work outside of area/country	5.6	12.7	0.0	2.6
Tried to seek additional work	12.7	9.3	2.4	4.2
Did additional work besides main occupation	9.9	9.3	0.0	2.1

Source: 2008 CBMS Survey

### Government Responses

In response to the recent price increases, the Philippine government has implemented policies and programs that would mitigate the negative impact of soaring prices. One of the most popular interventions of the government (through NFA) is the direct sale of rice at subsidized prices. Although the efforts of the government to provide cheaper rice to the population are being recognized, one important concern is on targeting. In particular, it was noted that among all NFA rice consumers, only 46.6 percent are considered poor. Furthermore, although the poor households are supposed to be the target beneficiaries of the highly subsidized rice, results confirm that only 24.0 percent of these poor households were able to access NFA rice. Note that for households in the lowest income decile, NFA

rice accounted for only about 12.7 percent of their total spending on rice. These results imply serious leakage and exclusion problems with the current targeting system.

### Conclusion and Policy Implications

The varying impacts of price shocks on different groups of households should be considered in improving the implementation of government programs. The fact that some households reduced their expenses on food, health and education

expenses should also be taken into account given their potential long-term effects on their poverty situation.

Furthermore, while there have been efforts to address the problem on leakages in the implementation of the NFA rice access program to the extent that Family Access Cards were issued, they have not been successful due to lack of household level data that would identify eligible beneficiaries. Consequently, considerable leakages and exclusion still prevail. Thus, it is recommended that household level data in the community, such as those being generated by the community-based monitoring system being implemented by local government units, be used to identify eligible beneficiaries through some proxy means test model.

*This Policy Brief is based on the research paper of the same title which was presented during the 7<sup>th</sup> PEP Network General Meeting on 9-12 December 2008, Dusit Thani Hotel, Makati City, Metro Manila, Philippines. A full version of the paper may be downloaded from the Poverty and Economic Policy website: [www.pep-net.org](http://www.pep-net.org). A similar study was likewise conducted by the CBMS Teams in Cambodia and Ghana.*

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This publication reports on a research project financed by Canada's International Development Research Centre ([www.idrc.ca](http://www.idrc.ca)).

This article first appeared in the PEP Network Policy Research Brief Series.