

HELPING LOCAL GOVERNMENT UNITS

Manage Solid Waste

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The Solid Waste Management Problem

Across Southeast Asia solid waste management is a massive problem. In the Philippines, it was estimated that more than 10,000 tons of solid wastes are generated per day. For most, the garbage crisis is limited to its collection and disposal. As a result, some 1,500 tons of solid waste per day is dumped illegally or burned openly, which added to the heavy polluted cities. The severity of the garbage problem, particularly in Metro Manila can be illustrated by the Payatas tragedy wherein after a week of heavy rains, a mountain of dumped garbage collapsed burying hundreds of homes and leaving 250 people dead.

These situations resulted in the legislation of R.A. 9003 also known as Ecological Solid Waste Management Act (ESWM) in 2001. The Act mandated the Local Government Units (LGUs) to take charge of solid waste management (SWM) in their respective areas. It was also required that LGUs prepare their respective SWM Plan. However, the implementation of solid waste entails costs and require technical know how on the part of the LGUs. The practical aspects of implementing the provisions of the Act together with the costs that the LGUs will have to bear have not been given much attention. For example, there are no guidelines on the fees or charges to be imposed on the waste generators including households and business establishment? As such the LGUs are at a quandary on its implementation. Except for a very few LGUs who are collecting garbage fees from households, LGUs do not have adequate financing mechanisms in place. This means that they have to support waste management from their currently limited budgets.

EEPSEA's share

While there are general information about SWM, the cost involved in the implementation of SWM activities needs to be studied as do options for how much activities can be financed. The question as to whether the activities can be self sustaining needs to be answered. It is in this light that the study “Financing Solid Waste Management Program and Implementation Constraints of the Local Government Units” was supported by EEPSEA in 2003. In general, the study is keen to find the answers to concerns about implementation of ESWM. To find out how LGUs should best finance their SWM activities, I analyzed the financial costs and benefits of the SWM activities of forty-one (41) selected LGUs. There were LGUs that do purely collection and disposal of solid waste while there were those who have some SWM activities such as waste segregation campaign, composting, recycling and collection of minimal garbage fees.

For comparison, the LGUS where classified into: Big Other LGUs and Small other LGUs based on income. Activities of



LGU Activities

these LGUs, per capita waste generation, overall income of LGUs budget for SWM activities and problems related to SWM implementation were among the information gathered. To find out the costs to the LGUs, the up-front costs (such as vehicle and equipment depreciation) and operating costs (such as salaries, fuel and maintenance) were computed. Direct and indirect Benefits from SWM activities were also estimated. The direct benefits include fees from garbage fee collection and other fees, earnings of private and waste pickers selling recyclables. Cost savings from avoided dumpsite or landfill cost were also estimated.

Results of the analysis showed that all the LGUs had fiscal gap (the difference between Total Costs and Total Revenue) and majority of the costs were due to operating expense which accounted for 86% of the LGUs’ costs. This implies that a very small amount is being earned from limited waste diversion activities. However, when the indirect costs such as savings from avoided dumpsite/landfill costs and savings from collection and transport of diverted waste are considered, the LGUs would be able to finance the SWM activities. Guided by the “polluters’ pay principle”, it is suggested that LGUs consider the collection of garbage fee from the households. It was also found out that one of the main potential sources of revenues to finance SWM activities was the re-channeling of garbage fees that are currently incorporated into the business permits and licenses paid by commercial establishments. Aside from financial constraint, lack of technical know-how is one of the main problems faced by LGUs in implementing SWM.

Fiscal Gap (Total Cost less Total Revenue) in providing SWM by Selected LGUs in Luzon, Philippines, 2002 (PhP) PhP56:00 = US\$ 1.00

REGION	LGU	FISCAL GAP	
		Per Ton	Per HH served
Big LGUs			
NCR	Caloocan City	2,010	1,230
NCR	Marikina City	1,063	1,12
NCR	Muntinlupa	2,010	1,230
NCR	City	2,996	3,440
CAR	Quezon City	192	395
Region 1	Baguio City	818	957
Region 3	San Fernando, LU	216	243
Region 3	Angeles City	564	538
	Tarlac City		
Small LGUs			
Region 1	Batac	965	794
Region 1	Laoag City	854	592
Region 3	Marilao	625	364
Region 3	Moncada	2,954	2,326
Region 4	Los Baños	417	298
Region 4	Sto Tomas	223	1,109
Region 5	Iriga City	858	1,391

Impact of EEPSEA Research

A few months after finishing the research study, I presented my results and recommendations in the Annual National Conference of the Solid Waste Management Association of the Philippines (SWAPP). Members of the SWAPP are LGUS, academics, the private sector and individuals. While LGUs are supportive of the idea of garbage fees, they still feel the need for proper research on the potential costs and practicality problems such as how the fees would be collected. Nowadays, several LGUs are implementing minimal garbage fees to households. Others are also to practicing waste diversion especially composting, recycling and ban on the use of plastic bags in establishments.

I was also part of the team who trained the LGUs of the province of Surigao del Norte about SWM that was funded by the AusAID under the Philippine-Australian Human Resource Development Fund (PAHRDF) program. The concrete output of which was the formulation of the provincial SWM plan and individual SWM plans of the municipalities. In addition, we at UPLB started the summer training program on Ecological Solid Waste Management for LGUs and practitioners. This training deals with both the technical, institutional and socio-economic aspects of SWM. Outputs from this training included among others that updating of SWM plans, handling of hazardous wastes, cost benefit analysis of different SWM options.

In addition, I am part of the Team who conducted the study on “Biowaste Reuse in Selected Asian Cities” with funding from the European Union. These study included Thailand, Philippines and Vietnam where we assessed the technical and economic aspects of biowaste reuse of the major cities in these countries. Every now and then, I am invited by LGUs to speak about economics of SWM and the results of my EEPSEA funded research gave me the springboard to do all these. I believe that my inputs in the trainings of LGUs related to SWM would contribute towards the solution of the problems faced by the LGUs related to SWM.



Training LGUs on Ecological Solid Waste Management at UPLB