

Budget Performance of Bank Sampah Malang (BSM): Current Reality and Future Subjects

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Abstract: *In reaction to the rapid increase of garbage, the Indonesian government has addressed the serious challenge of waste problems, and Malang Municipality local government established Malang Waste Bank (Bank Sampah Malang (BSM)) for the purpose of the implementation of reducing, reusing, and recycling (3Rs). The 3Rs are implemented by running a waste recycling business and encouraging people to separate their waste. This study aims to analyze the current reality of BSM activities and clarify its economic viability. In order to measure the economic viability of BSM, BSM's budget performances were analyzed by using BSM's financial statements, whereas the role of BSM as a social function is examined by analyzing the in-depth interviews, field observations, and secondary data. The results of the analysis show that BSM is not economically profitable. However, the existence of BSM should be maintained because it has many social benefits, such as changing people's behavior toward waste, enhancing community participation in managing waste, and giving extra money to BSM's members.*

Keywords: *waste bank, economic viability, budget performance, social function.*

INTRODUCTION

Waste is a complex problem in almost all big cities in Indonesia. In recent years, the Government of Indonesia (GoI) has been trying to cope with its waste problem. GoI has done this by introducing a number of laws and regulations, starting from the enactment of law no. 18/2008 on waste management and followed by central government regulation on household waste management (PP 81/2012). The regulations mark the shift of the waste management system in Indonesia from a landfill-based system to an integrated one. It is stated in the regulations that the aims of waste management are to improve public health and environmental quality and to establish waste as natural resources, not as things that must be disposed of. Waste management is carried out based on the principles of responsibility, sustainability, usefulness, justice, awareness, togetherness, safety, and economic value. It also emphasizes citizens' obligatory participation in managing waste. In order to support the obligation, the Ministry of Environment (MoE) enacted the environment minister regulation on implementation guidance of reduce, reuse, and recycle waste through waste bank (Permen KLH 7/2012). The definition of a waste bank is an attempt to enhance the public's environmental awareness by conducting domestic waste management with the purpose of obtaining better environmental conditions and giving added value of domestic waste, as well (MoE, 2011). Moreover, a waste bank could be a means to increase people's consciousness of waste separation at the source, reduce the amount of waste disposed of in landfills, and create economic opportunities (MoE, 2012). It is expected that the establishment of a waste bank will have social and economic roles in the society.

GoI targeted to establish waste banks in 250 cities by 2014 (MoE, 2011). Due to the importance of the waste bank, which is emphasized by the GoI, the waste bank has recently become a popular new system implemented by many local governments to manage waste.

In order to execute the regulations regarding waste management, Malang Municipality initiated the establishment of the Malang Waste Bank (Bank Sampah Malang (BSM)) in July 2011.

BSM is one successful waste bank in terms of gaining the members and encouraging people to separate their waste at its source, as separating waste is an unusual behavior in Indonesia. Data obtained from BSM showed that the number of members has increased from year to year (BSM, 2014). When it was established in 2011, BSM had 11,000 members, and as of April 2014, there are 22,500. This is a 48% increase. BSM has contributed to reducing inorganic municipal solid waste by more than 1.5% every year. There is a correlation between the increasing number of BSM's members and the reduction of inorganic waste. However, according to the director of BSM, BSM suffered losses in the first year, reached a break-even point in the second year, and it has started to profit as of September 2013.

Even though BSM could encourage people to separate waste, it appears to have problems in its economic activities. As instructed by the waste management regulations, a waste bank should have economic and social functions. The economic function should be optimized in order to maintain BSM's sustainability. Based on the background, there is a need to study the waste bank's economic viability because the studies related to the waste bank, especially the waste bank's budget performances are very limited. This study is expected to help policy makers in Malang Municipality to estimate the suitable policy to maintain the BSM. It is also expected to give valuable information to other waste bank managers by answering the questions on economic viability and the social function of BSM.

Many studies have discussed recycling activities, but studies related to the recycling business, such as the one done by BSM, are limited. Several studies highlight recycling activities from the side of the cost. Dunais (2009) stated that the cost of recycling activities generally exceed revenue, and (Bohm, Folz, Kinnaman, & Podolsky, 2010) explained that waste recycling is costly and requires financing from the government. The costs of collecting, separating, processing, marketing, and transporting recyclable household materials surpass the costs of collecting and disposing the material as waste (Bohm et al. 2010). As a formal organization, BSM needs operational expenses in running its activities. The operational expenses are used for enhancing the service to the public. For example, orderly administration and record-keeping can guarantee public trust, and it needs employees to accomplish these tasks. Providing waste delivery from members also induces more costs incurred by BSM. Ideally, the expenses should be covered by the profit. But, BSM has uncertain profitability due to uncertain market prices and unhealthy competition with other recycling businesses by informal sectors, such as waste collectors, scavengers, and itinerant junk buyers. It is probably the reason for Dunais (2009) statement that recycling activities can be profitable in a certain market, and the profitability of trading material waste is still disputable (Kinnaman, 2006, as cited in Corato & Montinari, 2013). However, recycling also gives social effects environmentally (Diaz & Otoma, 2014). Chen and Tung, in 2010 (as cited in Wan, Shen, & Yu, 2010), also said that recycling is more prevalent because it can reduce waste and convert waste into usable goods. These statements are supported by Bohm et al. (2010)'s argument that the benefits of recycling include reductions in waste collection and disposal costs. In this case, social benefits have seemed to appear since the establishment of BSM as a result of its recycling activity and continuous encouragement to separate and manage waste properly.

Other studies argued that in the developing countries, informal sectors play an important role in waste recycling. Informal sectors improved the efficiency of waste recovering and reducing disposal costs (Singhirrunusorn, Donlakorn, & Kaewhanin, 2012). Diaz and Otoma (2014) used the correlation of the picker's participation variable and weight of the waste variable in measuring waste

reduction. Research in Bandung, Indonesia, by Sembiring and Nitivattananon revealed that the informal sector collected more than 13% (by weight) of waste generated in Bandung city and diverted them into recyclable material. Sasaki and Araki (2013) investigated relationships between employers and employees in a final disposal site, namely Bantar Gebang in Bekasi, Indonesia. They concluded that the highest level of recycling actors in the site is called the “big boss”, the man who has a direct connection with a recycling factory. The big boss has many years of experience in the recycling business. It seems that the business has a good prospect economically. However, recycling actors in this business do not need to spend their money on social activities like BSM. Those businesses make the difference between recycling activities done by BSM and informal sectors.

METHODOLOGY

Data

This study used primary and secondary data to be analyzed. The primary data are in-depth interviews with BSM officers from June to July 2013 and financial statements of BSM from the period of January 2013 to February 2014. Field observations were documented to provide real conditions of BSM. Secondary data consists of journals, government regulations, documents, statistical data, and BSM documents related to this study.

Methods

The purpose of this study is to measure the budget performance of BSM. However, social function of BSM is displayed as well, for understanding other advantages of the existence of BSM. The budget performance of BSM was measured by using its financial statements. The financial statements were analyzed by calculating the total sales, cost of goods sold (COGS), total costs, gross profit, and net profit.

DISCUSSION

BSM is located in Malang Municipality (Kota Malang), East Java, Indonesia. It has a land area of 110,06 km², and it is at a height of 440 m above sea level. The city is located 90 km south of Surabaya and surrounded by Malang Regency.

Current Situation of Waste Management in Malang Municipality

In Article 14 of Law Number 32 Year 2004 on Decentralization Law and Annex C-6 of Government Ordinance 38 of 2008, it is stipulated that waste management services in municipalities and regencies are the autonomous affairs of each city and regency. Accordingly, waste management in Malang Municipality is currently managed by the Cleaning and Gardening Directorate as stated in the Mayor Regulation of Malang Municipality Number 48 Year 2008 on Affairs of the Cleaning and Gardening Directorate (Dinas Kebersihan dan Pertamanan (DKP)). In fact, the wastes are treated by DKP, informal sectors, and BSM.

General Overview of BSM

In order to execute the regulation of MoE, Malang Municipality initiated to encourage community-based solid waste recycling in July 2011 by establishing Malang Waste Bank (Bank Sampah Malang (BSM)). Although it used the term “bank,” the form of this organization is cooperative. However, the members do not get dividends from BSM profits by the end of each year as cooperatives’ members generally do.

Malang Waste Bank is located in Jalan S. Supriyadi 38A Malang City. The bank was established on 26 July 2011, and it was officially opened by the mayor of Malang Municipality on 17 August 2011. The operation of the bank was started on October 2011 and inaugurated by the environment minister on 15 November 2011.

Like a bank, the BSM has similar activities with general banks. The difference is the transacted object. Commonly, a bank uses money to be saved or to be lent. However, BSM uses inorganic waste in its transactions. The separated inorganic wastes are valued by money in the BSM, and the money, as the result of the transaction, could be saved there or taken home by the members. The members also have a right to obtain a loan. But the loan will be determined by the quantity of inorganic waste provided by the member. Every resident of Malang Municipality could be a member of the BSM. There are two types of members:

1. Individual members and
2. Group members, who are usually called the fostered group (kelompok binaan).

Each fostered group is composed of managers (one head, one secretary, and one treasurer) and at least has 20 members from households, 40 students from a school and 5 traders from a traditional market.

As of April 2014, BSM has 282 fostered groups from the community, which is 90% active; 169 fostered groups from schools which is 60% active; 24 fostered groups from agencies; 5 fostered groups from pickers; and 434 individual members for a total of 21.000 members.

To support the BSM, Malang Municipality provided the initial funding for the operation of BSM. In August 2011, BSM received the grant from Malang Municipality. It was not only supported by the local government, BSM was also supported by another agency, namely State Electricity Company (Perusahaan Listrik Negara (PLN)), in the form of corporate social responsibility (CSR) three times between 2011 and 2013. Other aid was also received by BSM from Cleaning and Gardening Directorate of Malang Municipality (DKP) in the form of goods. In order to maintain the BSM members' participation, PLN established the Clean and Green Program as an environmental competition and gave the rewards to the winner (Hidayat, 2013). The purposes of the supports are shown in Table 1.

Table 1
BSM's Source Financing

Time	Source	Form of capital sources		Purpose
		Money (in millions IDR)	In kind sources	
August 2011	Grant from Malang Municipality	250		<ul style="list-style-type: none"> • Repairing BSM's office • Buying transportation • Paying initial operational expenses
August 2011	CSR from PLN	30		<ul style="list-style-type: none"> • Repairing BSM's office • Buying transportation • Paying initial operational expenses
Nov 2011	Grant from DKP		<ul style="list-style-type: none"> • 1 plastic crushing machine • 3 scales • 1 sewing machine 	

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2012	CSR from PLN	93		<ul style="list-style-type: none"> • Buying transportation • Paying operational expenses
2013	CSR from PLN	140		<ul style="list-style-type: none"> • Buying crushing plastic machine • Paying operational expenses
2013	CSR from State Power Company (PLN)		Reward to BSM's members through Clean and Green Program	
2013	Grant from Malang Municipality	100		<ul style="list-style-type: none"> • Creating wells • Paying operational expenses

Source. This information was derived directly from an interview with director of BSM.

Economic Viability of BSM

This section aims to analyze the economic viability of BSM by assessing the budget performances of BSM. The budget performances were analyzed by using BSM's financial statements from February 2013–February 2014. From the financial statements, the budget performance of BSM can be seen from its fluctuation of total sales, cost of goods sold (COGS), total costs, gross profit, and net profit. The result of the financial statement analysis is as shown in Figure 1 below.

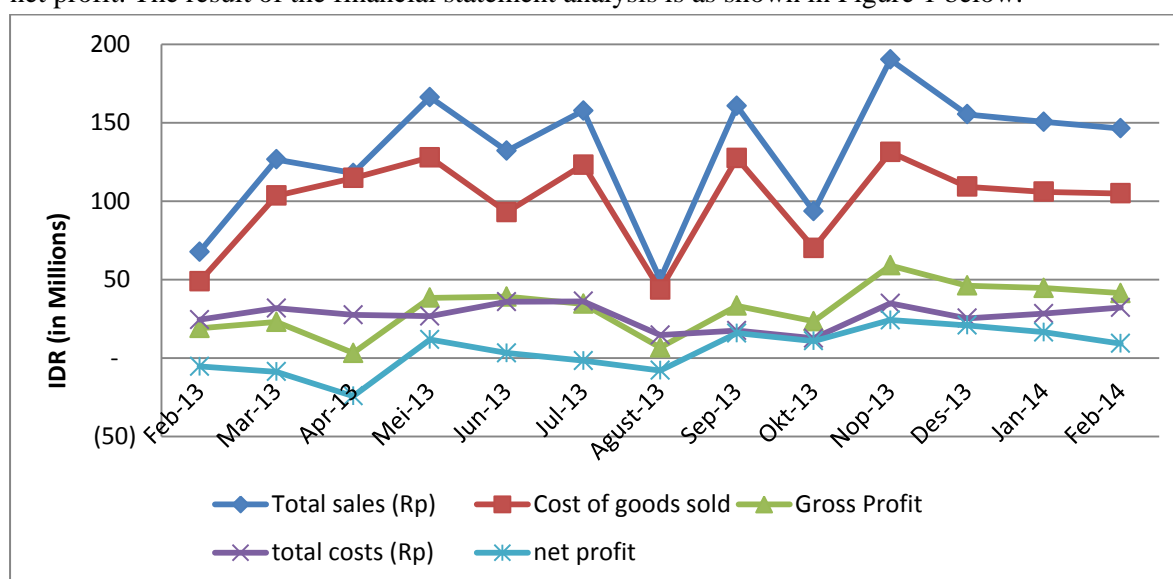


Figure 1. Analysis result of BSM's financial statement in the period of February 2013 to February 2014.

The graph illustrates the flux of the total sales, COGS, total costs, gross profit, and net profit.

Total Sales

In this case, total sales represent the total inorganic waste sold by BSM in the period of February 2013 to February 2014. Inorganic waste here consists of recyclable waste that is not processed and recyclable waste that is processed to be recyclable material, and also recyclable waste that is processed to be handicrafts. However, the limited capacity of BSM's warehouse causes the separated waste purchased from members to be mixed again with other waste. The mixed inorganic waste causes the price of sales to decrease.

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Cost of Goods Sold (COGS)

The definition of COGS here is the price paid for the goods and additional costs to produce finished goods, which can be calculated by using this following formula:

$$COGS = \text{Initial inventory} + \text{raw materials purchases} - \text{ending inventory.}$$

The COGS in the graph was obtained by calculating the following:

COGS of February 2013 = ending inventory of January 2013 + net purchased inorganic waste of February – ending inventory of February 2013.

COGS of March 2013 = ending inventory of February 2013 + net purchased inorganic waste of March – ending inventory of March 2013 etc.

BSM can buy 70 kinds of classified inorganic waste. However, in its financial statements, they only present 4 major categories of inorganic waste purchased by BSM: paper, plastic, metal, and glass. The sub-categories of paper, plastic, metal, and glass are not explained.

The number of COGS was influenced by the purchase price of inorganic waste and the quantity of inorganic waste, which are depicted in the following Table 2 and 3, respectively. Related to the price, there are 70 purchased prices of inorganic waste defined by BSM. The investigation shows that the purchased prices fixed by BSM have changed as of January 2014. Because the financial statements obtained is from February 2013 to February 2014, the prices in 2013 and 2014 are used here. The prices, as shown in Table 2, are the average prices of every major category of inorganic waste. In determining the price waste per unit, the author calculated the total prices of a major category of inorganic waste and divided them by the total number of sub-categories of inorganic waste.

Table 2
Price Waste per Unit in Thousands IDR

Types of waste	Year	
	2013	2014
Paper	1,425	1,375
Plastic	1,912	1,956
Metal	12,982	14,669
Glass	258	347

Source: Average price of paper, plastic, metal, and glass fixed by BSM.

2013 : February–December 2013

2014 : January–February 2014

Table 3
The Quantity of Waste Purchased by BSM in kilogram

	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13
Paper	18,205.98	18,742.53	12,945.93	20,129.82	N/A	N/A	N/A
Plastic	4,126.87	6,327.04	16,745.50	6,744.35	N/A	N/A	N/A
Metal	916.67	604.61	150.89	342.71	N/A	N/A	N/A
Glass	8,679.26	4,108.33	14,208.91	5,300.00	N/A	N/A	N/A
	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	
Paper	14,268.74	N/A	N/A	1,902.40	N/A	5,007.82	
Plastic	26,191.50	N/A	N/A	4,609.96	N/A	7,388.01	
Metal	529.87	N/A	N/A	448.93	N/A	5,437.18	
Glass	3,875.97	N/A	N/A	-	N/A	-	

Source : Calculated by author

Table 3 illustrates the quantity of inorganic waste purchased by BSM. The quantity is obtained by calculating the total purchase of inorganic waste per month and divided by the price per unit, as shown in Table 3. However, data in June, July, August, October, and November 2013 and January 2014 are not available because the types of purchased inorganic waste in those months are not specified as paper, plastic, metal, and glass.

Total Costs

The total costs component of BSM contains salary (64 %), fuel (7 %), delivery expenses (8%), operational vehicle maintenance (2%), warehouse expenses (4%), administrative expenses (11%), processing expenses (3%), and miscellaneous expenses (3%) (BSM, 2014). The total costs of BSM are relatively stable. The proportion of the proportion of salary is highest, reaching 64%.

In order to make a clear explanation of Figure 1, the author has attempted to describe the movement of all components in the Figure 1 as close as actual circumstances of BSM by combining the results of the interview with BSM's officers and field observations.

Starting from the flux of February to March 2013, it is clear that inorganic waste purchased by BSM increased by more than 50 million IDR. The flux is highly likely because of the increasing number of BSM's members. In other words, the increasing number of BSM's members will make it possible to increase the quantity of inorganic waste that should BSM purchase. Fortunately, this increase is accompanied by a rise in total sales in the period of February to March 2013. However, total costs are also slightly rising in that period. This subsequently leads to the decrease of net profit.

In March to April 2013, the quantity of purchased plastic and glass increased more than threefold, as shown in Table 3. It might be an answer why the COGS increase significantly. Unfortunately, this condition is not followed by the increase number of total sales. Accordingly, COGS lies at almost the same point with total sales. It causes the gross profit obtained in April 2013 to be very small, and consequently, net profit is expected to dramatically decrease.

The movement of total sales in April to May 2013 is better than the previous one. It is indicated that the large number of inorganic waste as inventories in April 2013 might be sold well in May 2013, as presented in the point of total sales. The range between total sales and COGS in May 2013 is wider than in the April 2013. The reason for this situation might be because, in that time, the sales price in the market in May is better than in April. As a result, gross profit goes up, and the aftermath net profit that BSM gains goes up, as well.

Despite the decreasing number of total sales in May to June 2013, the difference of total sales and COGS is relatively large. The decrease might be due to students' final exams, which are held in May and June. BSM members, most of whom are housewives, tend to be busier during this time as they prepare their children for exams. Although gross profit and total costs are adjacent in the Figure 1, a net profit is still received by BSM.

The increasing trend of total sales in June to July 2013 is almost similar to the increasing trend in April to May 2013, although the increase in June to July 2013 is not as high as the increase in April to May 2013. However, the increasing sales of July 2013 are not adhered by the increase of COGS in the same month. The possibility of this situation is that the market selling price in July 2013 is lower than in May 2013, whereas the COGS of July 2013 is higher than COGS in May 2013. Unluckily, the total costs in July 2013 rises, and accordingly, BSM suffers losses because net profit goes down. The rise of total costs might be that there are several environmental events held by BSM in July 2013 which require a larger budget.

All components in the graph dramatically fell in July to August 2013. The seasonal effect is a strong possibility for explaining tendency of the decline. July to August 2013 is a fasting month www.jurnal.unitri.ac.id

(ramadan) for Indonesians, most of whom are Muslims. It is highly likely that the fasting month highly led to fewer transactions in BSM because most of its members are housewives. In ramadan season the housewives are usually busy in fulfilling ramadan activities for their family a whole month. The fasting month is then followed by feast day, namely Eid al Fitr (Idul Fitri). Idul Fitri is a religious holy day for Muslims and so called feast of breaking fast. This day marks the end of ramadan. In Indonesia Idul Fitri followed by long holiday. Indonesian people tend to spend more money for the Idul Fitri feast, with no exception among BSM's members. Most of them take their savings in BSM to be used for the Idul Fitri feast. According to the data from the financial statement and interview with the director of BSM, BSM spends more than 200 million IDR for the demand of savings withdrawal in August 2013. From this circumstances, it is highly likely that the transaction activity declines in the period of July to August 2013 because the majority of the members prefer to prepare for the Idul Fitri feast, rather than separate waste and sell it to BSM.

After Idul Fitri, BSM activity starts to return to normal, and the movement of total sales in the period of August to September 2013 grows drastically. The director of BSM stated that since the beginning of September, he has started to fix the BSM management and optimize the function of the plastic-crushing machine to increase its productivity. As a result, total sales, COGS, gross profit, and net profit increased significantly in September 2013.

The decreasing trend of total sales in the period of September to October 2013 might be due to the decrease of demand for inorganic waste, which has an impact on the total sales. Meanwhile, the decline of COGS might be influenced by the decreasing members who are active in selling their separated inorganic waste to BSM in the period. However, the total costs in October are the lowest out of all the others as a result of management efficiency done by the director. Therefore, gross profit obtained by BSM is still high, and accordingly, net profit is high as well in October 2013.

Figure 1 shows October to November 2013 experience the highest number of total sales compared to other months. This is coincidentally followed by the good price of COGS. Hence, the difference between total sales and COGS is large, even larger than all of the others. Accordingly, gross profit is large, and subsequently, net profit is large as well, although total costs appear to increase. The increase of total costs is probably related to the increase of total sales of inorganic waste, which need to be processed before selling. This highest movement might be caused by many community events in November 2013, such as wedding parties. Many community events generate more waste from food and drinking containers—for example, paper bottles, plastic cups, and paper meal boxes. After November 2013, in December, the transaction becomes normal again. Interestingly, the decline has no significant impact on the net profit gained by BSM. It might be because the selling price of inorganic waste and COGS are in the stable price.

The movement of all components in the Figure 1 in December to July 2013 seem to be stable, and BSM did not suffer losses since September 2013. The slight increase of total costs in January to February 2014 might be caused by the increase of new salary standards defined by BSM. As stated by the director of BSM, the achievement is the result of fixing management done continuously.

The analysis mentioned above show that there are negative and positive trends of BSM transactions in the period of February 2013 to February 2014. However, the positive trend does not mean that BSM is economically viable because the profits obtained by BSM from September 2013 to February 2014 cannot cover all of the previous losses. BSM uses grants from Malang Municipality and CSR from PLN to cover the losses (Hidayat, 2013). In other words, BSM has not been able to finance its own daily activities. However, the existence of BSM has positive externalities to the people of Malang.

Social Function of BSM

Based on data collection, it seems that BSM has contributed to reducing inorganic municipal solid waste disposed to landfills by more than 1.5% every year. The number of BSM's members tends to increase every year. The increasing number of BSM's members means that there is an increasing amount of community participation in separating waste at its source.

BSM also carries out socialization to continuously encourage waste separation. The socializations are held in schools; sub-district offices; and through local television channels, radio stations, and newspapers. Members of BSM receive extra income from their waste transactions with BSM. They also get education and training regarding organic waste management, plant cultivation, worm cultivation, and handicraft training. BSM also provides a service by having speakers in seminars and workshops regarding the BSM system and producing the crushing plastic machine to those who wants to purchase it. For non-BSM members, the spillover information about waste separation from many forms of mass media can encourage them to learn how to manage the waste appropriately. For students, socializations from BSM can educate them about being responsible for their trash starting from a young age.

BSM seems to be succeeding in gaining its purposes explained above. But, BSM has been less successful in running its role economically. In other words, BSM is effective in terms of increasing community participation in waste separation but not efficient due to the high expenses burden on BSM. Other informal sectors doing the recycling business with BSM such as scavengers, itinerant junk buyers, and collectors, they can sustain their recyclable waste business because they do not pay as much for expenses as BSM. However, there are some advantages received by BSM's members in transaction with BSM than to the informal sectors. The advantages are :

1. Buying price of recyclable waste from BSM is higher than the informal sectors.
2. BSM has a cooperative system (savings and loans).
3. BSM has a clear recording of each member's transactions.
4. Seventy kinds of recyclable waste can be accommodated by BSM.

The advantages make people more convenience in selling their recyclable waste to BSM. The level of people's trust in dealing with BSM is higher than with the informal sectors.

CONCLUSION

The establishment of the Waste Management Law by the Indonesian central government in May 2008 becomes an important measure to solve some problems that are caused by inadequate waste management. This law is calling for Indonesia to shift its waste management system from the landfill site-based system to the integrated solid waste management system with waste separation as its major component. Recently, waste bank system is suitable system implemented in Indonesia with the purpose of change people's behavior towards waste.

The role of the local government as a leader in solid waste management to establish the promotion activities, such as an education program and regular publicity, and to enforce the law of the waste separation system is answered by Malang Municipality's local government by establishing BSM.

Although the establishment of BSM was supposed to have economic and social functions, in fact, the result shows that budget performance of BSM goes against government's expectation. BSM has more social functions than economic functions. From the analysis result of the financial statements of BSM, it can be said that BSM is not profitable economically because as a consequence of formal organization, BSM should spend administrative expenses and fixed salaries for its employees. BSM also pays delivery expense to pick up the waste from group members as one of good

services. Other informal sectors in the same business do not pay such expenses. The expenses cause BSM suffers the losses and to cover its losses, BSM still depends on grants from the Malang Municipality and CSR funds from PLN to finance its activities. In other words, the social benefit of BSM activities exceed its economic profits. However, the existence of BSM should be maintained because the most important role of BSM is to educate and change the people's behavior in managing waste properly not merely economic viability. BSM also has social benefits to the local government and the Malang Municipality's people generally and to its members specifically. BSM has positive externalities for Malang Municipality local government. The local government can promote 3Rs and educate people to manage waste properly through BSM. BSM also could be a way to reduce the waste disposed to the landfill. Social benefits for residents of Malang Municipality include having a cleaner and healthier environment. Spillover information about waste separation conducted by BSM through radio, television, newspaper and other mass media can change people's mind towards waste. Social benefits for members are waste separation, waste management knowledge, plant cultivation, handicraft training and extra income from sales transactions of inorganic waste.

In developing countries, including Indonesia, the informal sectors play an important role in the recycling of waste and in the reduction of loads of landfills in the processing sites. In Malang Municipality, some informal sectors process and recycle useful materials as well as pick valuable materials as a way to make a living.

In this time, BSM has had social capital, which can be used to optimize its performance, namely its high number of members and the trust of its members. The members feel that it is convenient to sell their inorganic waste to BSM, rather than to other informal sectors that participate in similar activities with BSM.

Policy Recommendation

Considering the importance of BSM's existence, its sustainability is required. To improve the economic viability of BSM, several recommendations are proposed. First, BSM should fix its management. Some principles of good governance, such as being accountable, transparent, effective, efficient, and equitable, should be implemented in BSM. Second, in order to improve competitiveness toward the informal sectors, BSM should not fix the price of waste. The price should have flexibility and follow the market price. Malang Municipality should also collaborate in the waste recycling business with informal sectors in order to create partnerships among them. Third, Malang Municipality local government should have strong leadership and commitment in managing waste. Financial support from the local government is required. Because the grants are limited by central government rule, the local government should propose the CSR funds to companies to support BSM. Transport costs incurred by BSM can be deducted from the transport budget of Malang Municipality for hauling waste to its final disposal site. Regarding its social function, socialization should be held continuously, and information should be dispersed not only through mass media but also via brochures provided in sub-district offices, agencies, and schools. Those activities then can be followed by providing separated plastic bags (or bins) in houses, schools, and public areas, which are provided by the Malang Municipality's local government.

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