One pressing issue today is garbage: we have so much of it and none would want to have it. At least not in their backyard.

Waste disposal has been a problem for so many years and most of the solutions put forward by our officials have been to look for a wide "acceptable" area somewhere to dump everybody's garbage. Never mind that the populace in the dumping area may be exposed to health hazards.

In this issue, Ms. Eugenia Bennagen attempts to present the economic side of the garbage problem. More importantly, she presents an economic solution.

The current garbage crisis in Metro Manila is a multifaceted problem. It covers economic, social, technological, scientific, environmental, institutional, cultural, and—last but equally important—political issues. It therefore calls for solutions that cut across disciplines or perspectives. Recognizing this fact early in the decisionmaking process allows society to address the problem more rationally than what is currently being done. This article attempts to look at the garbage problem from an economic perspective. It treats the garbage crisis as an economic problem with economic solutions. However, as earlier pointed out, it is a multifaceted problem, and therefore, economic solutions are not, by themselves, sufficient.

Some facts and figures on solid wastes

Solid waste generation is an inevitable consequence of production and consumption activities in any economy. Generally, it is positively related to the level of income and urbanization. That is, higher income countries have higher waste generation rates compared to low income economies (Table 1).

In the Philippines, the National Capital Region or Metropolitan Manila generates about 5,800 tons of solid wastes per day, with households accounting for about 75 percent of total wastes generated (Figure 1a).

Almost half of a Filipino household’s wastes are kitchen/food wastes while the other half consists of paper and paper-based wastes (16%), plastics (15%), glass (9%), and the rest is made up of yard wastes, textiles, rubber...
and leather, among others (Figure 1b). Household waste segregation is not widely practiced and waste recovery is minimal—only an estimated 4 percent is recycled at source, 1 percent during hauling, and 1 percent at disposal site.

Although collection efficiency of government garbage trucks is estimated at 73 percent, a relatively large 25 percent of the daily wastes discarded—or 1,450 tons—are still illegally dumped in open spaces, streets and rivers throughout the city. Table 2 provides a snapshot of the garbage crisis in Metro Manila. With the closure of three disposal sites, which account for 95 percent of Metro Manila wastes, the current garbage crisis was inevitable.¹

![Figure 1a. Sources of Solid Wastes, Metro Manila, 1992](source: MMDA/JICA)

**Economic dimensions of the garbage problem**

Some aspects of the economics of solid waste management need to be discussed so as to provide insights into potential economic solutions to the problem. The discussion is by no means exhaustive and is intended to inform noneconomists of some basic economics of the garbage problem while at the same time, stimulating further discussions on the economics of solid waste management among economists.

Is solid waste management service (SWS) a public good?

It is useful to start off the discussion on the economic dimensions of the garbage problem by examining the public good nature of solid waste management services (SWS). A public good, as defined in economics textbooks, is a good that exhibits both consumption indivisibilities and nonexcludability. Consumption is indivisible when a person’s consumption of a good does not diminish the amount available for others. Examples of such goods are clean air, natural landscapes and biological diversity among others.

On the other hand, nonexcludability refers to a circumstance where, once the good or service is provided, even those who fail to pay for it cannot be excluded from enjoying its benefits. Examples are public safety and

Table 1: Urban Municipal Solid Waste (MWS) Generation in Selected Asian Countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>GNP Per Capita (1995 US $)</th>
<th>Current Urban MSW Generation (kg/capita/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>200</td>
<td>0.50</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>240</td>
<td>0.49</td>
</tr>
<tr>
<td>Myanmar</td>
<td>240</td>
<td>0.45</td>
</tr>
<tr>
<td>Vietnam</td>
<td>240</td>
<td>0.55</td>
</tr>
<tr>
<td>Mongolia</td>
<td>310</td>
<td>0.60</td>
</tr>
<tr>
<td>India</td>
<td>340</td>
<td>0.46</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>350</td>
<td>0.69</td>
</tr>
<tr>
<td>China</td>
<td>620</td>
<td>0.79</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>700</td>
<td>0.89</td>
</tr>
<tr>
<td><strong>Middle Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>980</td>
<td>0.76</td>
</tr>
<tr>
<td>Philippines</td>
<td>1,050</td>
<td>0.52</td>
</tr>
<tr>
<td>Thailand</td>
<td>2,740</td>
<td>1.10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3,890</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>High Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea, Republic of</td>
<td>9,700</td>
<td>1.59</td>
</tr>
<tr>
<td>Hong Kong*</td>
<td>22,990</td>
<td>5.07</td>
</tr>
<tr>
<td>Singapore</td>
<td>26,730</td>
<td>1.10</td>
</tr>
<tr>
<td>Japan</td>
<td>39,640</td>
<td>1.47</td>
</tr>
</tbody>
</table>

¹This crisis situation was foreseen to occur in year 2000 during the formulation of the Metropolitan Manila Solid Waste Master Plan in 1997 (JICA/MMDA 1998).


* Includes construction/demolition debris.
Figure 1b. Composition of Household Wastes, Metro Source: MMDA/JICA

defense, traffic control and street lighting. Simply stated, public goods are best provided by the government in order to prevent market inefficiencies.

In the Philippines and in many other countries, solid waste management has traditionally been considered a (local) government responsibility, both by local governments and the general public. This long-held view explains why SWS are financed through taxes.

But do such services fit the definition of a public good as defined above? Perhaps not. For one, those who generate waste can certainly be excluded from enjoying the benefits of collection and disposal services if they fail to pay for it. Moreover, these services can be consumed individually and may therefore diminish the amount available for others.

Indeed, it has been noted that markets for these services do exist and are working in many parts of the world. What are these markets? Principally, these markets consist of individuals or firms that are willing to supply garbage collection and disposal services at prices that consumers are willing to pay for. In fact, the market for solid waste management in the United States is a large industry that provides services to both the private and public sectors.

This thus lends support to the argument that SWS do not exhibit public good qualities of indivisibility and nonexcludability.

In urban areas in many developing countries, including the Philippines, most of these activities take place in informal markets at the community level. Organized communities contract the collection and disposal of their garbage to private truck owners for a fee. In some cases, door-to-door collection service of household garbage is provided by young boys with rolling carts for a daily or weekly fee. The problem with these informal markets, though, is that they are not monitored and it is not known where the collected garbage is disposed.

A recent World Bank technical assistance to the Philippines on SWS regards these services as a quasi public good, defining quasi public goods as goods and services that can be consumed individually and whose derived benefits can be measured in terms of payments made by the users through, for example, user charges. It suggests that local governments should change their perception of SWS as a public good in order to pave the way for the implementation and collection of user charges for SWS provided to businesses and households.

**Does waste collection and disposal generate externalities?**

Externalities, or those unintended effects of an individual's actions on others for which he does not bear the consequences, are another cause of market failure and inefficiency. For example, a paper plant that dumps its wastes into the river exacts an external

---

Table 2: Comparison of Pre-Crisis and Current Crisis Garbage Situation in Metro Manila.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total wastes generated (t/d)</td>
<td>5,345</td>
<td>5,841¹</td>
</tr>
<tr>
<td>Collection efficiency (%)</td>
<td>73</td>
<td>na</td>
</tr>
<tr>
<td>Illegally dumped wastes (t/d)</td>
<td>1,308</td>
<td>na</td>
</tr>
<tr>
<td>Number of open dump sites in operation (Payatas and Catmon)</td>
<td>2</td>
<td>1²</td>
</tr>
<tr>
<td>Number of “landfills” in operation (San Mateo and Carmona)</td>
<td>2</td>
<td>0²</td>
</tr>
</tbody>
</table>

na = information not available
¹ Based on a per capita waste generation of 0.56 kg/day.
² The San Mateo landfill, closed in December 2000, handled 32% of total Metro Manila waste while the Carmona landfill, closed in 1998, handled 35%.
cost on a resort hotel downstream, yet the paper plant does not consider that cost in its decisionmaking. This cost may come in the form of reduced business for the resort hotel arising from the pollution of the river that is used for recreation by tourists.

Without any intervention to compel the plant to bear or internalize the external cost caused by its action, the paper plant will continue to dump its waste into the river and the hotel will continue to bear the cost of the pollution. As a result, too much pollution is produced and society as a whole suffers.

The garbage issue can be viewed in the same manner. As indicated earlier, solid waste generation and disposal generate externalities. The garbage that half of the public generates and throws away in open dumpsites, rivers, streets, vacant lots and neighborhood corners—the disposal of which is not charged to them individually—exacts costs on the other half of the public.

Some of these local costs include health risks from exposure to pathogens that transmit diseases; polluted groundwater from leachate; flooding caused by clogging of waterways; foul odor emitted by rotting garbage; and lower real estate values. People do not take these costs into account when they make decisions on where and how to dispose of their garbage.

What do these two situations of the paper plant and garbage disposal have in common with respect to the environment?

The answer is that there is no payment or price paid for the use of the environment as a waste sink or receptacle. This lack of proper pricing of the environment will result in the inefficient use of natural and environmental resources at the expense of environmental degradation and loss of social welfare.

Marginal cost pricing of SWS

Figure 2 shows a downward sloping demand curve for solid waste collection services where the quantity demanded of SWS (represented in the horizontal axis and measured in terms of quantity of waste discarded) increases as price of SWS (represented in the vertical axis) decreases.

In recent years, it is a general practice, even among developed countries, for households to pay a flat fee for SWS. Under this scheme, there is practically a zero marginal or incremental cost of SWS. Thus, it does not encourage an efficient discard of waste products since households continue to pay the same fee even as they throw more garbage.

This is clearly shown in Figure 2 where households paying a flat fee may discard a quantity of waste products at point Q’, which is greater than the efficient or optimal quantity of waste discarded.

Now, consider the introduction of a marginal or incremental pricing scheme for SWS where households will be charged a price per unit of SWS, say, at P’. With a higher price or fee charged, households will now be more careful or prudent in discarding garbage. Thus, the quantity demanded of SWS now shifts to the left and is now at Q*. The quantity of household waste discarded by households therefore declines with a price increase in SWS.

Divergence between private and social costs

The existence of externalities in SWS as discussed indicates that a divergence between the private costs of providing the services and the cost to society exists. It is important, therefore, that for the quantity of SWS demanded to be efficient or optimal, the price

Figure 2: The Demand Curve for Residential SWS

Source: Jenkins, R. B. (1993), with modifications.
Studies show that the larger the household, the greater the waste discarded.

should incorporate not only the private cost of SWS but also the external cost.

In Figure 2, when the marginal external cost of SWS is reflected in the pricing at \( P^* \), the quantity demanded shifts further to the left at \( Q^* \), resulting in a further decline of quantity of wastes discarded. Thus, for efficiency or optimality, the price per unit charged to households should reflect the social cost of SWS which includes both the private and the external cost.

At \( Q^* \), the quantity of waste discarded is beyond the optimal level. Thus, the cost to society of disposing that quantity of waste is greater than the benefit to households for having it discarded. The triangle abc represents the welfare loss to society under a flat fee or zero marginal pricing regime.

Factors influencing household demand for SWS

The household is a crucial entity in the issue of the garbage crisis since it generates about 70 percent of the garbage in Metro Manila. It is in its nature of consumption and production activities of the household that wastes are produced and have to be disposed.

On a day-to-day basis, households make decisions on how much waste to generate, how much to reuse, recycle or compost, and how much to throw away. What are therefore the factors that influence the household’s decisions regarding waste generation and disposal?

The demand for a good or service is affected by its price, price of substitutes, and by nonprice factors like income, population and preferences, among others. The empirical literature on the demand for SWS by households show that this demand is influenced by economic variables such as the price of solid waste services and of other goods consumed by a household; payment received by the household for recyclables; socioeconomic characteristics of the household such as income, household size, education, and size of living quarters; and demographic variables such as population density and age distribution, among others.

Empirical studies show the inverse relationship between the price for SWS and quantity demanded based on the demand theory. In these studies, the price for SWS is the user fee that is charged to households per unit of SWS, while the quantity demanded of SWS is measured by the quantity of waste discarded.

On the other hand, a positive relationship exists between income and aggregate or total household waste. That is, the higher the income, the greater is the quantity demanded of SWS. Meanwhile, the relationship between income and quantity demanded of SWS per type of waste discarded is not always positive. For instance, the quantity discarded of yard waste and newspapers increases with income while that of packaging and textiles decreases with income.

Moreover, studies show that the demand for SWS with...
Filipino consumers suffer from high prices of rice, which are double to triple those borne by Thai or Vietnamese households.

Similarly, Filipino rice farmers, on the average, incur costs of production double to triple that of Thai or Vietnamese farmers.

It has been this way since the mid-1980s. The gap in consumer price and producer cost between the Philippines on the high side, and Thailand and Vietnam on the low side has been growing since then.

And it looks like Filipino households and farmers will continue to be disadvantaged in prices and costs into the foreseeable future. This is especially true given the current policies and programs in the Philippine rice sector and the current and anticipated levels of agricultural productivity due to the inherent cycles of agricultural production.

**Current rice prices**

As of the first week of August 2001, the retail price of regular-milled rice in major Manila wet markets was P16.73 per kilo. In peso terms, for the same quality of rice, Vietnamese households pay only P6.06 per kilo while Thai households pay P7.64 per kilo.

The cheapest rice in the Philippine market is regular-milled rice sold at P14.00 per kilo by the National Food Authority (NFA) in its relatively few “rolling stores”. Yet in the most depressed areas, the NFA’s stocks are not fully sold, indicating that even P14.00 is expensive to the very poor!

The NFA has now resorted to selling rice in half-kilo bags because the very poor can hardly come up with the P14.00 in cash to purchase rice a kilo at a time.

Recent survey data show that on the average, it costs Filipino farmers P7.45 to produce a kilo of paddy (unhusked rice). In comparison, as of the mid-1990s, Filipino farmers spent P5.71 to produce a kilo of paddy while Vietnamese farmers spent only P2.33 per kilo and Thai farmers P4.30 per kilo.

**Trends in rice prices**

In terms of rice prices and costs of production, the gap between the Philippines, on the one hand, and Vietnam and Thailand, on the other, has been growing worse over time.

Prior to the mid-1980s, the gap was minimal and stable. Since then, the gap has gradually but continually widened (Figure 1).

**Rice prices and rice smuggling**

Since the price of rice in the Philippines is high, the incentive to bring rice into the Philippine market is very powerful. By law, only the NFA may import rice or license such imports into the country. Yet by anecdotal evidence and media accounts, the smuggling of rice is rampant. This may be particularly true given spotty enforcement of import restrictions by enforcement...
Price differentials are the root cause of smuggling since the price of local rice is higher than those from exporting countries like Viet Nam and Thailand. It is particularly profitable to smuggle rice into the country despite the risks of being caught and penalized.

There is little scope for improving enforcement, given the weakness of enforcement mechanisms and institutions and the fact that authorities have other concerns to worry about.

In fact, the recent re-imposition of the requirement of NFA permits for domestic and interisland shipping merely resurrected more opportunities for rent-seeking and corruption, with highly doubtful positive effects on smuggling, since the root cause has not been addressed.

**Rice prices and labor/farmer unrest**

Eighty percent of Filipino households allocate at least half of their expenses to food. Rice is the staple food item of most households, which takes up about a quarter of household food budgets. Therefore, any increase in the price of rice is tantamount to a decrease in household income and wages.

Furthermore, since food prices are an important component of the administrative wage-setting process in the Philippines, the upward trends in rice prices have exacerbated labor unrest and continuing pressure for legislated wage increases.

Rice farmers and their families are also disadvantaged from high rice prices. Rice farmers sell most of their rice produce at harvest time. They generally need the cash and do not normally have enough storage space to store rice for their consumption for the rest of the year.

Recent surveys of the Social Weather Stations (SWS) indicate that 85 percent of Filipinos and 78 percent of rural households source their household rice from the open market. This indicates that the proportion of households benefiting from rice sold at subsidized (relative to domestic) prices by the NFA is only a small portion of the total population.

**Rice prices and rice consumption**

An anecdote, often considered a gospel truth, about the dietary preferences of Filipinos, especially of the so-called “masses,” is that a common Filipino meal consists of a mountain of rice, flavored by a little serving of soup or viand. This observation leads to the conclusion that Filipinos eat too much rice. A further conclusion is that: If only Filipinos ate less rice, then we won’t have to worry about imports!

Yet cross-country evidence shows that on the contrary, Filipinos eat too little rice. Comparative data on a number of Asian countries show that Filipinos consume 95 kilos of rice per capita per year. This amounts to about three cups of milled rice per day or a cup of milled rice per meal. In sharp contrast, the Vietnamese consume up to 165 kilos of rice per capita per year.

Eighty percent of Filipino households allocate at least half of their expenses to food. Rice takes up about a quarter of household budgets. Therefore, any increase in the price of rice is tantamount to a decrease in household income and wages.
year, and the citizens of Myanmar eat as much as 213 kilos of rice per capita per year.

For sure, many Filipinos will find the statistics on rice consumption as shown in Table 1 difficult to accept. It seems that the anecdote on the rice-gorging Filipino is an enduring story.

Yet the statistics are clear. These statistics were gathered from official government sources. The methods in gathering the data and estimating rice consumption are consistent with techniques introduced across Asia by the Food and Agricultural Organization (FAO) and the Statistical Center for Asia and the Pacific.

Deepening hunger and malnutrition

Even more telling than data on consumption are recent findings from nutrition surveys. The nutritional status of children is tracked by the National Nutrition Surveys (NNS) of the Food and Nutrition Research Institute (FNRI). These surveys indicate that the incidence of child malnutrition in the Philippines has been quite high and even worsened between 1993 and 1998.

In 1993, some 8.4 percent of all children aged 0-6 years were underweight, 5.6 percent had stunted growth, and 6.2 percent were wasted. However, the 1998 NNS found that 9.3 percent of all children aged 0-5 years are underweight and 7.2 percent are wasted5 (Table 2).

A principal cause of malnutrition is low calorie intake. Even as early as 1993, it was already determined that in general, Filipinos had access to only 88 percent of their recommended daily allowance (RDA) in caloric intake.

The basic source of calories in the Filipino diet is rice. Thus, low calorie intake is associated with low rice consumption. In the last 10 years, domestic rice retail prices have relatively increased rapidly, undoubtedly leading to reduced consumption, especially among the less able family members.

Certainly, the high prices of rice have contributed to low levels of consumption of rice and to the consequent worsening of nutritional status, especially among the very young.

Welfare losses due to high rice prices

A distinguishing feature of contemporary Thai and Vietnamese cost of living is very cheap food relative to the Philippines. This has become increasingly evident since the 1980s as Vietnam and Thailand adopted market-oriented economic policies and invested heavily in their agriculture and rural sectors.

If Filipino households had access to rice at the same prices as do Vietnamese or Thai households, the Filipinos’ well-being would improve significantly.

For illustrative purposes, a Filipino household of six (two adults and four children) consumes 570 kilos of rice per year. At the prevailing Philippine prices, this translates into a rice expenditure budget for the Filipino family of about P10,000 per year. However, at Vietnamese prices, the budget required is only P3,100, implying a savings of P6,900 per year. Such savings can be allocated to more rice or more food in general.

Strong governance to end hunger

Expensive rice, farmers who have remained poor, suffering consumers, more malnourished kids—these are the long-term results of continuing neglect of the agricultural and rural sector. Such neglect started in the early 1980s. While efforts have been exerted to remedy the sector’s ills since then, most programs fell short due to inadequate funding or political discontinuity.

The present administration of President Gloria Macapagal Arroyo is on the right track as it mandates the

### Table 1. Per Capita Consumption of Rice, Selected Asian Countries, Kilos per year

<table>
<thead>
<tr>
<th>Country</th>
<th>Rice Consumption Kilos/head/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>150</td>
</tr>
<tr>
<td>Cambodia</td>
<td>169</td>
</tr>
<tr>
<td>Indonesia</td>
<td>149</td>
</tr>
<tr>
<td>Laos</td>
<td>172</td>
</tr>
<tr>
<td>Malaysia</td>
<td>92</td>
</tr>
<tr>
<td>Myanmar</td>
<td>213</td>
</tr>
<tr>
<td><strong>Philippines</strong></td>
<td><strong>95</strong></td>
</tr>
<tr>
<td>Thailand</td>
<td>109</td>
</tr>
<tr>
<td>Vietnam</td>
<td>165</td>
</tr>
</tbody>
</table>

Source: RiceFactsIndex (www.riceweb.org).

### Table 2. Child Malnutrition, Philippines, 1993 and 1998 (In percent).

<table>
<thead>
<tr>
<th></th>
<th>1993 (0-6 Years)</th>
<th>1998 (0-5 Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>8.4</td>
<td>9.3</td>
</tr>
<tr>
<td>Stunted</td>
<td>5.6</td>
<td>na</td>
</tr>
<tr>
<td>Wasted</td>
<td>6.2</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Source: National Nutrition Surveys

---

**Some little known facts about rice**

- In the 1990s, Philippine population grew at a relatively rapid rate of over 2.3 percent per year while rice production grew at only 1.9 percent per year.
- In the next 25 years in the Philippines, the demand for rice is expected to increase by at least 65 percent.
- Between 1982 and 2000, average world prices of rice have been falling by 0.58 percent yearly. In contrast, Philippine wholesale prices have been rising by 10.6 percent yearly.
- Compared to Thailand and Viet Nam, the Philippines is less dependent on rice.
- Rice production in the Philippines has been growing at an average rate of 1.9 percent per year over the last decade compared to 3.0 percent and 5.4 percent for Thailand and Viet Nam, respectively.
- According to the Philippine Rice Research Institute, the Philippines has exploited only about a quarter of its full potential capacity in rice yields. Actual yields amount to an average of only 3 tons per hectare while potential is 12 tons per hectare.
- Compared to Thailand and Viet Nam, Philippine rice productivity (in terms of paddy produced per hectare) has been relatively stagnant, increasing by an average of only 0.43 percent yearly over the last decade.
- On the other hand, Thailand’s rice productivity increased by 1.24 percent and Viet Nam’s by 3 percent yearly over the last 10 years.
- Only about 29 percent (or 1.34 million hectares) of all potentially irrigable land in the Philippines (total 4.66 million hectares) is irrigated.

**New, private irrigation systems are estimated to cost around P35,000 per hectare.**

- When the National Food Authority (NFA) imports rice, it makes a profit. When the NFA procures paddy from Filipino farmers, it loses money.
- In recent years, the Philippines has been the largest single importer of rice from Viet Nam.
- Under the National Customs and Tariff Code, a tariff of 50 percent is levied on rice imports. When the NFA imports rice, the tariff is waived or (permanently) deferred.
- From 1995 to 2000, foregone tariff revenues on NFA imports totaled almost P24 billion or an average of P4 billion per year. This is about 60 percent of the Department of Agriculture’s budget for 1999 on rice and corn or about 38 percent of the total budget on agriculture and fishery.
- Confiscated smuggled rice is later sold by the government in the domestic market. This adds to the total domestic rice supply.
- There are about 2.1 million rice farmers in the Philippines.
- According to the 1991 Census of Agriculture and Fisheries, there are 2.37 million rice farms in the Philippines.
- An average rice farmer owns and tills about 1.5 hectares of irrigated rice land.
- Seventy five percent of the country’s rice fields are exclusively devoted to rice farming.
- Economists estimated that from 1996 to 1998, the total cost to Philippine society of the policy of rice price interventions implemented by the NFA averaged about P26 billion per year.

*Compiled by V. Bruce J. Tolentino, Beulah de la Pena, Elcee Noveno, Benedicto Rayco and Irene Villapando. All are consultants to the Department of Agriculture. Specific citations on data sources and analysis may be obtained from the authors, and comments directed to capacity@pacific.net.ph.

---

focus on the revitalization of the DA and the other rural and agricultural sector agencies in resolving poverty and revitalizing economic growth. The President’s call for “murang bigas” (inexpensive rice) in her first State-of-the-Nation-Address on 23 July 2001 was even right on target.

Undoubtedly, the government’s policies on rice prices, productivity and trade have major implications on poverty. Rice is a concern not only of farmers, the Department of Agriculture and the National Food Authority but also of consumers, labor, employers and the society as a whole.
It is generally agreed that governments play an important role in poverty reduction. There are, however, still some questions about what specific interventions should be. And once a particular intervention is made, questions of sustainability typically emerge.

Policymakers tend to be more comfortable with proposed answers if they know that they emanate from analytical models that are intellectually convincing. They prefer quantitative models that help advance their knowledge about some observed events. These models must be tractable, and if possible, empirically implementable.

In this follow-up workshop on "Strengthening Poverty Data Collection and Analysis" jointly organized by the World Bank Institute and the Philippine Institute for Development Studies (PIDS), the methodologies and findings, I believe, will enrich our analytical knowledge and can go far in assisting governments eliminate poverty.

In East Asia, the World Bank estimates about 300 million poor people in 1998. Once we start thinking about the misery of these people who subsist on US$ 1.00 a day and are unable to meet even their basic food needs, we realize the urgency of eliminating poverty.

The starting point in addressing the poverty problem is to know who the poor are. To separate the poor from the nonpoor, the conventional approach is to estimate a poverty income threshold or line. This income threshold is one that can support both a food basket that meets some minimum nutritional standards and a nonfood basket that satisfies other basic needs like education, health, shelter, transport, and utilities. All families with incomes falling below the poverty line are considered poor.

In coming up with a poverty income threshold, it may be necessary to make adjustments for some economies of scale and adult equivalence in consumption. Some expenditure items, for example, are in the nature of "public goods" within the household, in the sense that consumption by one household member does not diminish the amount available for other members. Lighting fixtures come to mind. As for scale economies, in the case of, say, food, two can sometimes live as cheaply as one.

Once the proportion of families below the poverty line has been determined, policymakers then normally ask about the poverty gap. That is, how much would it cost to bring the poor people above the poverty income threshold? Several strategies can be devised like income transfers and food aid. If the available financial resources are limited, then the various strategies need to be prioritized in terms of their impacts on poverty.

Household expenditures and income data permit computation of both the poverty income threshold and the poverty gap. Policymaking, however,
does not stop with knowing only the poverty line and the poverty gap. It is also important to have a profile of the poor.

Normally, the poor are classified in terms of age, sex, occupation, education, and location of residence. Household type, that is, whether or not the family is headed by a female or male is also an important piece of information. In any case, we know that a multi-purpose survey of household yields socioeconomic characteristics of households and these can be used to construct a profile of the poor.

One finding that has emerged from several studies is the importance of human capital investments in determining the income status of individuals and households. Many researchers have thus endeavored to look at the determinants of schooling and occupational choices. Policymakers are grateful for these studies to the extent that some of the factors that matter for the socioeconomic status of households can be influenced by some government interventions.

More recently, the definition of poverty has gone beyond the income deprivation measure. Consistent with studies based on a human capital approach, the aspects of poverty that are highlighted pertain to poor access to quality education, health care, and safe and sanitary living conditions, to name a few. It has thus been argued that policies that directly address the failure of some households to access these services are crucial. In consequence, a comprehensive policy package is deemed necessary to address poverty.

How can we find out if specific interventions designed to reduce poverty are delivering on their expected results? For a government program to be considered a success, beneficiaries should not stay permanently in the program. They must graduate after some time. This indicates the need for panel or longitudinal data. Such a data set should permit researchers to analyze whether or not some households are able to escape poverty temporarily or permanently. Armed with this information, policymakers can then decide which programs should be sustained or scrapped.

The beginning of the 21st century offers great opportunities to make a profound dent on global poverty. Many developing countries have undertaken fundamental economic policy changes in high-wage and high-skill jobs. Hence, market reliance bears great potentials for poverty reduction.

Some words of caution, though, are in order. Markets are hardly concerned with distributive justice and poverty alleviation. Instead, they tend to replicate the distribution of initial endowments of people. In view of this, to succeed in reducing poverty, it is essential that inequities in the initial distribution of endowments be corrected. This is the preferred approach in deciding on the form of government intervention, rather than interfering with the workings of the markets. For example, it is advisable to expand and equalize access to education and training. In this regard, land reform may have to be undertaken as a first step.

In addition, we must note that market-oriented economies are all subject to some business fluctuations. These fluctuations tend to be more pronounced in an open rather than closed economy. Most developing countries are now integrated
with the world economy, and many have experienced undesirable fluctuations in income and employment in recent years.

Several of the East Asian economies represented in today's workshop, for example, fell victim to the financial crisis that was triggered in the second half of 1997. Their currencies collapsed in relation to the US dollar, igniting an upsurge in interest rates, a decline in national output, and a rise in unemployment rates. As a result, many households saw their incomes fall; not a few fell below the poverty line.

The Asian financial crisis has opened up several analytical issues. Among these are the determinants and consequences of the crisis. From the standpoint of policy for poverty reduction, questions about appropriate safety nets have been raised.

Many lessons have been learned in recent years. One of them is that macroeconomic stability is necessary. This means that governments must pay attention to economic fundamentals like public sector deficits, savings and investment gaps, and financial market regulation.

As for social safety nets, much work still needs to be done in the area. There is, for instance, a problem of design. The incentive structure must be such that no beneficiaries are encouraged to be heavily dependent on the program. In addition, the financial mechanism in place must allow sustainability.

The neglect of economic fundamentals is not, however, the only reason behind the recent financial crisis in Asia. Governance played a part as well. Consider this: when government authorities investigated the banks that failed, it was shown that many of the non-performing loans were crony loans. In other words, the banks failed to assess properly the default probabilities of their borrowers who had patrons in high government places.

The recent financial crisis was a setback to the fight against poverty. To recover from its ill consequences, both market policy and governance reforms are therefore needed. And governance is indicated not only in the public but also in the private sector.

As far as governance in the public sector is concerned, the government must forge new partnerships with local governments, with business, and with civil society. In the implementation of poverty programs, local governments have better knowl-

**It starts with numbers**

Mario B. Lamberte

Many of us share the belief that while the face of poverty in every country has its specific and distinct characteristics, there are nonetheless common issues and concerns affecting various countries that are basic in addressing poverty.

And it starts with numbers: the way numbers are measured and the accuracy and sensitivity by which they are analyzed. And by comparing notes—as we hope to do in this workshop—we shall be able to reflect on the strengths and weaknesses of each country in terms of resources and capabilities in addressing these concerns. Hopefully, from there, we would be able to come up with a concrete plan for more initiatives that will help each of our respective governments to be better equipped to develop antipoverty or poverty alleviation programs.

The presence of key policymakers from the various countries represented here today will ensure that inputs from a tripartite perspective—policymakers, statisticians, and researchers/analysts—are fed into whatever plan of action this workshop will come up with.

On the part of PIDS, we are especially privileged and honored to be given this opportunity to help coordinate this capacity-building program of the World Bank for East Asia. As a research institution, we have recently launched a strategy which hopes to make research more relevant to users and stakeholders, especially the policymakers.

We call our strategy Building the Infrastructure for Research and Networking wherein providing and maintaining timely and accurate databases for policy decisions is one of the strategy's instruments.

Being asked to be the regional coordinator for East Asia for the World Bank's Poverty Analysis and Data Initiatives (PADI) program therefore greatly enhances our strategy in this field.

* Excerpt from the speech delivered during the opening of the World Bank Institute - Philippine Institute for Development Studies (WBI-PIDS) Workshop on "Strengthening Poverty Data Collection and Analysis" held on April 30-May 3, 2001 at the Dusit Hotel Nikko, Makati City, Philippines.

** PIDS President.
Two misfortunes struck the Philippines in the late 90s: the Asian financial crisis in 1997 and the El Niño weather phenomenon in 1998. Although both crises affected the Philippine economy, economists were divided in their views as to what affected the country more.

One school of thought believes that the Asian financial crisis did not adversely affect the country as much as it did other East Asian countries. Others consider the combined effects of the two phenomena as having greatly influenced the economy.

Still another group regarded the effect of the crisis to be more far-reaching than what was initially thought to be. According to them, what may be seen as negligible effects at the macro level may be masking the deep effects on the country’s poverty situation.

**The macro view**

A number of quarterly macroeconomic indicators such as national accounts, labor and monetary statistics, reveal that the effects of the crisis and the El Niño on the Philippines may have been rather minimal in comparison with other Asian countries. Specifically, there was no change in domestic liquidity trends and labor force participation rate despite significant shocks in the foreign exchange rate, slumps in the Gross National Product (GNP) and Gross Domestic Product (GDP) and upticks in the unemployment rate.

However, such an assessment is delimiting since seasonally adjusted values of the macroeconomic indicators mentioned are understated by aggregation at the national level. If GDP is disaggregated by major sectoral origin, we readily observe that the industrial sector was hit rather hard during the twin crises period. Moreover, a short-term perspective shows the downward effects of the crises on the agriculture sector.

In addition, there is some evidence suggesting that the impact of the financial crisis and the El Niño lingered even beyond 1998.

**View from the household**

While the impact of the twin crises on macroeconomic indicators at the national level appears to be rather negligible, the picture of the effects on the working class may not be the same and the impact across sectors for various people may have been different. Some individuals may have effective coping mechanisms, others may have none and still others may have seen an opportunity in the face of the crises. A more thorough look at the grassroots reveal the true story.

Households headed by men were more affected by the crises. And their households appear to be poorer. The reason is that female household heads are able to empower themselves and outperform their male counterparts.
Indicators say...

How did the twin calamities affect the ordinary Filipino household?

An analysis of some households surveyed for both the 1997 Family Income and Expenditure Survey and the 1998 Annual Poverty Indicators Survey (conducted by the National Statistics Office) was performed. Table 1 reveals that poverty, both during 1997 and 1998, was more of a rural phenomenon than urban. In fact, roughly three out of every four poor households included in a panel study were in rural areas.

Moreover, poverty worsened in these areas from 1997 to 1998. Although there was an increase in rural per capita income in this single year period, this increase did not actually help much in alleviating rural poverty.

The ill effects of the crises on the poverty situation were not limited to rural areas. The shock even cut across major spatial locations. Figures reveal that Mindanao bore the brunt of the effects more than the major islands of Luzon and Visayas (Table 2).

On the regional level, poverty incidence and gap appeared to have worsened in all 15 regions. However, five regions (Bicol, Northern Mindanao, Central Mindanao, Western Visayas and the Autonomous Region of Muslim Mindanao or ARMM) suffered more than the other regions (Table 3). Poverty incidence is still lowest in the National Capital Region or NCR (9.2 in 1997 to 14.7 in 1998).

A cross-sectional analysis of regional estimates also shows that the ARMM, Central Mindanao and Bicol have the highest household and individual poverty incidence, which reveals that these regions have high regional disparities. On the other hand, ARMM is better off than Central Luzon in terms of poverty gap, which suggests that a considerable proportion of the poor in ARMM are at the poverty threshold.

Similar to developing countries like Thailand and Viet Nam, households headed by men were more affected by the crises (Table 4). And these households appear to be poorer. It is possible that female household heads are able to empower themselves and outperform their male counterparts. Alternatively, current operational definition of household headship may be problematic yielding an underestimate of households headed by women.

Testing statistics

Indicators tell a story but are these convincingly real? A further test was thus made to verify if the poverty statistics obtained from the panel data can be scientifically attributed to the crises.

The statistical tests indicate that changes in the poverty situation brought about by the crises in both the national and regional levels are significant. On the other hand, there is no evidence that poverty incidence and poverty headcount in Cagayan, Bicol, Eastern Visayas, Central Mindanao regions and ARMM worsened from 1997 to 1998. However, poverty gap in these regions, except for Central Mindanao, substantially widened.

Does family size matter?

A disaggregation of the panel households according to their national per capita income quintile status in 1997 and 1998 was done to evaluate their income movements within the period.

Statistics showed that ownership of a refrigerator is an important indicator and appeared to be a proxy variable for household income. This surprise variable also interacts with a number of 1997 and 1998 variables representing family size and occupation of household head.

Large households with four or more members below the age of 15 that

<table>
<thead>
<tr>
<th>Household Poverty Incidence</th>
<th>Poverty Headcount</th>
<th>Poverty Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>17.3</td>
<td>24.1</td>
</tr>
<tr>
<td>Rural</td>
<td>46.6</td>
<td>51.6</td>
</tr>
</tbody>
</table>

Table 1. Poverty Indicators for Urban and Rural Areas

| Poverty Indicators Across Island Groups |
|-----------------------------|-------------------|-------------|
| Luzon | 25.3 | 31.5 | 29.2 | 36.0 | 9.1 | 12.5 |
| Visayas | 38.8 | 45.0 | 44.3 | 50.2 | 15.1 | 19.2 |
| Mindanao | 45.0 | 49.7 | 50.7 | 54.9 | 17.8 | 22.3 |

Table 2. Poverty Indicators Across Island Groups
owned a refrigerator in 1997 is likely to have moved into poverty. Likewise, half of the total households that had no family members younger than 25, no refrigerators in 1997 and whose heads did not engage in agriculture, fisheries, forestry, mining and quarrying, moved into poverty.

On the other hand, most households without refrigerators in 1997 whose heads engaged in agriculture, fisheries, forestry, mining and quarrying are likely to have moved out of poverty rather than into poverty.

Moving into or out of poverty
A cross-classification of panel data according to the poverty status of households in 1997 and 1998 showed that a considerable number (almost 20 percent) of nonpoor households in 1997 moved into poverty in 1998. In fact, the number is bigger than the number of poor households that moved out of property, which is only a little bit more than 12 percent. The nonpoor’s movement into poverty shows the intensity of the impact of crisis on poverty.

The impact also appears to be largely related to family size and the occupations of the household heads. Some households were able to endure the effects of the crisis by implementing coping mechanisms such as changing their eating patterns, pulling their children out of school so as to work, and increasing their working hours, among other things.

Evidence from the panel data also show that the government did not make any significant assistance to households in coping with the twin crises.

Lesson to be learned
In the face of the crisis and the eager fangs of poverty, the government has the task of keeping the country and its citizens above water. The following lessons ought to serve the policymakers well to facilitate government’s efforts in addressing poverty:

* The government must continue to concentrate poverty alleviation policies in the rural areas through infrastructure and agricultural modernization alongside the needed structural reforms.

* There is a need to adopt different poverty reduction strategies that will effectively target the victims of the crises as well as help those who actually need help most.

Table 3. Poverty Indicators Across Region

<table>
<thead>
<tr>
<th></th>
<th>Household Poverty Incidence</th>
<th>Poverty Headcount</th>
<th>Poverty Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ilocos</td>
<td>36.7</td>
<td>45.3</td>
<td>42.4</td>
</tr>
<tr>
<td>Cagayan</td>
<td>30.0</td>
<td>31.7</td>
<td>33.9</td>
</tr>
<tr>
<td>Central Luzon</td>
<td>19.0</td>
<td>27.2</td>
<td>21.0</td>
</tr>
<tr>
<td>Southern Luzon</td>
<td>23.1</td>
<td>30.7</td>
<td>26.8</td>
</tr>
<tr>
<td>Bicol</td>
<td>52.1</td>
<td>55.5</td>
<td>59.2</td>
</tr>
<tr>
<td>Western Visayas</td>
<td>41.3</td>
<td>50.3</td>
<td>47.5</td>
</tr>
<tr>
<td>Central Visayas</td>
<td>35.7</td>
<td>41.8</td>
<td>39.0</td>
</tr>
<tr>
<td>Eastern Visayas</td>
<td>39.5</td>
<td>41.3</td>
<td>47.4</td>
</tr>
<tr>
<td>Western Mindanao</td>
<td>38.2</td>
<td>47.7</td>
<td>42.6</td>
</tr>
<tr>
<td>Northern Mindanao</td>
<td>44.4</td>
<td>49.6</td>
<td>49.9</td>
</tr>
<tr>
<td>Southern Mindanao</td>
<td>41.4</td>
<td>46.1</td>
<td>46.9</td>
</tr>
<tr>
<td>Central Mindanao</td>
<td>55.5</td>
<td>58.4</td>
<td>62.6</td>
</tr>
<tr>
<td>NCR*</td>
<td>9.2</td>
<td>14.7</td>
<td>12.2</td>
</tr>
<tr>
<td>CAR**</td>
<td>48.0</td>
<td>48.6</td>
<td>55.3</td>
</tr>
<tr>
<td>ARMM***</td>
<td>53.9</td>
<td>54.1</td>
<td>58.5</td>
</tr>
</tbody>
</table>

* National Capital Region
** Cordillera Autonomous Region
*** Autonomous Region of Muslim Mindanao

Table 4. Poverty Indicators Across Sex

<table>
<thead>
<tr>
<th></th>
<th>Household Poverty Incidence</th>
<th>Poverty Headcount</th>
<th>Poverty Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>35.0</td>
<td>41.3</td>
<td>39.6</td>
</tr>
<tr>
<td>Female</td>
<td>22.6</td>
<td>25.5</td>
<td>25.7</td>
</tr>
</tbody>
</table>
Garbage...from page 5

respect to price and income is inelastic. Finally, quantity of waste discarded is positively related to average household size. Thus, the larger the household, the greater the total waste discarded. However, waste discarded per capita decreases as average household size increases, which indicates that there are economies of scale in waste generation within the household.

**Economic policies for solid waste management**

Economic instruments (EIs) as policy tools in resource management are intended to induce a polluter to change behavior and internalize the external costs of his externality-generating activities. As distinct from command-and-control instruments which make mandatory specific forms of behavior or technological choices, EIs provide more flexibility to polluters as to how government-imposed environmental goals can be achieved using cost-effective measures.

Potential EIs for solid waste management can be classified into two groups. The first group includes measures that aim to reduce littering and improper disposal of waste such as a deposit-refund system. The second group includes measures that aim to reduce the volume of waste discarded. The latter is the focus of the subsequent discussion.

**User fees for solid waste management**

There are countries where households are charged a unit price for waste collection services in the form of user fees, sometimes referred to as disposal charge. Economic modeling of household behavior with respect to its waste management decisions calculates that when faced with a user or disposal fee that is proportional to the amount of waste disposed, with other things constant, a household’s response will be to reduce the amount of waste generated.

Empirical studies of garbage pricing schemes in the US such as pay-per-as-you-throw show significant reductions in discarded household wastes. The other change in household behavior, which the marginal pricing of garbage services promotes, is an increase in household segregation and recycling.

Studies show that with user fees, a household is induced to segregate and recycle part of its waste materials in order to reduce discarded wastes, thereby reducing its garbage bill. The extent to which a household will recycle is influenced by factors including—but not limited to—the ease of recycling, which is dependent on the availability of convenient recycling programs in the community, adequate storage space at home, and time resources of household members, among others.

Studies also show that a user fee policy accompanied by the implementation of a government-subsidized curbside recycling program induces a larger reduction in garbage disposed by households compared to a unit pricing policy implemented alone. On the other hand, recycling programs not accompanied by a unit pricing system do not always produce the intended result in garbage reduction.

A third response to a user fee on garbage is a negative one and is very applicable to the garbage situation in developing countries where only 50-70 percent of garbage is collected while the rest is illegally dumped. When faced with a user fee on garbage, a household has the option to litter and illegally dump its garbage just to avoid the fee. Empirical studies on the impact of user fees show that part of the reduction in the wastes brought to landfills may be actually attributed to illegal dumping.

A critical issue on the user fee policy is how, and at what level, it should be set. In principle, as earlier discussed, the fee should be equated to the value of the marginal or incremental social cost (conventional or private cost plus external cost from waste collection and disposal) for optimality.
Setting the user fee to account for conventional costs may be a fairly straightforward action and should thus be addressed immediately.

There are available how-to manuals on financial cost accounting for solid waste managers that could assist local governments in calculating the cost per ton of garbage collected and disposed. The process of estimating the optimal fee, however, is more complicated and requires data and information not normally available and costly to generate.

However, it is expected that the benefit from generating these data to support policy formulation in the area of solid waste management would outweigh the cost of data generation in the long run.

**Other policy instruments for SW management**

In addition to user fees, there are other policy instruments which directly target producers. For instance, a tax on virgin materials could increase demand for recyclables by producers, induce increased recycling by households, and develop the market for recyclables while at the same time discourage the use of virgin materials.

Likewise, a subsidy on the use of recycled materials by producers may be expected to have the same effects. Households may also be given recycling subsidies to induce recycling. A consumption tax, on the other hand, is an advanced disposal fee imposed on consumer goods that are potentially problematic to dispose of in terms of packaging or by its hazardous nature. Moreover, command and control policies such as recycled content standards and mandatory recycling are also enforced in some states in the U.S. However, these policies are generally not prescribed by economists as they are difficult to implement and administer.

**Conclusions**

The economic analysis of the solid waste problem cited in this article has provided the following insights and future directions:

* The public good qualities of SWS traditionally held by local governments as well as the general public appear to be unfounded. The definition of a public good does not support the consideration of SWS as one.

* The newly enacted law...provides a window of opportunity for local governments to consider financing their solid waste management activities through...a user fee scheme...

* There are substantial externalities from improper waste management in the Metro Manila setting especially during the present crisis. On efficiency grounds, the external costs of SWS should be incorporated in its price.

* The newly enacted law on integrated solid waste management (Republic Act 9003) provides a window of opportunity for local governments to consider financing their solid waste management activities through the institution of some form of a user fee scheme that would induce a change in behavior of waste generators.

Such a scheme can initially aim at cost recovery and, perhaps, later, at full cost pricing that would incorporate the social costs of SWS.

**References**


RP government urged to draft a workable competition policy

Globalization is irreversible and is here to stay. It challenges the economy to improve further its competitiveness so that it can deepen and expand its economic integration.

Dr. Myrna S. Austria, a senior research fellow at the Philippine Institute for Development Studies (PIDS) and program director of the Philippine APEC Study Center Network (PASCN), emphasized that it is to the best interest of the country to complement its liberalization efforts with appropriate competition policy so as to further improve the country’s global competitiveness and allow it to reap the full gains of economic integration.

Austria explained in her paper entitled “Liberalization and Regional Integration: The Philippines’ Strategy to Global Competitiveness” that liberal trade and investment policies are key elements of competition policy as they eliminate barriers to trade and investment. However, she advised that business practices and behavior of firms should be monitored closely, more so with the current mergers and acquisition of multinational companies as a result of globalization.

She also pointed out that there are government policies and regulations that limit competition and, hence, efficiency. This is particularly true in the services sector like civil aviation, shipping, power, telecommunications and energy. Austria particularly cited the long-delayed implementing rules for Executive Order No. 219 which will pave the way for the progressive liberalization of the country’s international air transport industry. She warned that the inefficiency of the services sector, being inputs to production of industries, could weaken the competitiveness of industries in the country and prove costly to the economy as a whole. On the other hand, Austria lauded the initial efforts made by the government to liberalize the services sector.

“Recent liberalization and deregulation of the country’s civil aviation have undoubtedly brought genuine competition in the domestic air transport industry resulting in lower airfare, improvement in the quality of service and efficiency in the industry in general. Likewise, the deregulation of the telecommunications industry created an environment conducive to growth and investments. This resulted in the entry of new players and the availability of new technologies and services,” Austria noted.

She also stated that competition in the banking sector has been enhanced by decontrolling interest rates, allowing a limited number of foreign banks and domestic license, lifting the moratorium on the opening of new commercial banks and substantially relaxing the regulations on bank branching.

Nevertheless, Austria concluded that although deregulation and liberalization had been introduced gradually in these sectors, a competition policy has yet to be defined that would govern the behavior of industry players to ensure that they do not behave collusively and exploit their market power.
edge about the needs of the poor. They can react more quickly than the national government since they are more familiar with the diverse needs of their constituents.

The national government, however, should set standards in service delivery and in monitoring the extent of poverty. Local politicians may sometimes have the incentive to dilute the quality of public goods and services to be able to report that specific poverty alleviation programs have served a large number of target beneficiaries. Of course, once the program inputs are diluted, one can expect the outputs to be likewise diluted. Good monitoring at the national level, therefore, together with the help of civil society, can minimize the leaks from these programs.

Finally, business may be asked to contribute financial and material resources to these programs. This therefore means that the national government must have an information system in place so as to expedite the feedback and feed forward of information from the local to the national level. All these require capacity building, namely, human resource development, which is what this workshop is all about.
It is wise for the Philippines to use the United States (U.S.) dollar as its official currency?

Debates on whether the Philippines should shift to the U.S. dollar as its official unit of account and medium of exchange have been escalating in the face of the lingering economic crisis and the continuous devaluation of the peso against the U.S. dollar.

Dr. Josef T. Yap, a senior research fellow at the Philippine Institute for Development Studies (PIDS), tried to look deeper into this issue by analyzing the costs and benefits of dollarization in a paper titled “The Dollarization Debate: Concepts and Issues.”

Yap emphasized that dollarization will eliminate currency mismatch since assets and liabilities will be denominated in a single currency. Moreover, he stated that speculative attacks on the country’s currency to destabilize it will be eliminated since there will be no exchange to speak of. Thus, monetary authority will not have to be concerned about credibility problems with its exchange rate policy.

“By adopting the monetary policy of the United States (U.S.), dollarized economies will experience lower interest rates and inflation. This will increase investment spending and spur economic growth,” Yap said.

He also noted that dollarization will lower transaction costs in international trade. This stems partly from the difference between the buying and the selling rates for converting domestic currency to foreign currency.

However, despite these perceived benefits from dollarization, Yap suggested that the use of the U.S. dollar as the official currency in the Philippines is not an optimal strategy mainly because the country has a large volume of trade with Japan. He argued that the volatility of the yen-dollar exchange rate should be reason enough for countries of East Asia—which are considered to be part of a yen bloc—to be cautious about moving toward dollarization.

Another disadvantage of dollarization cited by Yap is the loss of seigniorage or the revenue derived by the government through the monetary authority from issuing currency. He noted that some estimates show that for an average country, costs related to the loss of seigniorage could be as much as 4-5 percent of the gross domestic product.

Likewise, he noted that the government would lose its flexibility in monetary and exchange rate policy once it decides to dollarize since a fully dollarized economy has no choice but to adopt the monetary policy of the issuing country.

“Dollarizing the Philippine economy would also disable the Bangko Sentral ng Pilipinas to act as lender of last resort. This is because the International Monetary Stability Act explicitly states that the U.S. would not be obligated to act as a lender of last resort. This implies that there will be no entity that could bail out a domestic bank in case it experiences a run,” Yap said.

He pointed out the one-time cost of converting prices, computer programs, cash registers and vending machines from domestic currency to foreign currency. Finally, he noted that countries may be reluctant to abandon their own currencies because the domestic currency also acts as a national symbol.

The paper came out as PIDS Policy Notes 2001-02, which was based on the PIDS Discussion Paper 2001-03 entitled “Dollarization: Concepts and Implications for Monetary and Exchange Rate Policy in the Philippines.”

Editor’s Notes

...From page 1

to the problem. Charge the users—with appropriate fees, of course. It is a novel idea to pursue a pricing scheme for “the use of the environment as a waste sink.”

However, there are always two sides to a coin. On the positive side, everyone who has garbage to dispose of will be aware that he will have to pay a price for generating waste. The more garbage he has, the more he has to pay. On the other hand, indifferent individuals may try to find a way to avoid payment. Illegal dumping then comes into the picture and the government has another problem to confront.

At any rate, Bennagen’s proposal has the potential to mitigate the stinking smell of the garbage problem.