Research Article

PLANNING FOR SUSTAINABLE WASTE MANAGEMENT MODEL IN PEMATANGSIANTAR CITY

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ARTICLE INFO

ABSTRACT

This study aims to determine the pattern of waste management issues and performance quality of the implementation of waste management in Pematangsiantar. In addition, studied the behavior of people and looking for sustainable waste management model in Pematangsiantar. These studies underlie the recommendation model of sustainable environmental management. Sample selection is done with snowballing, waste management phenomena studied by means of in-depth study. Processing waste incinerator known as much as 80% of respondents strongly agree and submit to the government policy. Based on data from the Governance Section Pematangsiantar that the procurement of land for landfill sites located in Tanjung Pinggir whereas only 1 hectare of land in accordance with the requirements of the Environment standards was 10.4 ha for 10 years. Waste generation in the area of Pematangsiantar can be grouped into two types of waste that are under the house residents around Bah Bolon river and waste generation are located in open spaces. Motivation of individuals and citizens to dispose of waste spontaneously formed by control beliefs is the belief that something can be facilitated to do the behavior of the dump spontaneously form the tidal flow of river water that are considered to clean up waste and the amount of the amount of waste that had been scattered around the settlements. Furthermore, the control factor beliefs will be reinforced to undertake waste disposal behavior spontaneously in the presence of perceived behavioral control factor is the consideration that the conditions of the tidal flow of river water that constantly occur every day. Cleaning is done to coincide with the hot weather or drought conditions. Policy development of waste management model to realize its strategy of policy priorities. The conditions for sustainable development cannot be separated from Pro-Pro-Economic Welfare and Sustainable Environment.

INTRODUCTION

Global issues with respect to the future of urban areas one of which is the amount of municipal waste (municipal solid waste). The amount of waste as one of the important products of urban lifestyle, growing faster than urbanization. Ten years ago there were 2.9 billion urban population generates 0.64 kg of waste per person per day (0.68 billion tons per year). Currently the total urban population has increased to about 3 billion people who produce 1.3 billion tons of waste per year. It is estimated that by 2025 the urban population will increase to 4.3 billion people and produced 2.2 billion tons of waste per year (World Bank, 2012). Then the future will be very large budget required to improve waste disposal and treatment facility. Garbage is not maintained as it should be not only a negative impact on the natural environment, but also on the quality of human health (Tyler Miller, 2004). Locally, the garbage is not collected contribute to flooding, air pollution and

public health impacts such as respiratory diseases, diarrhea, and dengue fever (World Bank, 2012).

As many as 80 percent of the spread of illness in the community in developing countries is believed to be related to the poor urban solid waste management system (Selin, 2013). Residents around the landfill in Sierra Leone suffer from diseases such as malaria, chest pain, diarrhea and cholera (Sankoh, Yan, & Tran, 2013). This, in itself become an additional problem for the population in developing countries are still struggling with a shortage of clean water and food supply.

Sustainable waste management becomes an acute need to address the negative impact of litter and environmental preservation. Sustainable waste management is regarded as an effective measure to reduce the cost of collecting, transporting and processing waste (Apinhapath, 2014). Behavior is defined as sustainable waste management efforts to reduce waste

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(reduce), reusing goods that are still feasible to use (reuse), recycling (recycle), and turning waste into energy sources (waste to energy).

Understand and explain the behavior of waste management can use the approach of psychology theories about the relationship of knowledge, attitudes and behavior. Or cognitive domain knowledge is very important for the formation of a person's actions, knowing from experience and research results turned out behavior based on knowledge will be better than not based on knowledge. Studies investigating the relationship between knowledge, attitudes and behaviors known as the study of KAP (knowledge, attitudes and practices). This study explains what people know about something, what he feels, and how he behaves (Siwakoti, 2009). The investigation method is used widely around the world in the field of public health, water supply and sanitation, education and many other programs.

The knowledge possessed by students refers to their understanding of the topics of interest for example for this study is on sustainable waste management. Attitudes refer to their feelings towards sustainable waste management, as well as ideas preconceived, which may lead to it. The practice refers to the way they show the knowledge and attitudes through their actions in implementing sustainable waste management.

Sustainable waste management should be of concern to everyone, from children to adult relatives, rich or poor. Establishment of a sustainable waste management behavior in primary school students oriented to sustainable development can be a role model for the behavior of a sustainable waste management in their families and communities. The relationship between knowledge, attitudes, and behavioral intentions of sustainable waste management is a problem that wants to obtain the answer in this study.

Theoretical Framework

Implementation of the policy of the many models of policy implementation has been there before, especially with regard to waste management and cleanliness of the city. Implementation of the policy, in the broad sense, is seen as an act of the policy process as soon as the laws or regulations set by government agencies, private individuals or groups of people to achieve goals. The actions undertaken must be capable of linking between objectives that were defined and the realization of, or the results that will be or have been performed, so no synchronization. Grindle (1980) links between policy objectives towards the realization of the results of the activities of government, stating that: In general, the task of implementation is to establish a link that alliws the goals of public policies to be Tirrenus as outcomes of governmental activity. In involves, therefore, the creation of a policy delivery system, in which specific means are designed and pursued in the expectation of arriving at particular ends. Looking at the above statement, in general, implementation is to build relationships that enable public policy goals can be realized as a result of government activity.

Careful measures are in an organization carried out by officials who have the authority or the authority of the appropriate mechanisms and procedures, use of facilities and infrastructure, as well as do together to achieve goals. In regard to the meaning of such implementation, Lester and Stewart (2000)

suggests that; implementation of meaningful implementation of the law in which the various actors, organizations, procedures, and techniques work together to implement policies or programs. Implementation on the other hand is a complex phenomenon, which may be understood as a process, an output as well as an outcome.

The definition indicates that the implementation of the policy is to implement the legislation in the form of work programs more operational by actor / implementer in organizations are well organized, carried out with the working procedures and techniques are clear, and do together to achieve policy objectives. Indeed, reality shows that policy implementation is complex, because the implementation is a system that cannot be separated from the existing sub-systems (input-process-output) until the outcome thereof.

The impact of the implementation of the policy is the main target, therefore consensus or agreements subordinate officials (implementer) are participating in this. In addition, the consensus indicates that the motivation and responsibility for implementing policies in building the organization as a container run the trust the public welfare increasingly realized. Gross and Berstein in Winarno (2007) suggests the factors that influence the consensus in the achievement of objectives, namely: first, the role and cause high staff morale and high staff morale necessary for successful implementation; second, the role and cause great commitment and high level of commitment necessary to affect change; third, the role and creates greater clarity about a renewal and clarity needed for implementation; and fourth, the role and facilitate the successful implementation; the subordinates will tend to oppose a reform, if initiatives on the implementation of the policy comes solely from officials who become their superiors.
In another view, the absolute policy implementation consists of three (3) main elements that are related to each other as a system. According to Abdullah (1988) the three main elements include: (1) executive, (2) the program will be implemented, and (3) the target groups. At the government level, the parties especially the obligation to implement public policies are administrative units or units bureaucracy.

The government bureaucracy as the party responsible for the implementation of policies in his position in the hierarchy is the officials in the organizational structure have personal power. Personal strength in view Winarno (2007), can be measured from the first, official recruitment, selection, assignment, correction, promotion and dismissal. Secondly, officials can control the budget at existing units, has the authority to respond to the achievement of a satisfactory policy, and has the power to influence the behavior of subordinates.

Forms are accountable government in policy implementation are the programs that have been created and agreed upon in advance through public policy decisions. In that regard, Tachjan (2008) states that the essence of policy implementation is the implementation of the program. The same thing also expressed Grindle (1980) that the Implementation is that set of activities directed toward putting a program into effect. Various programs are operational to be understood by the implementer/ executing programs on various aspects of the contents, objectives / targets of the program, allocating budget and

allocation accuracy, and clarity of standards that guide implementation.

Some experts have different views on the success of a policy implementation when applied in the real world. According to Edwards III (1980), in reviewing policy implementation, first need to ask the following questions: What are the predictions for successful policy implementation? What are the primary obstacles to successful policy implementation Edwards tried to answer two important questions that the outlines four important factor in policy implementation. These factors are: communication, resources, dispositions or attitudes, and bureaucratic structure (Edwards III, 1980; 10).

Furthermore, according to Van Meter and Van Horn (1975), the performance of policy implementation is basically an assessment of the level of achievement of specific standards and targets set out in a policy. This model explains that the policy performance is influenced by several independent variables are interrelated. Models offered include six variables that make up the association (linkage) between policies and performance (performance). This model not only determine the relationships between variables independent and dependent variable of their interests, but also describes the relationships between variables are free. These variables, as described by Tachjan (2008), include: standards and policy goals, resources, implementing organizational characteristics, communication between organizations associated with implementation activities, the attitude of the executive, to the social, economic and political, Other policy implementation model proposed by Grindle (1980), better known as top-down approach. This approach is known, as the Implementation is a Political and Administrative Process. According to Grindle (1980) variable that affects public policy implementation consists of two things: first: the question whether the implementation of the policy as determined by reference to the action policy. Second, whether the policy objectives achieved. Indicator viewed from two factors: (1) the impact or effect on the society as individuals and groups; (2) the level of acceptance of the changes as well as the target group. Therefore, Grindle (1980) in response to the implementation of the policy as follows: Implementation of actual policy is not simply related to the mechanism of translation of political decisions into routine procedures through the channels of bureaucracy, but more than that, it comes to the conflict, decisions, and who gets what from a policy.

The framework Grindle (1980) on the implementation of the policy, especially in developing countries, success is determined by the degree of implementation of the policy, namely the content and context of the implementation of the policy.

Various models of policy implementation described above, each has its advantages according to the view of the experts who gave birth to the model and the context in which the policy was implemented. There is no single model is suitable or appropriate in an activity policy implementation, due to the successful implementation of policy is strongly influenced by many indicators, dimensions and factors, both related to the implementation, policy implementers, as well as the environment in which the policy is implemented.

FINDING AND DISCUSSION

Waste management model in Pematangsiantar is the institutional model in the form of cooperation between regions in the sector of waste-based sustainable development is expected to continue to improve performance across the region in a way to improve the regular meetings of such coordination meetings, mediation and facilitation among the three regions in the area of responsibility, more open and regularly provide financial reports in the areas of financial management, apportion to see the performance capacity of the existing staff in accordance with the availability of human resources in accordance with the capacity needed in the field of distribution of staff and an increase in the evaluation meeting every program activities that have been run and provide reports liability routine that oversight is still running well and in case of problems can be resolved soon.

Inter-regional cooperation program in the waste sector based on sustainable development in some areas local governments are expected to further develop socialization in the management. Inter-regional Cooperation (Regional Management). Law Number 18 Year 2005 on waste management, particularly Article 44, where the district / city is already no longer allowed to use open dumping landfill Cooperation among local governments (intergovernmental cooperation), defined as "an arrangement between two or more Governments for accomplishing common goals, providing a service or a mutual problem solving" (Birkland, 1977). In this definition implied their mutual interest that encourages two or more local governments to provide services together or solve problems together. Or in other words, this arrangement is a joint arrangement (joint), which are of course different characteristics than the regulation itself (internal area). The nature of the cooperation is often interpreted as a volunteer, but not necessarily will, because of the cooperation goal to be achieved by the parties working together. Therefore, aspects of the cooperation outlined in the official program with the benefits enjoyed together, as well as the costs and risks are shared.

This definition indicates collective action in a higher level of collaboration rather than cooperation and coordination. Collaboration is a collective process in the formation of a unity that is based on mutual relationships (mutualism) and the common purpose of the organization or individual, which has an autonomous nature. They interact with each other through good negotiation collaborative (joint management).

Cooperation in the reform era is now inevitable. Saw a lot of public issues that cannot be solved individually by the government. Cooperation is a way to overcome the problem by not just looking at one factor and certain government sectors but look at factors and other sectors, which can be synergized in the form of cooperation in addressing the problem. Cooperation between regions is intergovernmental relations will be more deeply considered in solving problems between the region and can meet the needs locally and in accordance with the ability level of each region. Cooperation between governments is also needed in an increase in inter-regional services, especially in the service involving the adjacent area. The first partnership is forged cooperation between regions or between governments. This meant between regions coordinate

with each other and see each other's needs and problems of garbage in the area to be assisted by other areas that are in cooperation.

Region cooperation formally is in a clear legal framework through Law No. 32 Year 2004 on Regional Government Article 87 paragraph (1) which states that some areas may enter into cooperation between the regions governed by the joint decision, (2) the area can form a cooperation body between regions, (3) the area can be entered into collaboration with other bodies governed by decisions, (4) the decision and / or agency cooperation as referred to in paragraph (1), paragraph (2), paragraph (3), (4) which burden the people and the area should get the approval of parliament. Cooperation policies mentioned above is reinforced by the issuance of Government Regulation No. 50 of 2007 on the procedure for the implementation of regional cooperation. Lodging in Article 4 of public service is a public service provided by the government in the form of administrative services, the development of leading sectors and the provision of goods and services of the hospital, market, clean water, housing, parking and garbage.

One public servant / public becomes a major problem is the waste problem in which the process of handling and managing effective and efficient manner moreover many questions on the garbage that cannot be solved completely in practice in most places today. As in Pematangsiantar problem of waste is considered very important to resolve. Garbage piling up problems that cannot be addressed by the public and the lack of government attention. Given also the Tanjung Pinggir landfill trash can accommodate only up to 2017 only makes the government should undertake new measures to the waste problem. In addition, many other waste issues that should be addressed in the Pematangsintar, handling landfills (TPS), which is illegal without the supervision of the government can be a complex issue in the development of a region. The waste problem is difficult to overcome if the landfill (TPS) that there are illegal in the border area between regions or in areas that is less accessible and regularly controlled by the government.

In because the current program is needed to keep the environment in order to be processed properly in a sustainable manner without damaging but took advantage of the environment and updates it for the life of future generations. Starting from the importance of cooperation among local governments in a development of an area / region, there should be regional cooperation which handles waste management, as well as facilities and infrastructure in the area of Pematangsiantar and across regions in the sector of waste-based sustainable development through decree with Regent-Mayor of Cooperation development among regions within the Framework of Implementation of the Urban Infrastructure Management and Formation of Joint Secretariat. With the Joint Secretariat in particular in the sector of waste, the waste management can be overcome by cooperation between regions, which is bridged by a joint secretariat.

The Secretariat will carry out joint development administration as an agent of change that is dynamic and innovative in its efforts to hold a change towards a state that is considered better through policies and development programs in developing countries. Administrative development is very interested and involved in the mobilization and allocation of resources for development activities (Kartasasmita, 2007). Sustainable development as a paradigm of development has the main focus is to realize social development and environmental balance in order to support economic growth (Cobb, *et al*, 1972). Limitation of sustainable development according to the WCED (World Commission on Environment and Development) (Dye, 2005), that sustainable development or sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet Reviews their own needs. Sustainable development is a concept that is simple yet complex that not only pay attention to the values of justice between generations, but also there are values that led to the emphasis that had different to what should be kept and what should be developed that is like freedom, equality, solidarity, tolerance, respect for nature, and shared responsibility (Gupta, 2001).

MDGs has three indicators to achieve a sustainable development. These requirements are generally divided into three main indicators (Kingdon, 1995): Pro-Economic Welfare, meaning the economic growth shown for the welfare of all members of society, can be achieved through innovative technologies that minimum impact on the environment. Pro-Sustainable Environment, meaning non-anthropocentric environmental ethics that shortly become a way of life of society, so that they are always seeking balance and environmental sustainability, conservation of vital natural resources, and support the improvement of quality of life are not material. Pro-Social Justice, referring to the fairness and equality of access to natural resources and public services, respect for cultural diversity. Support sustainable development in regional development areas where development should be based on a sustainable development. According to Shinichi (2002), the regional development through autonomous decision-making mechanism is believed to be able to respond to actual problems that would often appear in a state of high intensity of the allocation of natural resources in development.

The programs are conducted by a joint secretariat was implemented in order to achieve sustainable development. Sustainable development has three indicators to achieve a sustainable development. These requirements are generally divided into three main indicators (Kingdon, 1995): Pro-Economic Welfare, meaning the economic growth shown for the welfare of all members of society, can be achieved through innovative technologies that minimum impact on the environment. Pro-Sustainable Environment, meaning non-anthropocentric environmental ethics that guide people's lives, so that they are always seeking balance and environmental sustainability, conservation of vital natural resources, and support the improvement of quality of life are not material. Pro-Social Justice, referring to the fairness and equality of access to natural resources and public services, respect for cultural diversity. Sustainable development support in the development of regions where local development should be based on the development of sustainable, According to Stones (2002), the regional development through the mechanism of decision-making autonomy is believed to be able to respond to the actual problems that would often appear in a state of high intensity of the allocation of natural resources in development and need improved relations between governments.

Relations between governments are a study of developed countries that originated from the 1980s in the United Kingdom and the United States. Relations between government emphasis on central and local relations, how these relationships for developments and the settlement of problems of a country or a region. According to Birkland (1997): "The study of mental Intergovernmental-relations can justifiably claim to be in the theoretical vanguard of discipline of drawing as it does on insights from all but one of the various theoretical currents in public administration".

Relations between the government running effectively and efficiently when the management who run the intergovernmental relations supports it. Intergovernmental management is necessary for the purpose of intergovernmental relations be implemented and realized well according to plan. Inter-regional cooperation is an important policy for the area to be cooperating. According Stone (2002), said that the cooperation between autonomous regional administration at all levels and other institutions is an important policy for the following reasons: Implementation of affairs that is cross autonomous regions associated with community service can effective and efficient together in synergy between regions autonomous. Aspects of certain public services to be optimal if implemented in an integrated manner by the adjacent areas.

Law of the Republic of Indonesia Number 18 Year 2008 on Waste Management, which was enacted in 2008. This law offers hope for a better waste management system, in the sense that the system is easy to apply and environmentally friendly. This law has also been set up in detail on how the waste must be managed and what the duties, obligations and authority of the government, local government, private and asyarakat. In Act No. 18 of 2008 described the duties of the Government and Local Government (Article 6), duties, obligations; Government authority and local government are as follows:

1. Developing and increasing public awareness on waste management;
2. Conducting research, technology development reduction, and waste management;
3. Facilitate, develop, and implement reduction, handling, and use of waste;
4. Implement waste management and facilitate the provision of infrastructure and waste management facilities;
5. Facilitate the development of sewage treatment outcome benefits;
6. Facilitating the application of specific local technology that developed in the local community to reduce and manage waste; and
7. To coordinate inter-agency, community and industry towards an integrated waste management.

District Government / City singly or together to partner with waste management business entity in dealing with waste management. Partnership referred poured in the form of an agreement between the local government district / city and business entities concerned. Meanwhile, concerning the procedures for implementation of the partnership shall be conducted in accordance with the legislation.

Law No. 18 of 2008 also provide the possibility of inter-regional cooperation in carrying out waste management (Article 26). It is further mentioned that the cooperation in question can be realized in the form of cooperation and / or creation of a joint venture waste management. Whereas further provisions regarding cooperation guidelines and the form of joint ventures between regions arranged in a ministerial regulation which held government affairs in the country.

CONCLUSIONS AND RECOMMENDATIONS

Household waste management system based on the principle of 3 R communities through waste segregation is a paradigmatic solution, namely the solution of the paradigm of how to manage waste. From paradigm throw garbage in practice, removing waste, becomes managing waste in the sense of the sort to be used in practice can significantly reduce landfill waste is disposed of. The main problematic of application of this model is how to change the paradigm of throwing garbage into a trash utilize. The role of RT / RW very great in helping to realize the implementation of the program and facilitate communication between local government and the community. By identifying the desire (preference) community, so that it can obtain an idea the extent to which people want to participate in the management of solid waste. Identification of the condition of the participation of stakeholders and the public on current management is to be obtained; it was shown potentials and constraints of both format and management form or concept. Identification of the form of current management and the possible economic potential to be exploited. Furthermore, the results of the identification and analysis of integrated and synergized into a form appropriate management for Pematangsiantar. Inter-regional cooperation in the waste sector to facilitate the fulfillment of the needs of the development progress of each region without charge everything to one party only. Inter-regional cooperation programs not only give more attention to waste management in improving the quality of the environment, but also can meet the social welfare and the economic boom in accordance with sustainable development indicators. Interregional cooperation using political approach between organizations or political network is intended to facilitate the fulfillment of the needs of the development progress of each region without charge everything to one party only. Relations between the government supported by the intergovernmental management are a way to achieve the goal of inter-regional cooperation.

There are two trends that surfaced with regard to sustainable waste management, which is the first development of desire (preference) community will be the quantity, quality, and accuracy of waste management on the one hand, and the various constraints (budget) which is owned by the government on the other. Both of these lead to the emergence of the tendency of shifting the roles / functions of government in the implementation of waste management. If at this time dominated by the government, then in the future it will no longer need to be maintained. Therefore, through increased community participation in waste management are expected both trends above can be a synergy, so the conditions of sustainable management can be maximized. The role of the government as the implementing operational waste management is currently considered optimal, while substantially the entire infrastructure related've endeavored to function optimally. Based on the principles of Good Governance government should change the purpose of rowing

(pedaling / implement) to steering (controlling / supervising) so that the government should no longer serve as executor, but more effective as a controller to make set-rules / laws. Supervision by the government should be oriented to the process and the results achieved, ie how waste management is carried out to provide maximum benefits for the public, private, and government. In waste management, the government should think systemically. That is to say, the issue of waste must be linked to other issues such as the preservation of the environment and the ability of the community. In connection with environmental aspects, must think about ways to make the process of disposal, landfill, incineration, treatment or other processes do not harm the environment. While the viability of society, the government should strive to be the potential for waste that is already not worth the (worthless), can be used as a potential with a fairly high economic value.

References

Abdullah. (1988). Perkembangan dan Penerapan Studi Implementasi (Action Reserarch and Case Studies). Jakarta: Lembaga Administrasi Negara.

Apinhapath, C. (2014). Community Mapping and Theory of Planned Behavior as. *Journal of Waste Management*, 2014, 1–8.

Birkland, Thomas A. 1997. Efter Disaster: Agenda Setting, Public Policy, and Focusing Event, Washington: George Town University Press.

Cobb, Roger. W. & Charles. D. Elder, 1972. Participation in American Politics: The Dynamics of Agenda-Building, John Hopkins University Press.

Dye, Thomas, R. 2005. Understanding Public Policiy (ed.7th). New Jersey: Pearson Prentice Hall

Grindle, Merilee S. (1980). Politics and Policy Implementation in the Third World. New Jersey: Princenton University Press.

Government Regulation No. 50 of 2007 on the procedure for the implementation of regional cooperation.

Gupta, Dipak K. 2001. Analyzing Public Policy, Concepts, Tools, and Techniques, Singapore: CQ Press.

Kartasasmita, Ginanjar. (2007). Pemberdayaan Masyarakat: Konsep Pembangunan Yang Berakar Pada Masyarakat. Y ogyakarta: UGM.

Kingdon, John W. 1995. Agendas, Alternatives, and Public Policies, 2nd ed. New York: Harper Collins

Law of the Republic of Indonesia Number 18 Year 2008 on Waste Management

Law No. 32 Year 2004 on Regional Government Article 87

Lester, James P, dan Joseph Stewart, Jr. (2000). Public Policy; an Evolutionary Approach. Belmont, CA.: Wadsworth.

Miller Tyler, G. (2004). Living in the Environment: Solid and Hazardous Waste.

Sankoh, F. P., Yan, X., & Tran, Q. (2013). Environmental and Health Impact of Solid Waste Disposal in Developing Cities: A Case Study of Granville Brook. *Journal of Environmental Protection*, 2013(July), 665–670.

Selin, E. (2013). Solid waste management and health effects - A qualitative study on awareness of risks and environmentally significant behavior in Mutomo, Kenya. UMEA Universitet.

Siwakoti, S. (2009). Knowledge, Attitudes, and Practices of Women and Men towards Recycling in North St James Town, Toronto. Wellesley Institute.

Shinichi Shigetomi, (2002), "The State and NGOs: Issue & Analytical Framework", dalam Shinichi Shigetomi (ed.), 2002. The State & NGOs: Perspective from Asia, Singapore: ISEAS.

Stone, Deborah. 2002. Policy Paradox: The Art of Political Decision Making. Rev. ed. New York: W.W Norton)

Tachjan. (2008). Implementasi Kebijakan Publik. Bandung: Penerbit AIPI Bandung – Puslit KP2W Lemlit Unpad.

Winarno, Budi. (2007). Teori dan Proses Kebijakan Publik. Yogyakarta: Penerbit Media Pressindo.

World Bank. (2012). What A Waste: A Global Review of Solid Waste Management. Washington, *DC.*

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How to cite this article: