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Sustainable Solid Waste Management System: Barangay Bayog, Los Baños, Laguna

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ABSTRACT

The study analyzed how Barangay Bayog, Los Baños, Laguna can attain a sustainable solid waste management program. Specifically, it determined how the communities can be classified according to social class and examined how the different social classes can implement a sustainable solid waste management program. The study concludes that the behavior of the different social classes varies in terms of managing their waste. The current solid waste management system of Barangay Bayog undergoes a long process and produces an enormous amount of solid waste. Such current practices are unsustainable. The Barangay does not have the necessary policy program to enhance the sustainability of solid waste management. The study recommends that the barangay captain together with other officials and representatives from the different social classes should convene and discuss several issues with regards to different policy programs that need to be implemented in the Barangay. These include preparation of Barangay strategic solid waste management plan, organization of Barangay solid waste management team and association of classes D and E, putting up a material recovery facility, and development of appropriate technology to reduce waste. Technical and financial assistance can also be secured from the Los Baños Science Community Foundation, Inc. (LBSCFI) members. There should be Information-Education Campaign (IEC) activities and a regular barangay clean-up day, and rehabilitation of rivers to encourage participation. Monitoring and evaluation of the solid waste management activities should be done to provide continuity of the program.

Keywords: *Solid waste management, social class, reduce, recycle, reuse, composting*

INTRODUCTION

The world is faced with the challenge of increasing amounts of waste due to the changes in consumption patterns and increasing populations. Developed countries' waste generation per capita increased threefold over the last two decades, which is higher by five to six times than in developing countries (Palczynki 2002). Accumulation of waste is a problem especially in poor countries where the ability to handle waste is limited due to financial and management problems. It is perceived that waste generation in developing countries will likewise increase due to increasing population and living standards.

Developing countries often apply the western system and advanced technologies in managing their waste; however, they have failed due to incompatibility with their local needs and conditions (Atienza 2008).

In the Philippines, the municipal office is responsible for the management of the solid waste of its constituents. Management of waste from collection, storage, processing, transport, and disposal is important for both public health, aesthetic, as well as environmental reasons. Waste is referred to as anything discarded by an individual, household, or establishment which is composed of a complex mixture of different substances in which some are basically hazardous to health (Rushton 2003).

The problem of solid waste management (SWM) had always been the burden of the local government unit. However, such burden cannot be carried alone by most of the municipalities, and most of them had failed in the implementation of the SWM plan. There are several reasons for the failure in the implementation of the SWM. These include limited financial resources, lack of political will, lack of technical knowledge about recent technologies, and lack of cooperation and participation of the community (Atienza 2001).

The Philippine government enacted Republic Act No. 9003 in response to the serious state of solid waste management in the country. The law declares that the policy of the state is "to adopt a systematic, comprehensive, and ecological solid waste management program." In this law, the establishment and operation of new open dump sites are prohibited. Open dump sites should be converted into controlled dump sites by February 2004 and should be closed by February 2006. Sanitary landfills are set to be an alternative as final disposal site but should be operated in accordance to the guidelines presented in the Act. The Act also promotes waste minimization through recycling, resource recovery, reuse, and composting (Atienza 2011).

RA 9003 has placed a burden in municipalities; most of them have difficulties in implementing its rules and regulations. Inspite of the difficulties in the implementation of RA 9003, the municipality of Los Baños has vigorously implemented its solid waste management program. The Municipality has developed a systematic approach in the formulation of the SWM plan. Meeting and organizing different sectors and agencies were conducted. These include the 14 barangays, science community, business establishments, home owners and resort owners, religious organizations, junkshops, gasoline stations, repair/battery shops, car wash, supply stores, lumber, hardware, hospitals, clinics, laboratories, schools (public and private), market, funeral parlors and cemeteries, computer, cell phone and DVD stores, and transport associations. A dialogue with Philippine Plastics Industry Association (PPIA) and Polystyrene Packaging Council of the Philippines (PPCP) was also conducted last September 2004 to be able to address the issue on plastic waste materials in the Municipality. After a year, the open dump site has been converted into an ecological waste processing center in June 2004, earlier than the set due date in RA 9003 (Perez 2003).

After more than a decade, the municipality of Los Baños is still faced with problems on increase in population, urbanization, and air and water pollution. Such problems are linked with the increased in solid waste generation due to increasing standard of living. Unusual flash floods throughout the Municipality are becoming a burden every time there is heavy rain. This study examined how the coastal community in Los Baños can implement a sustainable solid waste management program. Particularly, it considered the different social classes in Barangay Bayog to determine how the different social classes can help to sustainably manage their solid waste.

This study focused on the sustainability of the solid waste management program in Los Baños, specifically in Barangay Bayog using the systems theory. The input, processes, and output mechanism in the SWM in Barangay Bayog is depicted in Figure 1. The input (current practices of the community/waste generators and the influence of other stakeholders) were assessed (process) based on the set criteria for a sustainable SWM. The output was evaluated as unsustainable if one or more of the criteria were not present.

Communities were classified according to social class; the inclusion of other stakeholders in the framework showed their influence to the communities in terms of SWM.

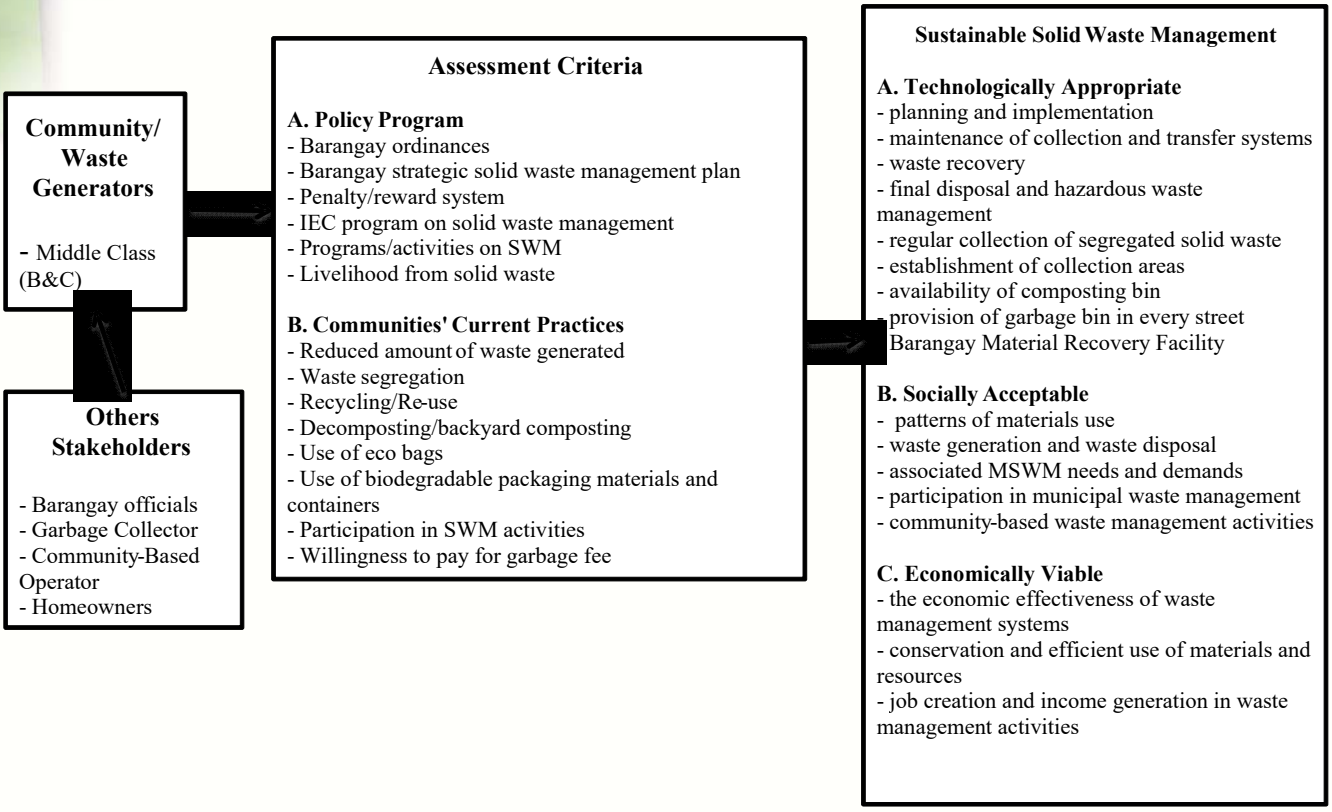

Figure 1. Conceptual Framework

The assessment criteria were formulated based on the indicators of sustainable MSWM. These are: technologically appropriate, socially acceptable, and economically viable. The technical aspects were assessed through the identification of the barangay ordinances, barangay strategic solid waste management plan, and penalty/reward system. On the social aspects of the sustainable MSWM, indicators such as patterns of materials use and waste generation and waste disposal were addressed by the assessment criteria under the communities' current practices, such as the reduction in the amount of waste generated, segregation of waste, recycling or re-using of solid waste, decomposting/backyard composting, use of eco bags, and use of biodegradable packaging materials and containers. Lastly, indicators such as associated MSWM needs and demands, participation in municipal waste management, and community-based waste management activities were assessed in terms of communities' participation in SWM activities, communities' willingness to pay for garbage fee, IEC program on solid waste management, and programs/activities on SWM. Lastly, the economic aspects of a sustainable MSWM such as economic effectiveness of waste management systems, conservation and efficient use of materials and resources job creation and income generation in waste management activities were addressed by the assessment criteria under the existing barangay policies and communities' current activities. Any gaps from the set criteria and the actual situation in Barangay Bayog were considered to be able to address the objectives of the study.

This study addressed the question whether solid waste management varies in terms of different social classes. Those who have money may participate in terms of paying fee for waste collection, while others, like professionals, may contribute through idea sharing, while others might participate through clean-up days or anything that will require physical participation. Upper and middle class may have servants to manage their solid waste, while those in the lower social class are managing their waste on their own.

MATERIALS AND METHODS

This research used case study analysis. Due to time constraints, this study is limited in using the descriptive case study focusing on the different social classes present in Barangay Bayog. The listing of all

the residents of Barangay Bayog with their respective employment status was used as the sampling frame for this study. However, both the Municipality of Los Baños and Barangay Bayog did not have any data about the employment status of the communities in Barangay Bayog; hence, sampling frame cannot be obtained from these offices. Random sampling was used in this research. A total of 150 questionnaires were distributed in the three designated streets of Barangay Bayog (Tagpuan, Kanluran, and Silangan), 50 questionnaires were distributed per street. There were only 97 who took time to fill out the questionnaires. In 2014, Barangay Bayog has a total population (N) of 9,606 individuals. The samples (n) is only one percent of the total population and are not representative of the whole population.

Table 1 shows the social classification of the 97 respondents based on their employment. They are classified as either belonging to Middle Class (Class B), Lower-Middle Class (Class C), Upper-Lower Class (Class D), or Lower-Lower Class (Class E). Five respondents were classified under Middle Class (Class B), a dentist practicing and having his dental clinic in Barangay Bayog and four University Professors of the University of the Philippines at Los Baños. Thirty-one respondents fell under Lower-Middle Class (Class C); there were 21 government employees of the different government agencies operating in Los Baños, four elementary teachers, two small-scale business operators (owner of a flower shop and funeral parlor operator), and four retirees who were formerly employed at the International Rice Research Institute and University of Los Baños. Upper-Lower Class (Class D) was composed of three secretaries, eight sari-sari store operators, and two sales persons. Finally, the Lower-Lower Class (Class E) was composed of two fishermen, ten household servants, ten peddlers, ten tricycle drivers, and twelve unemployed. There were four respondents who did not disclose their employment status.

This research used books, journals, publications, and conference proceedings to gather relevant information on the theories and concepts that were used in this research. Internet search was also done to be able to obtain different papers pertaining to the study. Survey questionnaires were used for this research. Questionnaires were developed for the different social classes in Barangay Bayog, Los Baños, Laguna. Focus group discussions was applied only with key informants that included barangay officials who were directly involved in the implementation of solid waste disposal. In order to confirm the responses from the questionnaire and focus group discussion and in order to generate a triangulated data set, observation was used to document the practices of communities with regards to solid waste management.

Table 1. Social classification of respondents, Barangay Bayog, Los Banos, Laguna, 2016.

Social Class	Number	Percentage (%)
Middle class (Class B)	5	5.38
Dentist (1)		
University Professors (4)		
Lower-middle class (Class C)	31	33.33
Government Employees (21)		
Teachers (4)		
Small scale business operator (2)		
Retirees (4)		
Upper-lower class (Class D)	13	13.98
Secretary (3)		
Sari-sari store operators (8)		
Sales Lady (2)		
Lower-lower class (Class E)	44	47.31
Fishermen (2)		
Household servants (10)		
Peddlers (10)		
Tricycle Driver (10)		
Unemployed (12)		
No response	4	4.30
Total	**97**	

RESULTS AND DISCUSSION

Solid Waste Management System in Barangay Bayog

Based from the focus group discussion, key informants interview, survey, and observation, Figure 2 depicts the solid waste management system in Barangay Bayog. At present, there is a hierarchy of solid waste or flow of solid waste in Barangay Bayog. Due to unsegregated solid waste, processing takes a long time before it can reach its final destination, the San Pedro landfill. The input, such as goods, clothing, and other materials consumed by the waste generators are being used up. Through the process, by-products or solid waste are generated in the system.

The solid waste undergoes different process. In the household level, some are segregating their solid waste; the recyclables are separated and sold to junkshop collectors. Some are giving to others for future re-use. Some households are separating their biodegradable solid waste to be used as compost. Others who are raising hogs and cattle are using their biodegradable waste as feed. For others, they are simply gathering all their solid waste and burying it in the soil, burning it, or throwing it somewhere else.

For most of the households, they are gathering all their solid waste in one container and bringing it outside the street to be collected by the garbage collector. These solid wastes are mostly unsegregated. Every Tuesday and Thursday, two to three truckloads of solid wastes are collected in Barangay Bayog, while three to four truckloads of solid waste are collected every Saturday. On the average, about seven to 10 truckloads of solid waste are generated by the households. Solid waste materials collected from the barangay are transferred to the Materials Recovery Facilities located in Barangay Timugan. The unsegregated solid waste undergoes processing, such that recyclables are separated by the Los Baños Solid Waste Organization (LBSWO). Proceeds of the recyclables are the earnings of the LBSWO for their services. Biodegradable materials are also separated and undergo composting.

Three techniques are being used in composting the biodegradable materials: use of either shredder for biodegradable waste, concrete static composting bins, and rib-type composting bins. All of the solid waste that cannot be recycled and used as compost are then transferred to its final destination, the private landfill in San Pedro, Laguna.

Barangay Bayog's solid waste management system interacts with its outside environment, such as the Municipal Office, wherein the ordinances with regards to solid waste management are imposed and directly affect the system. Other barangays are also contributing some inputs to the system in Barangay Bayog. Solid waste can be imported from one place to another; some barangays may transfer their solid waste to Barangay Bayog by discharging them in their canals. The canals are interconnected and flow to the canals of Barangay Bayog going to the Lake. The LBSWO and junk shops also have an effect on the system. Junk shops process the collected recyclables sold by the households, and the LBSWO earns profit for those recyclables and decompostables discarded by the households. The effect of the private landfill in the solid waste management of Barangay Bayog cannot be traced with the information provided by the focus group participant and key informants. However, the final output of the system is being dumped at the private landfill.

Assessment Results

Barangay Policy Programs. Barangay Bayog is able to collect their community's solid waste materials; however, the collected solid waste are not segregated (Section 10 of R.A. 9003). This means that the barangay cannot implement the Act's guidelines on solid waste collection. This follows that they are not delivering 100% collection efficiently (Section17, c). The barangay, likewise, was not able to put up Materials Recovery Facilities (MRF). In addition, they were not able to form the Barangay Solid Waste Management team. Based on the focus group discussion and key informant interview, they are only adopting the municipal ordinances at the barangay level. The barangay does not have any barangay ordinances in relation to solid waste management. In addition, the barangay was not able to formulate its strategic solid waste management plan. Penalty and reward systems are also dependent on the Municipality's program. As of today, the Taskforce *Kalikasan* is no longer operating in the barangay level; hence there is no penalty for those who are not segregating their waste.

No Information and Education Campaign program is being conducted in the Barangay. The only activity being done in terms of solid waste management is the "public announcement," which is just a reminder for the days and time of collecting the solid waste and an encouragement to segregate the garbage.

Another solid waste management related activity is the clean-up day once a month that is supposedly participated in by the communities but unfortunately, only the barangay officials headed by the Barangay Captain are joining the said activity. The livelihood from solid waste is on a per household basis. Those that are segregating their recyclables are earning a little money from selling them to the junk shop collectors.

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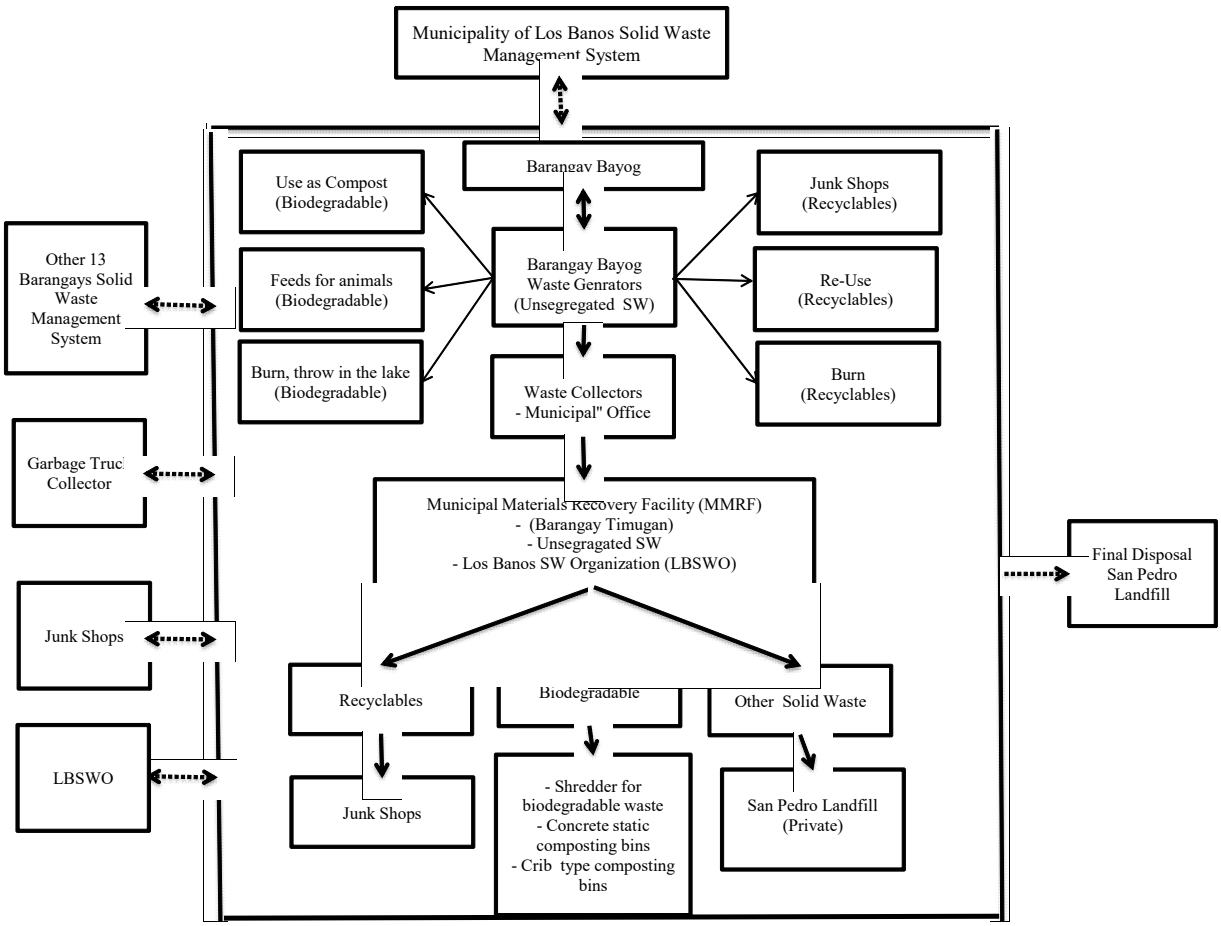

Figure 2. Current Solid Waste Management System in Barangay Bayog

Communities' Current Solid Waste Practices

Waste Segregation. Based on the survey, recyclable materials are separated from the solid waste and are sold to junk shop collectors by almost all of the respondents under the different social classes. When asked which of the recyclable materials is being re-used, most of the respondents in all social classes were re-using glass bottles, plastic bottles, and paper. Very few are reusing plastic bags and metal cans. This only means that plastics and metal cans go with all other solid waste. This is being affirmed by key informants, who reported that solid wastes of household are mixed and unsegregated. This would also mean that segregation of solid waste does not matter whether which social class the individual belongs; all of them are not segregating their waste or maybe they are segregating but throwing the solid waste all together to be collected. Although Class B would have separate garbage bin for biodegradable and non-biodegradable solid waste, these are being handled by their household helpers who might mix all the garbage together in time of collection.

Recycling/Re-use. Regardless of social class, almost all of the respondents are separating their recyclable materials and selling it to the junk shop collectors. However, there are respondents under Class C, D, and E who are burning the recyclable materials together with other solid waste. This practice is hazardous to health and to the environment.

Composting/Backyard Composting. Some of the respondents under Class B are composting their biodegradable materials, though almost all of them are throwing it with all other solid waste to be collected by garbage collectors. Very few respondents under Class C and D use the biodegradable waste as compost and feed for animals; most of them are also discarding the biodegradable waste to be collected. Most of the Class E respondents are composting their biodegradable materials. Some are also discarding it to be collected while there are few who are feeding it to their animals.

Use of Eco Bags. The use of eco bag is not a problem with the communities in Barangay Bayog. Class B, C, and D are all using eco bags and very few from Class E are not using it. When asked why they are using eco bags, most of the respondents reported that the municipality is prohibiting the use of plastic bags; hence they need to bring ecobag when shopping or marketing.

Preference for Biodegradable Packaging Materials and Containers. Very few respondents are amenable in choosing biodegradable packaging materials, although almost all of the Class B respondents prefer to use biodegradable packaging materials. Almost all of them also prefer plastic bottles and glass bottles. Respondents from Class C, D, and E prefer to buy products packaged in plastic bottles, glass bottles, and carton sachet. It is also unfortunate because almost all of the materials that are available in the market and groceries stores are packaged in non-biodegradable materials. Communities, regardless of social class, are adapting to their economic environment; hence, even those who are in the lower class preferred to buy materials packaged in non-biodegradable materials. Most of those who are in Class E are buying products in small amounts meaning small packages; hence the bulk of plastic is being disposed or burned.

Participation in SWM Activities. Respondents under Class B are willing to bring their own container in the wet market to avoid use of plastics and will use ecobags every time they will shop. Almost all of them are amenable to participate in clean-up day, buy products in biodegradable packaging, will not burn household waste, and will lessen the use of plastics. Only one is amenable to contribute money and attend meeting to contribute ideas; this may be due to their busy work schedules and thus, they do not have time to attend those types of meetings. Most of the respondents under Class C are also amenable to use eco bags, participate in clean-up day, lessen the use of plastics, and bring own containers when marketing. Class D respondents, on the other hand, are amenable to participate in clean-up day, while Class E respondents are most likely to use eco bags, bring own container, will not burn household waste, and will participate in clean-up day.

This information can help the barangay on how they will encourage participation among the different social class in the community. All of the respondents regardless of their social class are agreeable in participating in clean-up day. Use of eco bags will continue. Encouragement on the use of own

containers (e.g. plastic boxes) when buying wet goods in the market (e.g. fish and meat) will help reduce use of plastics. Burning of waste and use of plastic are problems with regards to solid waste. The Barangay should take into account that those (Class C, D, and E) who are burning solid waste are also amenable to avoid such practice. These groups are also amenable to lessen their use of plastic bags; hence it will be easier to encourage them to continue such practice.

Willingness to Pay Garbage Fee. There is only one respondent under Class B who is not amenable to pay for solid waste collection. Most of the respondents from Class C and Class E are also amenable to pay garbage fee, while most of Class D respondents are not willing to pay. When asked why they are not willing to pay, most of them replied that the municipality is responsible for the management of waste.

Reduced Amount of Waste Generated. Based from the above discussions, the current solid waste activities of the communities from Barangay Bayog will not likely reduce solid waste generation. Although, based on their willingness to participate in solid waste management activities, there is still opportunity to reduce waste. Reducing waste can be attained through encouragement of the use of eco bags and the practice of recycling, re-using, and composting. Avoidance of burning solid waste may also help in reducing waste. Cleanliness in the community will be hastened through pushing for the drive for the participation on clean-up day.

The current practices of the communities in terms of solid waste are not sustainable. The Barangay does not have the necessary policy program to attain a sustainable solid waste management in their communities. The different social classes have similarities and differences in terms of aspects of solid waste management. These can be used in formulating a sustainable solid waste management system in the Barangay.

RECOMMENDATIONS

Figure 3 shows the proposed solid waste management system for Barangay Bayog. The processes were cut down to minimize used of energy and resources (labor, gasoline for truck, etc.) and to reduce generation of waste. Harmful solid waste practices such as burning, burying in soil, and throwing on lakeshore and lake are eliminated from the system. Instead, appropriate technologies to process solid waste that will fit the community should be chosen. The community should be encouraged to participate in sustainable solid waste management and develop ways to attain economic livelihood from solid waste. In the proposed solid waste management system, a feedback mechanism from the different social classes and other stakeholders are encouraged to minimized or control problems within the system.

The following are the recommendations to attain the proposed solid waste management system in the Barangay:

Preparation of Barangay Strategic Solid Waste Management Plan

The Barangay Captain together with the Barangay Councilors and representatives from different social classes should convene to discuss and formulate the Barangay Strategic Solid Waste Management Plan. The different social classes should be well represented in the said meeting(s) to be able to capture the different perspectives on solid waste management. The strategic plan should include different enabling mechanisms to involve all stakeholders. A timetable should be set and a monitoring and evaluation mechanism should be put in place to be able to track progress of the management plan. The plan should aim to: promote the 3R, that is, Reduce, Reuse, and Recycle; establish a system on proper waste disposal through the application of composting technologies and setting up of resource recovery system in the community; provide employment through the resource recovery scheme in coordination with the local junk shop owners; and apply “zero waste collection” scheme. The community-based recovery system will reduce waste generation from source and will minimize the negative impacts of unsegregated solid waste.

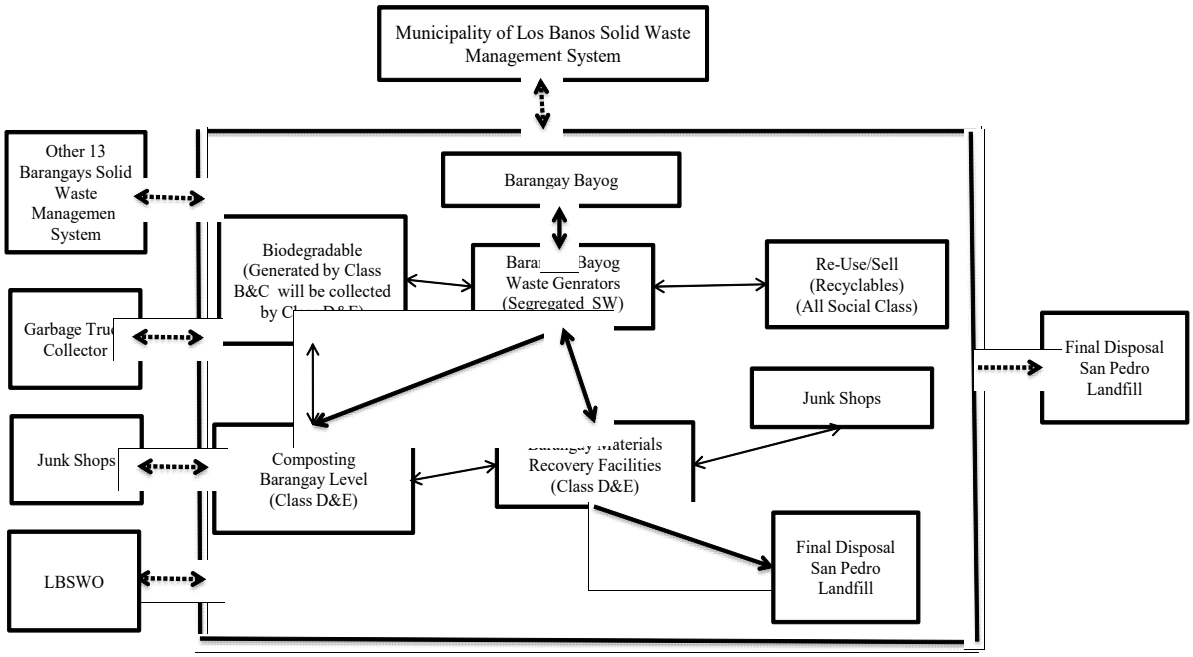

Figure 3. Proposed Solid Waste Management System of Barangay Bayog

Organization of BSWMT and Association of Class D and E

The Barangay Captain should form a Barangay Solid Waste Management Team (BSWMT). The team should be composed of different stakeholders. A series of workshops and meetings should be conducted to be able to encourage the participation of all stakeholders that will be involved in the said team. Aside from the team, the Barangay should also encourage the Classes D and E to form an association. Based from the survey, most of the respondents are active members of an organization. It would mean that a sort of organization with regards to solid waste management can be organized headed by the Barangay officials. Such organization will spearhead the activities to attain sustainable solid waste management.

First, a Barangay-level composting facility should be set up. The Municipality is currently using the three technologies that they were able to developed to cater the needs of the Los Baños community. These are the shredder for biodegradable waste, concrete static composting bins, and crib-type composting bins. The Barangay can evaluate which of these technologies will be appropriate for the use of their community. Proper planning involving the communities should be carefully done. It is suggested that individuals under Classes D and E be tapped in this project. They are the most marginalized ones and most vulnerable. They can be empowered through activities that will generate income. Bio-composting if taken seriously, will generate income. In Los Baños, specifically in Barangay Bayog, cutflower and ornamental business is proliferating; the demand for compost is high. Bio-composting can be a source of income for those under Classes D and E. A mechanism on how to operationalize such income-generating activity from biodegradable waste should be tackled in a forum participated in by the major stakeholders, Class D and E communities. As suggested in the proposed solid waste management system, the biodegradable waste generated by the communities will be gathered by the Classes D and E and will serve as input in the Barangay Level Composting Facilities. For Classes D and E, biodegradable waste will be directly brought into the bio-composting facilities. Scheduling and assignment of such tasks should be assigned among the different individuals to be systematic. Likewise, the accumulated biodegradable waste of Classes B and C will be collected by Classes D and E and used as input in the Barangay Level Composting Facilities. Proper scheduling and assigning of tasks should also be done.

Put Up a Material Recovery Facility (MRF)

A proposal on the establishment of and MRF should be prepared by the responsible Barangay Councilor to be able to get some funding for the rentals of the site for the MRF. The facility will help the community to manage their solid waste which will help attain sustainability. In the proposed barangay solid waste management system, Class D and E communities can be involved in the operationalization of the facility. Recyclable materials can also be a source of income for the communities. The recyclable materials that were generated by the communities and separated from other waste materials will be processed in the MRF and sold to junk shops. Biodegradable materials should also be processed and transferred to the composting facilities.

Develop Appropriate Technology to Reduce Waste

It was discussed earlier that three available technologies developed by the Municipality of Los Baños can be used in the community level: shredder for biodegradable waste, concrete static composting bins, and crib-type composting bins. The Barangay officials, BSWMT headed by individuals under Class D and Class E should convene and plan on how they can acquire locally available technologies to be able to set up composting facilities in Barangay Bayog. The strategy is to develop a "one barangay, one enterprise scheme," which is being proposed by the Municipality of Los Baños. The community will be responsible in the management of solid waste and its processing. Biodegradable waste shall be collected and processed by the Class D and E members of the community. In case there is no available budget to finance either of the three mentioned locally available technology for bio-composting, composting drums can be used for the purpose. The biodegradables will be gathered from different "puroks" and will be processed as compost. The compost can be sold to the different ornamental gardens operating in the Barangay or in neighboring barangays. The community can also use recyclable plastic materials to plant vegetables for local consumptions. Technical assistance will be readily available once the project is being set.

Technical and Financial Assistance from Los Baños Science Community (LBSC) Members

A couple of agencies can serve in terms of solid waste management. The Barangay officials and the association of Class D and E can ask for technical assistance from the different LBSC member agencies. It can be in the form of training and seminars on proper solid waste management.

IEC Activities

Barangay officials and the BSWMT should be able to prepare different IEC materials and conduct IEC activities to encourage the communities to practice sustainable solid waste management. Technologies on traditional composting and use of community-based composting facilities should be promoted in the Barangay. This should be in coordination with appropriate agencies that will help the community to identify appropriate technologies for the reduction of nonbiodegradable wastes. All social classes should be involved in IEC activities. Seminars at the Los Baños Integrated School (LBIS) and Bayog Elementary School can be conducted such as lectures on solid waste management for both parents and children. The barangay or other donor agencies should provide garbage bins that will separate biodegradable and nonbiodegradable wastes to school premises. This will help educate students on proper segregation of solid waste. Film showing about dangers of unsustainable solid waste management in the basketball courts, Los Baños Integrated School, and Bayog Elementary school will be vital as additional source information for the communities. This will help adults and children to understand the importance of proper waste management. Municipal ordinances with regards to solid waste management should also be disseminated throughout the community so that people will have enough knowledge on the different laws so as to act properly. Anti-littering and waste segregation should be part of the campaign to increase the awareness levels of the community.

Barangay Clean-Up Day

All of the social classes can be involved in the clean-up day. The activity should be undertaken monthly. Children of different ages can also be involved so that they will develop the habit and behavior of

cleanliness and concern for the environment. To make the activity more lively, the Barangay can engage in different activities after the clean-up, such as a breakfast consisting of congee, "pandesal," and coffee will attract people to join the activity. The said activity can also bring back the traditional "bayanihan" of the community.

Monitoring and Evaluation on Solid Waste Management Activities

The Barangay Solid Waste Management Team should develop a monitoring and evaluation scheme to be able to assess the progress of all the solid waste management activities. This can be done through questionnaire using ranking system technique. Such a scheme will help the barangay to improve the system and develop plans to continuously attain a sustainable solid waste management system.

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