

Regulatory Pricing of Water and Sewerage Services in Metro Manila

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Abstract

Contingent valuation method was used to come up with regulatory pricing of water and sewerage services in Metro Manila. The ability to pay analysis for sewerage services was based mainly on the 2000 Family Income and Expenditures Survey conducted by the National Statistics Office (NSO). Estimates of willingness-to-pay were based on surveys conducted in Barangays Wawa, Western Bicutan, Calzada of Taguig; and Barangay San Juan in Tanay, Rizal in November 2003. Both water and sewerage fees are collected as one bill by the Manila Waterworks and Sewerage Systems (MWSS).

1. Introduction

The Taguig Sewerage System involves construction of four drainage/flood retention ponds into Sewage Treatment Plants (STPs) in line with the flood control project of the Department of Public Works and Highways (DPWH) in coordination with the Manila Waterworks and Sewerage Systems (MWSS). The STPs allow treatment of sewage in Taguig before discharge to Laguna de Bay during the dry season. Covering the areas of Taguig and Pateros, the STPs will treat the dry weather drainage/sewage flow at least 1.5 times the dry weather flow during wet season. With the new facilities, a new pricing system that would cover utilization both water and sewerage services was estimated.

2. Results

Household or Family Income

The National Statistics Office (NSO) prepared a “2000 Family Income and Expenditures Survey” which presents information on family income and expenditures for regions and selected urban areas in the Philippines. Taguig was one of the selected municipalities covered in the 2000 survey. Tanay, Rizal was classified under Region IV. The information collected provides one indication of the ability of the households to pay for the services of the proposed sanitation and sewerage project.

The average and median annual incomes for Taguig and Tanay, Rizal were compared with other regions in the Philippines for 2000. Compared to other municipalities in the country, Taguig and Tanay, Rizal have more high income families. The average income of households in both locations is lower than the NCR average, though. The same is true for the median income.

Family Income Expenditures for Water

The NSO 2000 survey of family expenditures for water was the primary source of information of this section. This section estimated the historical and current ability to pay for water, for the purpose of estimating future ability and willingness to pay for water and wastewater services.

The NSO Survey showed that in the year 2000, the average annual expenditures for water in the Taguig and Tanay, Rizal was PhP 2,504 and PhP 2,064, respectively. The same survey revealed that fuel, light and water comprised 6.3 % of the family expenditures. Most previous studies have worked on this aggregate figure and assumed that water rates represent approximately one-third of the total.

On the average families living in other areas of the Philippines reported earning less income but paying more for water than did the average family in Taguig and Tanay, Rizal in 2000. These communities spent a higher proportion of their income for water: 1.27 % in Taguig and 0.84 % in Tanay, Rizal, as compared to the NCR (0.52%). However, the national average is higher at 1.34 %. This is due to the high average annual income received by households in Taguig, Tanay and in the NCR. Water consumption is not responsive to income changes.

Future Ability to Pay for Water and Sewerage Services

Families living in the Taguig and Tanay, Rizal have traditionally reported paying between 0.84 to 1.27 % of their annual income for water and sewerage services.

Average family income in these communities has increased in real terms (inflation adjusted) from 1997 to 2000 by: 14.4 % in Taguig, and 30.6 % in Tanay, Rizal. This represents an annual growth rate of 4.8 % in Taguig, and 10.2 % in Tanay, Rizal. Higher family income in the future will result in higher per capita consumption, and an increased ability and willingness to pay for water and to connect to the sewerage system. That greater ability and willingness to pay will be partially offset, however, by higher prices. If real incomes in these communities grow at an average annual rate of 4.8 % in Taguig and 10.2 % in Tanay, then the estimated average family income of PhP 230,719 (in Taguig) in 2000 will grow in real terms to approximate PhP 278,310 by the year 2004. In Tanay, the estimated average family income in 2000 was PhP 246,286 which will grow in real terms by PhP 363,217 in 2004. Median household incomes will also increase at the same time. By the year 2004, "real" ability-to-pay, will be about 36.12 % higher in Taguig and 47.67 % in Tanay than in 2000. The average family in Taguig that could afford to pay PhP 209 per month for water in 2000 will be able to pay PhP 284.50 per month by the year 2004. In Tanay, the average family that could afford to pay PhP 172 per month for water in 2000 will be able to pay PhP 254. However, since the real price of water in 1997 prices should not change, the average family will have an extra PhP 75.50 in Taguig, and PhP 82 in Tanay, per month left over after paying for its present water charge. The said amounts can be spent for the additional sewerage service.

3. Willingness to Pay for Sewerage Services

Socio-economic Survey of Taguig STP Communities

The 2003 survey of Barangays Wawa, Western Bicutan, Calzada of Taguig, and Barangay San Juan in Tanay, Rizal reported that 42 % of households interviewed were willing to pay for the price increase in their water charges for a sewerage system. Ten percent of the respondents gave no response while 48 % were not in favor of the price increase. The respondents were informed that the payment will be incorporated in their water bill.

The results of the survey show that sanitation is given a low priority and attracts only a small proportion of the total funding to the sector. The low level of demand for and willingness to pay for sanitation among respondents in the project areas stem from a lack of understanding of the effects of good sanitation on health. The Bank should further promote health education and ensure that it is an essential component of its WSS program both to stimulate demand and WTP for sanitation and to maximize the health benefits of the project.

The respondents were further asked about their general feeling about the proposed price increase in their water charges. The general feeling about the price increase is as follows: 15% were happy; 63.% were not happy; 21 % were neither happy nor unhappy; while the rest did not comment at all.

Among the respondents who admitted they were happy with the price increase in their water bill to accommodate sewerage services: 57 % reasoned out that the price increase would mean better quality service; 12 % said it was low with respect to their incomes; 12 % declared that the current charge is low; while 10 % didn't say anything.

Of the respondents who were unhappy with the price increase, 44 % disagreed with any price increase, 28 % said there was no increase in family income and the price increase would lessen their household budget, 13 % thought that the MWSS would just pass on its expenses to its customers. Other reasons indicated were: no budget allocation, additional household expenditure, while some said that the it is the obligation of the government to shoulder the price increase.

Sewerage fee charged by the MWSS at present is 50% of the water charge for all customers connected to the MWCI sewerlines. The survey results showed that none of the respondents was aware of this. The figure they gave ranged from PhP 180 to 500 a month. Although the response given is true, they however, were not aware how this amount was arrived at. The MWSS has been releasing to the press information about its water tariff, one of which was posted in the Manila Standard dated August 10, 2003. This reflects that more information dissemination is needed.

As part of the Socio-economic Study of the Environmental Impact Assessment study, willingness-to-pay (WTP) surveys were undertaken in Barangays Wawa, Western Bicutan, Calzada of Taguig; and Barangay San Juan in Tanay, Rizal. One purpose of this study was to estimate the willingness to pay for an increase in the water bill for sewerage services. The analysis of willingness-to-pay was based on the contingent valuation method. Using this method, survey information is evaluated to determine the relative value the respondents place on various services.

A simple average of the four communities provides a rough indication of what the expressed WTP amount might have been for Barangays Wawa, Western Bicutan and Calzada in Taguig; and Barangay San Juan in Tanay in 2003.

The estimated average WTP in 2003 is: PhP 20 per month, or approximately 8.31 % and 9.58 % of their average water bills of Taguig and Tanay, respectively.

This amount can be adjusted to estimate 2004 price levels using the 6.3 % inflation rate for fuel, light and water in Metro Manila, so that the 2003 prices should be raised to make them current with 2004 prices.

Estimated average WTP in 2004 pesos is: PhP 21.26 per month per household or approximately 8.84 % and 10.18% of the average water bills in 2003 of Taguig and Tanay, respectively.

4. Future Willingness-To-Pay

By the time the first households begin connecting to the new sewage system, real incomes will have changed, and ability-to-pay as well as willingness-to-pay will have increased accordingly. A projection of future willingness-to-pay has made taking these expected changes into account, and using the following assumptions:

Low priority is given by the affected families to the sewage in their household expenditures. Information education campaign and awareness on the benefits that they will gain from safe piped-water and sanitation services should be conducted to change their perception and willingness to pay for such service.

Households which have signified that they would be willing to pay for sewerage service estimated it to be equivalent to as much 8.84 % and 10.18 % of the water bills of households in Taguig and Tanay, respectively. This amounts to PhP 21.26 on the average for each water connection.

Ability to pay was estimated to be as much as PhP 20 a month or approximately 8.31 % and 9.58 % of their average water bills of Taguig and Tanay, respectively.

Historically water bill payments accounted for 1.09 % of average family income in the Taguig, and 0.84 % in Tanay. Future water bills are expected to do the same.

If the combined payment for water and sewerage services does not exceed 0.84 % and 1.09 % of average family income of households in Tanay and Taguig, respectively, most families will be able and willing to pay for sewerage.

The relatively low willingness to pay of Taguig STP families at 8.84 % and 10.18 % of the average water bills in 2003 of Taguig and Tanay, respectively as compared to the 50 % that MWSS is presently collecting is an indication that communities located adjacent to these but may be indirectly affected by the proposed project will have to be included in the price increase.

To remain within stated limits of willingness to pay expressed as percent of the average family, the average payment for sewerage services should be approximately 0.84 % and 1.09 % of the average family income in Tanay and Taguig, respectively.

Real incomes in the Taguig STP communities will continue to grow at 6.3 % annually from 2000 to the future. If sewerage connections will start by year 2004, projected average family income in that year will be about PhP 278,310 and PhP 363,217 in Taguig and Tanay, respectively in constant 1997 prices. If payments at that time do not exceed PhP 329.92 per month or PhP 3,959 per year for Taguig; and PhP 254.25 per month or PhP 3,051 per year for Tanay in constant 1997 prices, they will be within the limits of most families expressed willingness-to-pay as a proportion of total income.

Therefore, in year 2004, average household consumption in the Taguig STP communities was assumed to be willing-to-pay for sewerage service, expressed in constant 1997 prices as: PhP 251.55 a month in Taguig; and PhP 254.25 a month in Tanay..

Higher income families will have a greater willingness to pay to be connected to the sewerage system. To the extent that the sewerage system serves property owners in areas with higher than average incomes, the willingness-to-pay will be higher than the figures above representing the average household.

An information awareness campaign will definitely shift the willingness-to-pay decisions of households.