

**THE EFFECTIVENESS OF MULTI-STAKEHOLDER'S ROLE ON THE
IMPLEMENTATION OF SOLID WASTE MANAGEMENT POLICY: COMPARISON
STUDY OF DAERAH KHUSUS IBUKOTA JAKARTA, INDONESIA AND SEOUL
METROPOLITAN CITY, REPUBLIC OF KOREA**

By

Novi ParamitaDewi

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

2014

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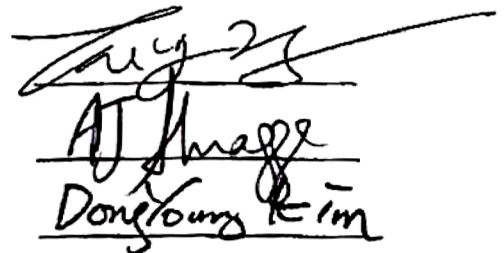
DEVELOPMENT POLICY Committee in

charge:

Professor Tae Yong JUNG, Supervisor

Professor Abraham Joseph SHRAGGE

Professor Dong-Young KIM



Handwritten signatures of the three professors: Tae Yong Jung, Abraham Joseph Shragge, and Dong-Young Kim.

Approval as of December, 2014

ABSTRACT

THE EFFECTIVENESS OF MULTI-STAKEHOLDER'S ROLE ON THE IMPLEMENTATION OF SOLID WASTE MANAGEMENT POLICY: COMPARISON STUDY OF DAERAH KHUSUS IBUKOTA JAKARTA, INDONESIA AND SEOUL METROPOLITAN CITY, REPUBLIC OF KOREA

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The effectiveness of the implementation of solid waste management policy plays an important role in the success of a country's waste management. The hardest part in implementing the policy is the coming out of the Not in My Back Yard (NIMBY) syndrome, which triggers resistance to the policy targets. Therefore, the interactions between government and its stakeholders are very important in order to create a good and appropriate waste management system. Considering the partnership that involves the government and various waste stakeholders, this further study evaluates the effectiveness of many multi-different stakeholders' roles in the implementation of solid waste management policy in Korea and Indonesia. It highlights the relevant similarities and differences between the two systems becomes. This study finds that there is ineffectiveness of optimizing the roles of multi-stakeholder in solid waste management in both cities in a different degree. In the case of Jakarta, the ineffectiveness can be seen in many problems that appear from the implementation of the policy such as NIMBYism, "blame the stakeholder," suspended contracts, to corruption. The major causes are miss-coordination, lack

of socialization, low enforcement, monitoring and evaluation. On the other hand, the case in Seoul also showed the ineffectiveness of policy implementation in minor issues. The failure of the Seoul Government to recognize the waste stakeholders comprehensively is the source of the cause. Nevertheless, Seoul is proven effective in building the multi-stakeholder partnerships by decreasing drastically the NIMBYism problem that is showed by the changing of people's behavior in the waste disposal management as seen in VBWFS case. The involvement of each waste stakeholder from the very beginning of the program successfully built a communication chain between stakeholders that are identified as the key factor for the success of Seoul waste management.

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Dedicated to Bapak, Ibu, and Mbak Danik

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TABLE OF CONTENTS

LIST OF TABLES.....	VIII
LIST OF FIGURES.....	IX
ABBREVIATIONS.....	XII
CHAPTER I – INTRODUCTION	1
A. Background	1
B. Objective	6
C. Research Questions	6
D. Research Methodolog.....	7
1. Type of Research Methodology	7
2. Research Method	8
2.1 Comparison Study.....	8
3. Data Collection	9
3.1 Data Needs	9
3.1.1 Primary Data	9
3.1.2 Primary Data Collection Technique	10
3.1.3 Secondary Data	10
3.1.4 Secondary Data Collection Technique	10
4. Data Analysis and Data Analysis Technique	11
CHAPTER II – LITERATURE REVIEW.....	13
A. Waste Management	13
1. Waste	13

2. Type and Sources of Waste	15
2.1 Household Waste	15
2.2 Commercial Waste	15
2.3 E-Waste	16
2.4 Hazardous Waste	16
2.5 Industrial Waste	16
2.6 Building Waste (C & D Waste)	17
2.7 Medical Waste	17
2.8 Agricultural Waste	17
2.9 Woody Biomass	18
2.10 Waste (Municipal Solid Waste)	18
3. Waste Management Options	18
3.1 Collection	18
3.2 Composting	19
3.3 Incineration	20
3.4 Integrated Waste Management	20
3.5 Landfills	20
3.6 Mechanical Biological Treatment	21
3.7 Recycling	21
3.8 Source Reduction	21
3.9 Waste Transfer Station.....	22
B. Multi-stakeholders on Waste Management	22
C. Waste Management Policy in Jakarta and Seoul	23
CHAPTER III – THEORETICAL FRAMEWORK	24

A. Stakeholder Theory	24
B. Multi Stakeholder Role	28
C. Stakeholder Analysis	28
D. Effectiveness of Multi-Stakeholder	41
E. Previous Research	42
 CHAPTER IV – RESULTS AND DISCUSSION.....	 44
A. The Waste Management System Profile in Jakarta	44
1. Jakarta City Profile	44
2. Waste Regulation	46
3. Type of Waste	51
4. Waste Management.....	52
B. The multi stake-holder partnership of Solid Waste Management in Jakarta	60
1. Before Decentralization	60
2. After Decentralization and Law No.18 Year 2008	61
2.1 Government	61
2.2 Local Government	62
2.3 Private Waste Business Sector	64
2.4 Society	65
C. The Multi Stakeholder Role of Waste Management in Jakarta based on Waste Management Policy	66
D. The Implementation of Multi Stakeholder Role of Waste Management in Jakarta based on Stakeholder Analysis	71
1. The Stakeholder Map of The Jakarta Solid Waste Management	72

2. The Chart of Specific Stakeholders	73
3. Identify The Stakes of Stakeholders	74
4. The Power Versus Stake Gris	76
5. The Process Level Stakeholder Analysis	76
6. Conduct a Transactional Level	80
7. Determine the Stakeholder Management Capability	81
8. Analyze the Dynamic of Stakeholders.....	82
E. The Waste Management System Profile in Seoul	83
1. Seoul Metropolitan City Profile	83
2. Waste Regulation	85
2.1 Waste Control Act (1986)	86
2.2 Act on the Promotion of Resources Saving and Recycling (1992)	87
3. Type of Waste	87
4. Waste Management.....	88
4.1 Solid Waste Management	88
4.2 Volume Based Waste Fee System	92
F. The Multi Stakeholder Partnership of Solid Waste Management	95
1. The central government (Ministry of Environment)	95
2. Local Governments	96
3. Private Waste Business (Disposal, Treatment, Recycle)	96
4. Citizens	97
5. Communication: the Key Factor to Decrease NIMBYism in VBWFS Case	98
G. The Multi Stakeholder Role of Waste Management in Seoul Based on Waste Management Act	103

H. The Implementation of Multi Stakeholder Role of Waste Management in Seoul Based on Stakeholder Analysis	108
1. The Stakeholder Map of The Jakarta Waste Management	109
2. The Chart of Specific Stakeholders	110
3. Identify the Stakes of Stakeholders	111
4. The Power Versus Stake Grid	113
5. The Process Level Stakeholder Analysis	114
6. Conduct a Transactional Level	115
7. Determine the Stakeholder Management Capability	116
8. Analyze the Dynamics of Stakeholders	117
CHAPTER V – RESEARCH CONCLUSION AND RECOMMENDATIONS	118
APPENDIXES.....	122
APPENDIX A	122
APPENDIX B.....	146
BIBLIOGRAPHY	207

LIST OF TABLES

Table 4.1	: Volume of waste in 5 Administrative Region of Jakarta.....	46
Table 4.2	: The composition and characteristics of waste in 5 Administrative Region of Jakarta	46
Table 4.3`	: Regulations on Waste Management in Indonesia	49
Table 4.4	: The Multi Stakeholder Role of Solid Waste Management in Jakarta	66
Table 4.5	: Area and Number of Administrative Units	84
Table 4.6	: Concept and Classification of Waste	88
Table 4.7	: Municipal Waste Treatment 1987-1994	90
Table 4.8	: Waste Management Budget 1987-1995	92
Table 4.9	: Paradigm Shift of Waste Policy as of 1990	92
Table 4.10	: The Waste Sources and Target of VBWFS	94
Table 4.11	: Waste Generation 1994-2000	94
Table 4.12	: The Multi Stakeholder Roles Based on Waste Management Acts	103

LIST OF FIGURES

Figure 3.1	: Creating Value for Stakeholders	27
Figure 3.2	: Stakeholder Map of a Very Large Organization	32
Figure 3.3	: Specific Stakeholders in a Very Large Organization	33
Figure 3.4	: “Stakes” of Selected Stakeholders in XYZ Company	34
Figure 3.5	: Possible Stakeholder Role of Employee and Government Officials	35
Figure 3.6	: “Real World” Stakeholder Grid	36
Figure 3.7	: Stakeholder Management Capability	38
Figure 3.8	: The Combination of Power Legitimacy and Urgency	39
Figure 3.9	: Stakeholder Typology : One, Two, or Three Attributes Present	40
Figure 3.10	: Effectiveness of Multi Stakeholder	41
Figure 4.1	: Waste Treatment Priorities in Indonesia	51
Figure 4.2	: Solid Waste Management Concept	58
Figure 4.3	: Stakeholders Map of a The Jakarta Solid Waste Management System Institution	72
Figure 4.4	: Specific Stakeholders in Jakarta Solid Waste Management Institution	73
Figure 4.5	: “Stakes” of Selected Stakeholders in Jakarta Solid Waste Management Institution	75

Figure 4.6 : Possible Stakeholders Role Set of Jakarta Solid Waste Management	
Institution	75
Figure 4.7 : Jakarta Waste Management System Stakeholder Grid	76
Figure 4.8 : Stakeholders Management Capability of Jakarta Solid Waste Management	
Institution	81
Figure 4.9 : Stakeholders Typology for Selected Stakeholders of Jakarta Solid	
Waste	82
Figure 4.10 : Main Stream of Laws on Waste from 1960 to 2000	86
Figure 4.11 : Waste Classification Outline in Korea	88
Figure 4.12 : Waste Treatment Process	90
Figure 4.13 : Stakeholders Map of The Seoul Solid Waste Management System	
Institution	109
Figure 4.14 : Specific Stakeholders in Seoul Solid Waste Management Institution	110
Figure 4.15 : “Stakes” of Selected Stakeholders in Seoul Solid Waste Management	
Institution	111
Figure 4.16 : Possible Stakeholder Role Set of Seoul Solid Waste Management	
Institution	112
Figure 4.17 : Seoul Waste Management System Stakeholder Grids	113

Figure 4.18 : Stakeholders Management Capability of Seoul Solid Waste Management

Institution 116

Figure 4.19 : Stakeholders Typology for Selected Stakeholders of Seoul Solid Waste

Management Institution 117

ABBREVIATIONS

BAPEDAL	Environmental Impact Management Agency
BAPEDALDA	Local Board of Environmental Impact Management
BAPPEDA	Planning Agency
BAPPENAS	National Development Planning Agency
BPLHD	Environmental Management Agency
Bodetabek	Bogor-Depok-Tangerang-Bekasi
C & D Waste	Construction and Demolition Waste
CSR	Corporate Social Responsibility
Galvad	Gasification Landfill and Anaerobic Digestion
GDP	Gross Domestic Product
GDRP	Gross Domestic Regional Product
GTJ	Godang Tua Jaya
DKI	Special Capital Region
EPA	Environmental Protection Agency
EPR	Extended-Producer's Responsibility
IndII	Indonesia Infrastructure Initiatives
ITF	Intermediate Treatment Facilities
Jabotabek	Jakarta-Bogor-Tangerang-Bekasi
MoE	Ministry of Environment
MSPs	Multi-Stakeholder Processes
MSW	Municipal Solid Waste

NIMBY	Not in My Back Yard
NOEI	Navigat Organic Energy Indonesia
NGO	Non Governmental Organization
PROPER	Program for Pollution Control, Evaluation, and Rating
PSP	Private Sector Participation
PVC	Polyvinyl Chloride
RT	Neighborhood
RW	Hamlet
SKPD	Regional Work Units
SRI	Stanford Research Institute
VBWFS	Volume-Based Waste Fee System

CHAPTER I

INTRODUCTION

A. Background

Waste has always been one of the major issues in societies from developing countries like Indonesia. Under bad management, it will definitely impact badly not only to society but also the environment, and later, the adverse effect will create a vicious circle. The rapid increase in population causes a rapidly increasing volume of waste, especially in large urban areas. In 2011, 80.000 ton waste per day was produced in 230 cities in Indonesia. This country produces an average of 2.5 liter of waste per day. It means 625 million liter of waste is produced among Indonesian population of 250 million.¹ In Jakarta, the capital city of Indonesia, the amount of waste reaches 7,000 tons per day.² Among that amount, solid waste or simple garbage is the largest. The Governor of Jakarta has introduced various ways to overcome this problem, ranging from providing the legal framework and also infrastructure for supporting the solid waste management. The legal framework is designed to regulate the waste disposal, the purpose is to solve the behavioral problem of the society in which the bad habit in waste disposal is included. The infrastructure is expected to develop further along with the installation of new technology in future that will bring acceleration in solving the solid waste problem. But in fact, the implementation is not as good as the plan. The lack of law enforcement, monitoring and evaluation cause many violations of the regulation which the law enforcement officers do not take action. On the impact, the behavioral problem is not thoroughly solved. As a result, there is

¹ CSW, "Pesan Editor," *Jurnal Prakarsa Infrastruktur Indonesia* Prakarsa, Oktober, 2013, 3, http://www.indii.co.id/upload_file/201310211531360.Prakarsa%20Oct%202013%20print-friendly%20Indonesian.pdf.

² No Name, "Menuju Zero Waste, and Waste to Energy," *Sustaining Partnership Media Informasi Kerjasama antara Pemerintah dan Swasta*, November 2011, 12.

not enough improvement brought to the prevailing policy. It is a similar case for the development of the infrastructure. The use of new infrastructure such as technology does not help much because there is not a good system to ensure its sustainability. For example, Jakarta changed their disposal system from open dumping landfill to the sanitary landfill from a long time ago. However, at present, this new system seems useless since the sanitary landfill is slowly going back again to the open dumping landfill. It is due to the lack of space in Jakarta that can be used as the new landfill while the amount of the solid waste continues to increase.

It can be said that the waste status in Jakarta is very critical. Mountains of solid waste are gradually forming in many landfills in Jakarta, not to mention the illegal trash shelters that are not supposed to be used to dispose solid waste such as rivers and open spaces. Such conditions lead to the emergence of environmental problems. For example, the waste landslide that claimed the lives of scavengers who worked for Bantar Gebang landfill back in 2006.³ What happened in Bantar Gebang, the main and the biggest landfill in Jakarta, the capital city of Indonesia,⁴ triggered a conflict which resulted in the closure of the landfill by the surrounding communities, despite the reopening and reoperation later on, the same year, 2008. Another example is a yearly flood disaster in Jakarta which is the result of people's behavior who dispose their solid as well as industrial waste to rivers. It makes them shallower, so when the rain season comes flood is the normal condition Jakarta's people have to deal with.⁵

Regarding those situations, Jakarta already has all the fundamental means to overcome the solid waste problem. However, Jakarta has a problem of how to manage all of these systems in order to run well. No matter how good a strategy is, it will not be able to run properly unless it

³ Ali Anwar , "Konflik Sampah, Lemahnya Manajemen Persampahan," *Tempo*, November 25, 2004, <http://www.tempo.co.id/hg/narasi/2004/11/25/nrs,20041125-06,id.html>.

⁴ Kementerian Pekerjaan Umum Direktorat Jenderal Sumber Daya Air , *Proyek Pengendalian Banjir Jakarta Ringkasan Terpadu Analisis Dampak Lingkungan, 2011* (Jakarta: Kementerian Pekerjaan Umum), 27.

⁵ Yudha Manggala P Putra, "Warga Jaksel Diimbau tak Buang Sampah di Sungai," *Republika Online*, October 04, 2014, <http://nasional.republika.co.id/berita/nasional/jabodetabek-nasional/14/10/04/ncx2lu-warga-jaksel-diimbau-tak-buang-sampah-di-sungai>.

is coupled to good management, while only a good and appropriate solid waste management system will work for Jakarta. According to Fran Ackermann and Colin Eden, “One of the most important tasks during strategy making is the management of the interface between the many (often competing) demands of an organization’s different stakeholders in relation to its strategic goals.”⁶ To address this issue, keeping the role of the stakeholders going together with the purpose of the policy is very important to make sure the function runs well.

A good partnership among the stakeholders will eventually lead to the effectiveness of policy implementation, which is always the hardest thing to reach. The emergence of resistance triggered by the NIMBY syndrome is the greatest threat. The Oxford English Dictionary defines NIMBY as “An attitude ascribed to persons who object to the sitting of something they regard as detrimental or hazardous in their own neighbourhood, while by implication raising no such objections to similar developments elsewhere.”⁷ In the case of waste management system, the NIMBYism often appears within the society in the vicinity of a landfill. Determining the locations for landfills often triggers serious problems to people who live nearby the chosen sites. The simple logic is that certainly no one wants to live near mountains of garbage. Another example of NIMBYism is found in the behavior of people who become the target of the policy. People often refuse to throw their garbage into the trash can, even though they know that they are supposed to do that. So in this case, people’s awareness is the problem. Thus, learning from this situation, making sure the good and effective policy implementation on solid waste management is very crucial.

⁶ Fran Ackermann and Colin Eden, “Strategic Management of Stakeholders: Theory and Practice,” Elsevier (2010), 179.

⁷ Michael Aeschbacher, *The acronym NIMBY – Its Use in the Scientific Literature about Facility Siting*, ETH-NSSI Semesterarbeit Nr. 50/06 (Zurich: ETH Zürich, 2006), Kindle edition, 3.

Looking at the complexities, it will be surely hard for the government to achieve sustainability.⁸ In the light of the problem, the government needs multi-stakeholder partnerships. At the present, Indonesian government has been conducting partnerships with many parties (multi-stakeholder) to control the waste management system, especially in the landfill area. The partnership between the government and the waste stakeholders is stipulated by “Undang-Undang Republik Indonesia Nomor 18 Tahun 2008 tentang Pengelolaan Sampah,” (Law Number 18 Year 2008 about Waste Management Policy), especially Chapter 8, Article 26.⁹ In the Republic of Korea, the Waste Control Act is the main source of the legal system related to the implementation of waste management policy in Korea.¹⁰ The effectiveness of the multi-stakeholder’s role greatly determines the success in creating and managing the waste management system.

Compared to the Seoul Metropolitan, the capital city of Korea, Jakarta is very far behind in terms of waste management systems. The Seoul waste management system successfully reduced the volume of solid waste from a daily average of 15,397 tons in 1994 to 14,102 tons in 1995, 4,137 tons of which were recycled by 30.9% and only 9,965 tons were incinerated or placed in landfills.¹¹ Although sometimes a conflict is still unavoidable, the Republic of Korea can be identified as one of the countries with an excellent and functional waste management system.¹² Korea's success is inseparable from the sustainable waste management strategy adopted by Korea in the 1990s that focused on demand management to reduce waste generation,

⁸ Overseas Development Institute and Foundation for Development Cooperation, *Multi-Stakeholder Partnerships Issue Paper*, Kuala Lumpur: Global Knowledge Partnership, 2003, Kindle edition, 2.

⁹ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management): Policy Paper, 2008* (Jakarta : GPO, 2008), article 17.

¹⁰ Waste Management Policy Division Ministry of Environment, *Waste Management Policy in Korea: Policy Paper, 1997* (Seoul: GPO, 1997), 5.

¹¹ J.-H. Kim, *Sustainable Urban Waste Management System In Metropolitan Seoul, South Korea*, The Sustainable City III (Southampton: WIT Press, 2004), Kindle edition, 718.

¹² United Nations Environment Programme, *Success Stories Waste Management in Republic of Korea*, last modified February, 2014, <http://www.unep.org/greeneconomy/SuccessStories/WasteManagementinSouthKorea/tabid/29892/Default.aspx>.

starting from the source of waste generation.¹³ This strategy is carried out in several ways. The first is a volume-based waste fee system at the household level. The Ministry of Environment of Korea said this strategy was able to reduce the amount of domestic waste per person by 23%, initially 1.33 kg / day in 1994, to 1.03 kg / day in 2009.¹⁴ The second is banning the use of disposable products at the business level. This is based on the 1994's Act on the Promotion of Saving and Recycling of Resources. This law regulates the prohibition on using the disposable cups, plates, bowls, wooden chopsticks, toothpicks, tablecloths made of plastic in restaurants and cafeterias. The list of disposable products is still being expanded¹⁵. The last is the disallowance of difficult recycling packaging materials such as polyvinyl chloride (PVC) lamination, shrink packaging or coating, and synthetic resins.¹⁶

Realizing the fact of solid waste status in Jakarta and Seoul, further studies to evaluate the effectiveness of the multi-stakeholder's role on solid waste managements in both cities becomes important to guarantee a good policy implementation. The evaluation of effectiveness of multi-stakeholder's roles will then determine the capacity of the multi-stakeholder partnership to meet the objectives of the partnership itself.¹⁷ The comparison with Seoul will help Indonesia to learn from a developed country which is considered successful in managing its waste. It will be useful to evaluate multi-stakeholder's cooperation in creating and managing waste management system in developing-country cities, especially Jakarta. It will be also beneficial to the waste management policy for further recommendations to improve the enforcement of said policy.

¹³ Legislative Council Commission, *South Korea's waste management policies: Information Note*, Seoul: GPO, 2013, 2.

¹⁴ *Ibid.*, 4.

¹⁵ *Ibid.*, 6.

¹⁶ *Ibid.*, 8.

¹⁷ Nancy Vallejo and Pierre Hauselmann, *Governance and Multi-stakeholder Processes*, Winnipeg, Manitoba: International Institute for Sustainable Development (IISD), 2004, Kindle edition, 5.

However, despite the expectation above, as Fanny Calder, Associate Fellow of Sustainable Development Programme, Royal Institute of International Affairs, London, said, “The development of effective partnerships is an art not a science,”¹⁸ there is not an exact prescription that can be applied generally. Every partnership has its own formula. Nevertheless, in the end, hopefully, this study will still be able to contribute to the improvement of waste management system in Jakarta and Seoul in particular, also Indonesia and Korea in general.

B. Objective:

- To evaluate the effectiveness of multi-stakeholder’s role in the implementation of solid waste management policy in Jakarta, Indonesia and Seoul, Republic of Korea by conducting stakeholder analysis and comparing between the ideal roles of their stakeholders based on the solid waste management policy and its implementation.
- To give recommendation on the solid waste management policy itself through evaluation of the effectiveness of multi-stakeholder’s role in the implementation of solid waste management policy in Jakarta, Indonesia and Seoul, Republic of Korea.

C. Research Question

How is the effectiveness of multi-stakeholder’s role in the implementation of solid waste management policy in Daerah Khusus Ibukota Jakarta, Indonesia and Seoul Metropolitan City, Republic of Korea? The research question can be elaborated as follows:

1. What is the solid waste management system profile in Jakarta and Seoul?

¹⁸ Australia Indonesia Partnership for Decentralisation (AIPD), *Support for Establishment/Strengthening of Multi-Stakeholder Partnership Forums Generic – Terms of Reference*, Jakarta: AIPD, 2011, Kindle edition, 2.

2. What is the regulation of solid waste management in Jakarta and Seoul and what is regulated in it?
3. Who are the solid waste management stakeholders in Jakarta and Seoul?
4. What is the ideal role of each multi-stakeholder partnership in solid waste management in Jakarta and Seoul based on the waste management policy?
5. What is the actual implementation of each role of the multi-stakeholder partnership in solid waste management in Jakarta and Seoul based on stakeholders analysis?
6. What are the common problems and challenges in the implementation of solid waste management in Jakarta and Seoul?

D. Research Methodology

1. Type of Research Methodology

To conduct the research, the researcher will be using a qualitative methodology. Simply, qualitative never means quantitative in its essence, but the meaning of qualitative research method is not as simple as saying that. Referring to Denzin and Lincoln, “the word qualitative implies an emphasis on the qualities of entities and on processes and meaning that are not experimentally examined or measured in terms of quantity, amount, intensity, or frequency. It stresses the socially constructed nature of reality, the intimate situational constraints that shape inquiry. The seeking of answers to question that stress “how” social experience is created and given meaning.”¹⁹ Researchers on qualitative study tend to have interest to understand how people construct the world and interpret it according to their experiences.²⁰ Nkwi, Nyamongo, and Ryan say “Qualitative research involves any research that uses data that do not indicate

¹⁹ Norman K. Denzin and Yvonna S. Lincoln, *The SAGE Handbook of Qualitative Research Fourth Edition*, (Texas: SAGE Publications, Inc., 2011).

²⁰ Sharan Merriam, *Qualitative research: A guide to design and implementation*, (San Francisco, CA: Jossey-Bass, 2009), 13.

ordinal values.”²¹ Simply Nkwi et al. say that qualitative research involves the text, images or sounds as the source of the work and “it is an outcome-oriented definition which avoids generalizations and the unnecessary dichotomous positioning of qualitative research with respect to its quantitative counterpart. It allows for the inclusion of many different kinds of data collection and analysis techniques, as well as the diversity of theoretical and epistemological framework that are associated with qualitative research.”²²

In their introduction in the Handbook of Qualitative Research, Denzin and Lincoln offer the following definition of qualitative research:

Qualitative research is an interdisciplinary, trans disciplinary, and sometimes counter disciplinary field. It crosscuts the humanities and the social and physical sciences. Qualitative research is many things at the same time. It is multi paradigmatic in focus. Its practitioners are sensitive to the value of the multi method approach. They are committed to the naturalistic perspective, and to the interpretive understanding of human experience. At the same time the field is inherently political and shaped by multiple ethical and political positions.²³

2. Research Method

2.1. Comparative Study

Comparison can be applied to any kind of science, including the social science. However, there are questions related to this comparison in the social science, namely whether the

²¹ P. Nkwi, I. Nyamongo, & G Ryan, *Field research into socio-cultural issues: Methodological guidelines*, Yaounde, Cameroon: International Center for Applied Social Sciences, Research, and Training/UNFPA, 2001, 1.

²² No Name, *Qualitative Research Defining and Designing* (Sage Publication), chap. 1, http://www.sagepub.com/upm-data/48453_ch_1.pdf.

²³ Norman K. Denzin, and Yvonna S. Lincoln, *Handbook of Qualitative Research*, (Thousand Oaks, CA: Sage, 1994), 3-4.

comparative method should be considered as a distinct sub-area, such as the comparative study of comparative politics, or as a methodology.

The notion of comparative social science is no different from the various other forms of social science and basically it is fine to associate it with methodological positivist perspective because it suggests that the social science is basically using the same method and underscores the "scientific nature" of comparative social science.²⁴

The other methodological implications raised by Ragin. He underlines the difference between the orientations of most "comparativists" and most "non comparativists". In Ragin's point of view, comparative social science deals with the macro social units such as the state and nation, although most social scientists do not provide restrictions on these.²⁵

At a certain level the comparativists have different levels of interest in the field of comparative social science. Among them, mostly are interested in looking at the social phenomenon as a social unit that has significance for the macro study, while many among these comparativists are more interested to see it as a social phenomenon without considering the scope of the case whether the phenomenon was included in the macro scale or not.²⁶

3. Data Collection

3.1. Data Needs

3.1.1. Primary Data

Primary data are data that are collected based on the specific research problem using the selected primary data source which is fit the research problem best.²⁷

²⁴ C. C. Ragin, *The Comparative Method. Moving Beyond Qualitative and Quantitative Strategies*, (Berkeley, CA: University of California Press, 1987), 2.

²⁵ Ibid., 1-6.

²⁶ Ibid., 6.

²⁷ Joop J. Hox and Hennie R. Boeije, "Data Collection Primary VS. Secondary", *Encyclopedia of Social Measurement, Elsevier Inc*, Volume 1 (2005), 593.

3.1.2. Primary Data Collection Techniques

In order to get the primary data through qualitative method, there are some data collection techniques which are quite popular to use including interview, observation, focus group discussion, unstructured diaries and existing records such as documents, photographs, film and video.²⁸ This research will use the combination of the existing records as main source of primary data collection, as seen below:

1. Documentation
2. News Archives
3. Images
4. Video

3.1.3. Secondary Data

New researches accumulate the new source of primary data contributions on the social knowledge. This new primary data are made available to reuse by other people or researchers. When the new primary data are reused by others, the primary data become the secondary data.²⁹ Hilary Collins said that secondary data is “data that is neither collected by the user nor specifically for the user; and it is often collected under conditions not known to the user.”³⁰

3.1.4. Secondary Data Collection Techniques

In order to support the use of the primary data, secondary data is needed. It will help strengthen the evidence of every argument found in this research. In order to achieve that objective, this research will use earlier data which is relevant to support the research finding. The secondary data, which is collected earlier from other researches such as official statistics,

²⁸ Ibid., 595.

²⁹ William G. Zikmund, et.al, *Business Research Method 9th Edition*, (South-Western: Cengage Learning, 2013), 593.

³⁰ Hilary Collins, *Creative Research*, Lausanne: AVA Publishing, 2010, Kindle edition, 120.

administrative records, or other accounts kept routinely by organizations; or the reused information from primary data³¹, will be used in accordance with the research needs.

4. Data Analysis and Data Analysis Techniques

In research, useful data analysis is required to provide answers to the case being examined. Data analysis is the process of arranging the order of the data and organizing it into a pattern, category, and description of the basic unit.³² The analysis of data in a qualitative study is conducted through the process of data collection. According to Miles and Huberman³³ stages of data analysis are as follows:

a. Data Collection

Recording objectively all the data which is exactly the result of the observations and interviews in the field.

b. Data Reduction

Data reduction is a process of choosing the subject matter according to the research focus. Data reduction is a form of analysis that directly classifies the data, disposes of the unnecessary ones, and then organizes the already reduced data to provide a sharper picture of the observations and to facilitate researchers to look for it any time they need.

c. Presentation of Data

Presentation of data is composed of a set of information that allows the drawing of conclusions and recommendations for further action. It is a presentation of an analysis of data in a table, an image, or a matrix.

In conducting the study, the researcher will use descriptive-qualitative analysis techniques. Descriptive-qualitative analysis is an analytical technique that describes and interprets the data

³¹ Zikmund, *Business Research Method*,160.

³² L. J. Moleong, *Metodologi Penelitian Kualitatif*, (Bandung : PT Remaja Rosdakarya, 2004), 103

³³ M.B. Miles & A.M. Huberman, *Analisis Data Kualitatif*, trans, Tjetjep Rohendi R.(Jakarta: Universitas Indonesia Press, 1992), 90.

that has been collected to provide evidence and record as many aspects of the situation under study at the time, so as to obtain a general and comprehensive picture of the actual condition. According to Nazir, this descriptive purpose is to create a description, picture, or painting in systematic, factual and accurate information on the facts, properties, and relationships between phenomena investigated.³⁴

³⁴ Moh. Nazir, *Metode Penelitian*, (Jakarta:Ghalia, 2003), 16.

CHAPTER II

LITERATURE REVIEW

A. Waste Management

Generally, waste always relates to residual objects. In common people's mindset, they are fundamentally things to dispose of. Waste is merely "residual", it has no more value and it causes a problem when stored. But it is not as simple as it seems. Incorrect ways of waste disposal can create problems. It needs two treatments to solve this issue: a good policy and good implementation, which is closely related to management. In order to have an understanding of waste management, this part will elaborate the definition of waste, type of waste and also options in the waste management.

1. Waste

By definition, waste refers to unwanted or unusable things such as rubbish, trash, garbage, or junk.³⁵ El-Maghraby et al. says that "In living organisms, waste is the unwanted substances or toxins that are expelled from them. More commonly, waste refers to the materials that are disposed of in a system of waste management. It is directly linked to human development, both technologically and socially."³⁶ So, it can be said that generally human activities create waste. Shamma et.al says "the more sophisticated the activity is the more dangerous will be the wastes which need more effort to prevent contamination."³⁷ For example, the industrial waste plays an important role in modern society but it produces unavoidable waste as the compensation of development. The waste materials may be a potential hazard to human health and environment if

³⁵ Nazih K. Shamma, Lawrence K. Wang, Yung-Tse Hung, *Handbook of Environment & Waste Management Land and Groundwater Pollution Control Volume 2* (New Jersey : World Scientific. 2014), Kindle Edition, 429.

³⁶ Ibid., 427.

³⁷ Ibid., 427.

they are not managed properly.³⁸ In order to safeguard our environment, it is important to regulate such hazardous waste in environmentally feasible and sound manner.

The history of waste refers to the relationship between societies as the producer and environment as the result of resources mobilization. It also cannot be separated from the history of developed countries. The urban excreta management preponderantly was associated with urban salubrity. The waste production quantity continued in a small number, but the waste management was often inadequate, thus led to frequent denunciation of urban dirtiness. This condition lasted until the industrial revolution. Between 1770s-1860s, Neo-Hypocratic medicine as the source of environmental and air pollution and also cause of excess mortality triggered the implementation of new policies and management method to clean up the cities. During this period, the urban excreta resulted from agriculture and industry significantly increased, so that salubrity and excreta were handled hand in hand.

From 1870s-1960s, the recycling industry disrupted as the implication of the fertilizer revolution, the fast development of coal and petroleum industry, and the seeking for more convenient and abundant materials. This period saw the environment as the container of waste. The years between 1960s-1970s were marked by an environmental crisis. Criticisms toward industrialized cities arose as the increasing of the planet limitation concern. Waste was symbolized as aberration of consumer society, meanwhile its amount continued to increase. This period forced the implementation of various policies with different output. Most importantly, this period marked the starting point of developing countries' suffering as the curse of developed countries.³⁹

³⁸ Ibid., 427-428.

³⁹ Sabine Barles, The Basic Environmental History, Environmental History 4, *World Environmental History, History of Waste Management and The Social and Cultural Representations of Waste*, ed. M. Agnoletti and S. Neri Serneri (Switzerland: Springer International Publishing, 2014), 199.

The composition of waste varies based on time and location. The development of industry and innovation is directly related to waste materials. Some components of waste have economic value and can be recycled when recovered correctly. Yet waste is a concept that is very subjective, something that is rejected by a person might be valuable to someone else. The problem is how to make others aware that the actual waste materials are valuable resources.

2. Types and Sources of Waste

The types and sources of waste are considered as part of the material flows in society and as a function of land use, zoning, and consumption. The following waste categories are those which are generally recognized by policy makers and waste managers⁴⁰

2.1. Household Waste

The household waste is every unwanted material generated by single and multi-family homes, apartment complexes, and other dwellings. It consists of food and other types of organic waste; paper and cardboard products; plastic; textiles; skin; yard clippings; wood; glass; metal; ash; and other bulky items such as tires, televisions, furniture, and appliances. The second group of products can also be called a bulky waste or white waste.⁴¹

2.2. Commercial Waste

Commercial waste which is generated by retail establishments such as restaurants, stores, hotels and motels, office buildings, and other similar businesses produce commercial waste, including food scraps, paper and cardboard, glass, metal, plastic, wood, and other items similar to those produced by households.⁴²

⁴⁰ Jacqueline Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook* (2009, Santa Barbara, California: ABC-CLIO, Inc., 2009), Kindle edition, 5.

⁴¹ Ibid., 5.

⁴² Ibid., 5-6.

2.3. E-Waste

Waste from electronic goods is called E-Waste. Electronic equipment such as computers, cell phones, and televisions in the future raises concern, given the short life of the products and the lack of consumer knowledge about what to do with them when they become outdated or stop functioning. In the past, most of the items were just thrown into the regular trash without consideration for the materials of which they are made while the electronic product components such as cadmium, mercury and also plastics that are used commonly in circuit boards, cables, bedding, and connectors pose a number of risks when they are managed improperly, resulting toxic substances and contaminating the soil.⁴³

2.4. Hazardous Waste

The U.S. Environmental Protection Agency (EPA) defines waste as hazardous waste if it contains at least one of the four characteristics: Ignitability, reactivity, corrosivity, or toxicity. Hazardous waste becomes a problem due to its amount and mobility. It becomes a particular concern for waste managers to give more attention to the waste disposal site, namely its proximity to the human population, containment integrity, local groundwater hydrology, potential impacts on flora and fauna through the transmission, the integrity of the geology, and the final level of control of waste.⁴⁴

2.5. Industrial Waste

Industrial waste comes from the trade, such as steelmaking and automobile, building and construction industry, coal mining, food processing, metal finishing, petroleum refining, and power plant operation.⁴⁵

⁴³ Ibid., 6.

⁴⁴ Ibid., 6-7.

⁴⁵ Quoted in Jacqueline Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook*, 13.

2.6. Building Waste (C & D Waste)

Building or C & D waste is any waste generated from construction and demolition activities such as road building, home demolition, sidewalks repair, and any new developments being made in the community. It also includes debris generated such as from accidents, emergencies, and natural disaster.⁴⁶

2.7. Medical Waste

Referring to Vaughn on Contemporary World Issues Waste Management, medical waste is defined as:

a waste or reusable material known to contain or suspected of containing an infectious substance and generated in the diagnosis, treatment, or immunization of animals; research on the diagnosis, treatment, or immunization of animals; or production or testing of biological products.

Medical waste involves multiple federal, state, and local agencies; laboratories; blood suppliers; universities conducting research and patient care; transporters and disposal firms; and medical facilities ranging from doctors' offices to hospitals.⁴⁷

2.8. Agricultural Waste

Agricultural waste is defined as waste produced by agricultural activity such as crops, orchards, vineyards, livestock operations, and farms. Those activities create waste such as food spoils, pruned trees, manure produced by animals, and the using of fertilizer. Handling the agricultural waste usually is done on the site. The burning of a field after crop harvesting is so common in every agriculture area.⁴⁸

⁴⁶ Ibid., 7-8.

⁴⁷ Ibid., 7-8.

⁴⁸ Ibid., 8.

2.9. Woody Biomass

Woody biomass refers to logging and milling operations that produce organic materials that can be used for energy supply. Based on Vaughn this category includes “tree limbs, slash piles, sawdust, needles and tops, and small-diameter trees that are unmerchantable and are removed as a part of forest-thinning operations.”⁴⁹

2.10. Solid Waste (Municipal Solid Waste)

The term of municipal solid waste (MSW) relates to solid wastes other than hazardous materials and radioactive. It composes all the solid and semisolid materials disposed by a community. According to Vaughn the term of community waste is sometimes used interchangeably with MSW.⁵⁰

3. Waste Management Options

State and local governments can choose from a limited suite of technologies and programs to deal with waste, from simply collecting trash and dumping it to highly technical processes that are being used in pilot studies to determine their effectiveness. This section identifies the options that are available, as elaborated below.⁵¹

3.1. Collection

Collection is part of the waste management can be said to take a large portion of the financing. Vaughn says that it is about 50 to 70 percent. These costs are related to transporting the waste to the disposal site, so that it is possible to do the disposal (landfill) or do further processing. This transport process typically relies on vehicles to transport the waste such as truck. Wastes in homes are usually placed in special bins then it will be taken by vehicles transporting waste. Vaughn mentions that "the collection may be a function of a municipal government as

⁴⁹ Ibid., 9.

⁵⁰ Ibid., 428.

⁵¹ Ibid., 10.

part of the services it provides or it may be a service provided by a private company that is contracted to collect the waste."⁵²

3.2. Composting

Composting is a method of managing organic waste that can be done in individual or municipal sphere. It is an effective strategy because it can reduce the waste volume up to 50 percent by breaking down easily degradable plant and animal tissue such as food scraps and yard waste.⁵³ According to Haug, composting can be defined as “a biological decomposition and stabilization of organic matters, under thermophilic temperature conditions (>55°C) to produce a final product that is stable and free of pathogens and plant seeds and can be beneficially applied to land.” It is one of the most promising options to transform the organic waste such as sewage sludge into a value-added product, which is known as compost.⁵⁴ It comprises an economic value and encourages business creation whether by individual, home or private industry by throwing compost to the market. Vaughn mentions that "some composting is done through the use of sheltered or unsheltered windrows, which are periodically turned to speed decomposition, or through in-vessel systems whereby the material is placed in an enclosed drum, tank, or silo in which conditions to maximize the breakdown of nutrients can be closely controlled.” Nevertheless, composting also has social consequences. The waste managers and residents who live nearby face some problems, such as health problem, for the involvement of odor, also flies and rodents attraction.⁵⁵

⁵² Ibid., 10.

⁵³ Ibid., 10.

⁵⁴ Haug, R.T. (1993). *Compost Engineering, the United States of America*: Lewis Publisher Quoted at *Handbook of Environment & Waste Management*, Shamma, Nazih K., Wang, Lawrence K., Hung, Yung-Tse, 2014, New Jersey : World Scientific. 2014, Kindle Edition, 77.

⁵⁵ Ibid., 11.

3.3. Incineration

Incineration is a very effective method to reduce the volume of waste through a combustion process. The combustion process is currently being developed within the framework of business concept of alteration from waste to energy. With the help of certain tools and water, the heat is converted into steam, which in turn can generate electricity. Lately, the incineration process does evolve with the separation of some components of waste that can be recycled such as glass and metal and cut it up prior to combustion. Vaughn says “incineration works best for nonhazardous waste, because destroying chemical compounds and disease-causing organisms is sometimes difficult, even when burning material at very high temperatures.”⁵⁶

3.4. Integrated Waste Management

This management method refers to a process of selecting the type of techniques, technologies and programs that should be used to achieve the objectives of waste management. In determining priorities, people will usually arrange them in order of preference by looking at the impact on the environment.⁵⁷

3.5. Landfills

Today's landfills are very different from the ones in ancient times. Early landfills are very simple and are usually characterized by open dumping. Vaughn cites "early landfills, or dumps, were simply open trenches, sometimes called tips, in the which trash was heaped into piles and sometimes covered with 12 to 15 inches of soil and then layered with other refuse such as ash."⁵⁸

Landfills today are supported by advanced technologies for managing waste. The term of sanitary landfill, which is originally referred to waste backfill activity, is currently developing to

⁵⁶ Ibid., 12-13.

⁵⁷ George Tchobanoglous and Frank Kreith, *Handbook of Solid Waste Management* (New York: McGraw-Hill, 2002), Kindle edition, 12.

⁵⁸ Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook* , 12.

engineering facility for municipal solid waste in order to minimize environmental risks to public health. Landfill specializing in hazardous waste dumps called secure landfill.⁵⁹

3.6. Mechanical Biological Treatment

As the name implies the use of biological treatment, waste management in this sense is mechanical biological waste treatment involving sorting out garbage and processing of biological organic waste. In general, the separation is done for material that can be recycled and organic materials to then be broken down through anaerobic digestion or processed into compost.⁶⁰

3.7. Recycling

Recycling is regarded as the best method of waste management. In general, recycling is a waste separation activity in the stage of waste disposal so that some components can be reused. Recycling process is highly dependent on the availability of materials and recycled goods market. Recycling can reduce the volume of waste, extend life and provide a larger space in landfills. There are three types of recycling methods are used: source separation, container separation and commingled collection.⁶¹

According to the Bureau of International Recycling, “without recycling, a substantial number of end-of-life goods would end up in landfills, representing an environmental and economic loss because the materials they contain would be lost to the production cycle forever.”⁶²

3.8. Source Reduction

Waste reduction is a new strategy in handling waste. This method intends to reduce the volume and toxicity of waste. The process of the reduction here starts from waste sources. The product industry provides an example by designing alternative packaging products for consumers

⁵⁹ Tchobanoglous and Kreith, *Handbook of Solid Waste Management*, 12.

⁶⁰ Ibid., 13-14.

⁶¹ Ibid., 14-15.

⁶² Quoted in Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook* , 14.

so that consumers are the ones who will be responsible for the waste they produce. Behavior change is needed to support its success, which is certainly not an easy thing.⁶³

3.9. Waste Transfer Stations

Waste transfer station is basically a temporary landfill of which waste will later be transported by vehicles to landfills. Waste transfer section can shorten the distance and time from the source of waste to landfills and allow the small trucks to pass on urban streets, which certainly is not easy for a big truck.⁶⁴

B. Multi-stakeholders on Waste Management

Freeman, the major theorist of stakeholder theory defines stakeholders as “any group or individual who can affect or is affected by an organization’s achievements.”⁶⁵ The idea of stakeholder theory is that an organization’s manager has an obligation to the stakeholders group, and that organizational development can be influenced by the managing of relationships among diverse stakeholders. Management policies in selecting appropriate stakeholders may strengthen the functioning of the organization (Donaldson & Preston, 1995), which consequently may lead to competitive advantage (Bouckaert & Vandenhove, 1998).⁶⁶

Basically Multi-stakeholder platforms and processes have a number of definitions and different names. Referring to the Steins and Edwards, the most acceptable definition of good or ideal multi-stakeholder is "a decision-making body (voluntary or mandatory) comprising different stakeholders who perceive the same resource management problem, realize their

⁶³ Quoted in Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook*, 15.

⁶⁴ Quoted in Vaughn, *Contemporary World Issues Waste Management : A Reference Handbook* , 16.

⁶⁵ Robert E Freeman, *Strategic Management: A Stakeholder Approach*, Boston: Pitman, 1984), 46.

⁶⁶ Lore Wellens and Marc Jegers, “Effective governance in nonprofit organizations: A literature based multiple stakeholder approach”, *European Management Journal*, Volume 32, Issue 2 (2014), 224.

interdependence for solving it, and come together to agree on actions for solving the problem"⁶⁷

This definition is not absolute and may be disputed by other scientists. To be able to do criticism or improvements to this definition, Sanginga et al. say that the study of the evaluation of a multi-stakeholder process is necessary.⁶⁸

In waste management the stakeholder is determined based on the scope of operation of the system and also the type of waste itself. Usually, different places are composed of different stakeholders as well as different types of waste. However, generally there is a similarity between one and another place. Based on the United Nations Environment Program, the stakeholders on waste management consist of three major parts. They are the municipality, the community and the private sector.⁶⁹

C. Waste Management Policy in Jakarta and Seoul

The activity leading to waste disposal cannot be separated from a policy. The presence of the policy gives the guideline and boundary to each activity relating to waste. "Undang-Undang Republik Indonesia Nomor 18 Tahun 2008 tentang Pengelolaan Sampah," (Law Number 18 Years 2008 about Waste Management Policy) is the umbrella policy for any activity related to waste in Indonesia. This act consists of eighteen chapters and 47 articles. The act regulates from the general stipulation, the rights and responsibilities, implementation, monitoring, cooperation and partnership, citizen participation, until the sanction for every violation.⁷⁰ This policy applies nationally so that Jakarta should be subject to this rule. This policy is also supported by some other policies which regulate the implementation in more detail. While in the Republic of Korea,

⁶⁷ Quoted in Evans et.al, *Multi-Stakeholder Processes for Managing Wastewater Use in Agriculture* (London: MPG Books, 2010), Kindle edition, 365.

⁶⁸ Quoted in Evans et.al, *Multi-Stakeholder Processes for Managing Wastewater Use in Agriculture*, 365.

⁶⁹ UNEP, *Stakeholder Interaction Analysis*,
Lash^{http://www.unep.org/urban_environment/PDFs/ISWM2_StakeholderInteractionAnalysis.pdf}.

⁷⁰ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management): Policy Paper, 2008* (Jakarta : GPO, 2008), article 17.

the Waste Control Act is the main source of the legal system related to the implementation of waste management policy.⁷¹ The act, which was enacted by the Ministry of Environment in 1986 and lastly amended in 2007, was divided into eight main chapters, general revisions, discharge and management of waste, deleted chapter, waste management business, guidance for and supervision over waste management business operator, supplementary provisions, and penal provisions.⁷²

⁷¹ Waste Management Policy Division Ministry of Environment, *Waste Management Policy in Korea: Policy Paper, 1997* (Seoul: GPO, 1997), 5.

⁷² The Korea Legislation Research Institute Republic of Korea. Waste Control Act No. 8789: *Policy Paper 2007* (Seoul: GPO, 2007).

CHAPTER III

THEORETICAL FRAMEWORK

A. Stakeholder Theory

Historically, the term "stakeholders" first appeared in 1963 in an internal memorandum at the Stanford Research Institute (now SRI International Inc.). The term is used to generalize that essentially the stockholders are the only groups that are really needed and addressed by management. Meanwhile, Freeman defines the concept of stakeholders as "those groups without whose support the organization would cease to exist." In the beginning the lists of stakeholders include shareowners, employees, customers, suppliers, lenders, and society.⁷³

The stakeholder theory emerged as a response to the dominance of Weber's argument theory in the field of managerial bureaucracy and also to the relationship between demand and supply, which will eventually reach equilibrium point that dominates the field of business. Freeman et al. say that "Corporations are seen as the property of their owners ... and as limited in their liability for their effects upon others." In addition, many scholars debate on the significant changes in the business world and many of them fail to give attention to the turbulence. They focus more on the development of a community such as in globalization, technology, centralization, decentralization, and social awareness that should also be considered as parts of the business activity. The theory of stakeholder wanted to address three problems: value creation and trade, ethics of capitalism, and managerial mindset, by suggesting the relationship between businesses, groups and individuals who are able to give the effect as the unit of analysis.

⁷³ Freeman et.al, *Stakeholder Theory The State of The Art* (Cambridge: Cambridge University Press, 2010), 31.

Stakeholder theory also carries the idea of the separation fallacy, the open question argument, integration thesis, and responsibility principle.⁷⁴

A corporation is established on competitive claims which are built by various stakeholders. Various stakeholders have different expectations and those expectations are sometimes against the company, although it is undeniable that the existence of competitive claims is a meeting tool that provides an opportunity for the conflict to be resolved. Many theorists only discuss the inherent conflict of interest between stakeholders and forget that basically stakeholder each has their own interests. It is very closely related to the notion that each stakeholder has an equally important position. But it is not truly precise if their importance is only based on certain circumstances. Because apart from all those certain circumstances, each stakeholder has the same right to bargain over their interests. When a business transaction has been set successfully among the stakeholders, then various suggestions in building and sustaining value will be born. Figure 3.1 shows a basic overview of value creation and trade in stakeholder theory.⁷⁵

⁷⁴ Ibid., 3-6.

⁷⁵ Ibid., 20, 23-24.

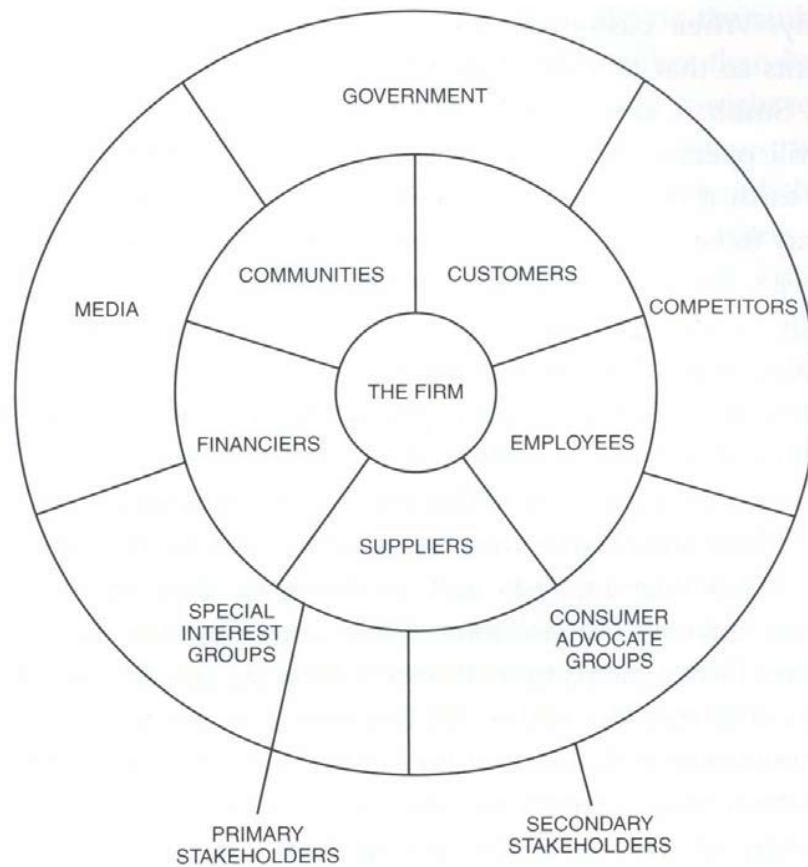


Figure 3.1. Creating Value for Stakeholders⁷⁶

Source: R. Edward Freeman, Jeffrey S. Harrison, and Andrew C. Wicks 2007, *Managing for Stakeholders: Survival, Reputation, and Success*, New Haven: Yale University Press.

Originally from a conversation with Robert Phillips.

The idea of value creation for stakeholders is related to the relationship between groups who have a certain interest in the activities of creating a business, so that stakeholders are connected to each other. Looking at the importance of stakeholder theory, stakeholders are a means to accommodate their interests other than being contradictory or mutually exclusive to each other.⁷⁷

⁷⁶ Ibid., 24.

⁷⁷ Ibid., 26.

B. Multi Stakeholder's Role

Discussing the role cannot be separated without discussing the status. Theoretically, Ralph Linton states that there are two ways to understand the role and status. In the abstract, status is understood as a position in a specific pattern that indicates a set of rights and obligations. The role is a dynamic aspect of status. Simply put, when someone is performing their rights and obligations then at that time they were called to perform its role. There is no state without roles and vice versa. An individual with a variety of status will have many roles in consequence.⁷⁸ Based on this definition, multi-stakeholder can be seen as a group of individuals who has status as a stakeholder, holding different rights and responsibilities and put those into effect of roles in order to achieve the expected objective.

C. Stakeholder Analysis

Determining the roles in the multi-stakeholder partnership to deliver the objectives of the partnership could be done by stakeholder analysis. The World Bank said that “A stakeholder analysis, defining these roles and interests, is therefore a prerequisite for setting up a new solid waste management system or for improving an existing one.”⁷⁹

Based on World Bank, stakeholder analysis is “a methodology used to facilitate institutional and policy reform processes by accounting for and often incorporating the needs of those who have a ‘stake’ or an interest in the reforms under consideration. With information on stakeholders, their interests, and their capacity to oppose reform, reform advocates can choose how to best accommodate them, thus assuring policies adopted are politically realistic and

⁷⁸ Quoted in Marcello Truzzi (ed.), *Sociology: The Classic Statements* (New York: Random House, 1971), Kindle Edition, 92-94.

⁷⁹ Arnold van de Klundert, *Integrated Sustainable Waste Management: the selection of appropriate technologies and the design of sustainable systems is not (only) a technical issue: Paper Workshop for CEDARE/IETC Inter-Regional Workshop on Technologies for Sustainable Waste*, Alexandria, Egypt July 13-15 1999, 7, http://www.worldbank.org/urban/solid_wm/erm/Annexes/US%20Sizes/Annex%204B.3.pdf.

sustainable.”⁸⁰ World Bank states that there are four main attributes in analyzing stakeholders, namely: the position of the stakeholders in the reform issue, power relations associated with the degree of influence they have (motivation), the level of interest, and involvement in a group or coalition or potential involvement in a group (by which means/tools/institutions to achieve the goals).⁸¹

Based on SRI strategy, the original use of the stakeholder analysis is founded on the inherent concept to set some direction for the organization based on capabilities, opportunities and threats for the organization. The information obtained from the past, present and likely future changes become an important input to the planning process that is made. Availability of this information can also be used to make changes in an organization's strategy. Other uses of the stakeholder analysis are applied at the generic level or at a more general level such as customers, suppliers, owners, public, and society. In this case, when the stakeholders' behavior changes in the expected analysis output, they can ask the manager to consider the affected or affecting decisions within the organization. This is very different from the stockholder analysis in a single category. Mitroff et.al states that “the stockholders are only one of many contending groups having an impact on and a stake in a corporation, (emphasis added).”⁸²

Brugha and Varvasovszky did some studies in the literature related to stakeholder analysis of public policy. From this study they found that the policy analysts have realized the importance of interest groups in the policy process.⁸³ Stakeholder analysis take an important role to make room for potential tools such constituent groups, power and involvement in achieving the goal, particularly focusing on groups in the policy-making process and future orientation.

⁸⁰ World Bank, What is Stakeholder Analysis? Last Modified, April 22, 2014, <http://www1.worldbank.org/publicsector/anticorrupt/PoliticalEconomy/PDFVersion.pdf>.

⁸¹ Ibid.

⁸² Quoted in Freeman et.al, *Stakeholder Theory The State of The Art*, 33.

⁸³ Quoted in Freeman et.al, *Stakeholder Theory The State of The Art*, 26.

Bryson contributes ideas on how the stakeholder analysis is useful in the management of the public sector in order to achieve a more successful outcome.⁸⁴ It focuses on the factors that led to the importance of stakeholder analysis being done. They are the feasibility of a goal and a strategy to enable the achievement of goals; the importance of maintaining stakeholder satisfaction; and assurance that the manager has met the requirements of procedural fairness, the reality, and legitimacy.⁸⁵ Bryson emphasizes on the understanding of analyzing purpose, monitoring of changes over time and the adaptation of techniques in order to achieve that goal.⁸⁶

Various ideas about the importance of stakeholder analysis are also provided by some researchers such as Friedman and Mason (2005). They emphasize that stakeholder analysis is essential as the power to help and improve good policy and management that are needed in the public sector.⁸⁷ Bryson, Mitchel, Agle, and Wood (1997) emphasized the importance of stakeholder constituencies to achieve a more efficient and effective management.⁸⁸

In conducting stakeholder analysis, it is necessary to have information such as to who are the actors that can be categorized as stakeholders involved in waste management. There are various ways to identify stakeholders; however, there is no single attribute among theories which can provide guidance reliably over the issue. One of the easiest ways in identification is coming from the easiest element of the definition of the stakeholders.⁸⁹

To conduct stakeholder analysis, there are some stages that have to be done. A systematic stakeholder analysis consists of eight steps. The seven steps are based on Freeman (1984) and the

⁸⁴ Quoted in Freeman et.al, *Stakeholder Theory The State of The Art*, 26.

⁸⁵ Freeman et.al, *Stakeholder Theory The State of The Art*, 26.

⁸⁶ Ibid., 46.

⁸⁷ Ibid., 95.

⁸⁸ Quoted in Freeman et.al, *Stakeholder Theory The State of The Art*, 180.

⁸⁹ Ronald K. Mitchell, Bradley R. Agle, and Donna J. Wood, "Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts," *The Academy of Management Review*, Vol. 22, No. 4 (1997), 854.

last step is based on Mitchel *et.al* (1997).⁹⁰ The eight steps of stakeholder analysis are described as follows:

- i. Develop a stakeholder map of the project

Freeman says that "stakeholder management capability must begin with an application of the basic definition. Who are those groups and individuals who can affect and are affected by the achievement of an organization's purpose? How can we construct a "stakeholder map" of an organization? What are the problems in constructing such a map?" In building a stakeholder map he argued should start from the generic stakeholders (individuals and organizations that can exert their influence in achieving the goals of the organization) as a starting point of a stakeholder map of a specific issue in a company. From this argument, he built a global stakeholder map of a very large organization (see Figure 3.2). Through this map can be identified to specific stakeholders to develop more specific stakeholder map in accordance with the objectives to be achieved.⁹¹

⁹⁰ Arun A. Elias *et.al*, "Stakeholder Analysis for R & D Project Management" *Journal Road Pricing*, (2002).

⁹¹ Freeman, *Strategic Management: A Stakeholder Approach*, 54.

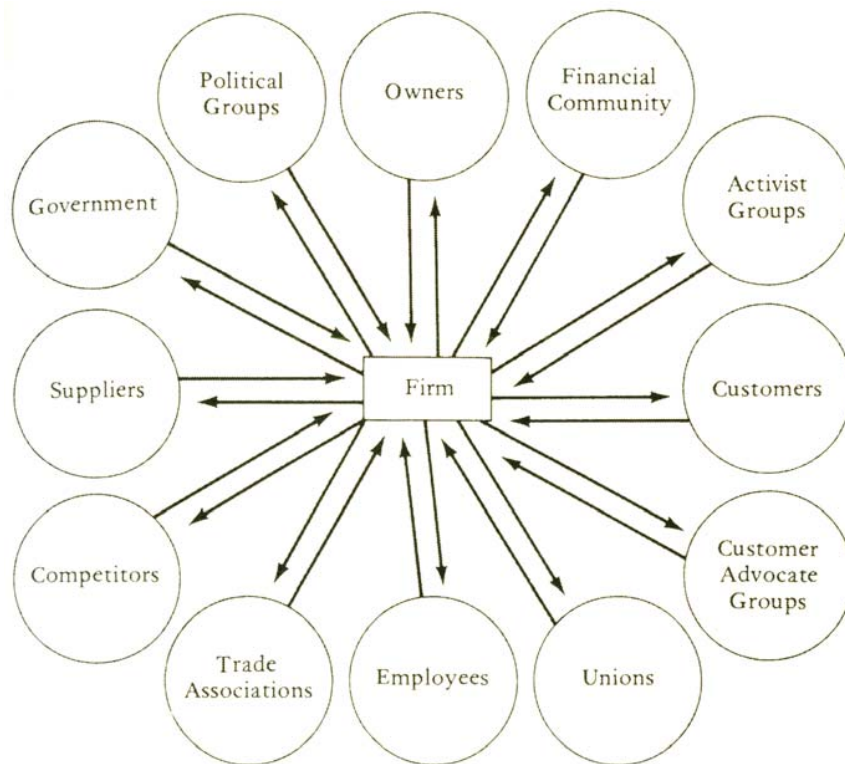


Figure 3.2 Stakeholder Map of a Very Large Organization (Freeman, 1984)⁹²

- ii. Prepare a chart of specific stakeholders

The next step in stakeholder analysis is preparing the stakeholder chart. It basically has the same function with a stakeholder map, but the specific stakeholder is already identified within it. A stakeholder map is usually accompanied by a chart and both of them can be used as a checklist for stakeholder groups.⁹³ The example of stakeholder chart can be seen as on Figure 3.3.

⁹² Ibid., 55.

⁹³ Ibid., 55.

<u>Owners</u> Shareowners Bondholders Employees	<u>Financial Community</u> Analysts Investment Banks Commercial Banks Federal Reserve	<u>Activist Groups</u> Safety and Health Groups Environmental Groups “Big Business” Groups Single Issue Groups
<u>Suppliers</u> Firm #1 Firm #2 Firm #3 etc.	<u>Government</u> Congress Courts Cabinet Departments Agency #1 Agency #2	<u>Political Groups</u> Political Party #1 Political Party #2 National League of Cities National Council of Mayors etc.
<u>Customers</u> Customer Segment #1 Customer Segment #2 etc.	<u>Customer Advocate Groups</u> Consumer Federation of America Consumer’s Union Council of Consumers etc.	<u>Unions</u> Union of Workers #1 Union of Workers #2 etc. Political Action Com- mittees of Unions
<u>Employees</u> Employee Segment #1 Employee Segment #2 etc.	<u>Trade Associations</u> Business Roundtable NAM Customer Trade Org. #1 Customer Trade Org. #2 etc.	<u>Competitors</u> Domestic Competitor #1 Domestic Competitor #2 etc. Foreign Competitor #1 etc.

Figure 3.3 Specific Stakeholders in a Very Large Organization⁹⁴

iii. Identify the stakes of stakeholders

When the stakeholders map and stakeholders chart have been carried out, identification and analysis of the stakes of the specific stakeholders listed on the stakeholder chart has to be done.⁹⁵ The example of the identification and analysis of specific stakeholders can be seen on Figure 3.4

⁹⁴ Ibid., 56

⁹⁵ Ibid., 55

<u>Customer Segment #1</u> High Users of Product Improvement of Product	<u>Political Parties #1 and #2</u> High Users of Product Able to Influence Regulatory Process Able to get Media Attention on a National Scale
<u>Customer Segment #2</u> Low Users of Product No Available Substitute	<u>Consumer Advocate #1</u> Effects of XYZ on the Elderly
<u>Employees</u> Jobs and Job Security Pension Benefits	<u>Consumer Advocate #2</u> Safety of XYZ's Products
<u>Owners</u> Growth and Income Stability of Stock Price and Dividend	

Figure 3.4 “Stakes” of Selected Stakeholders in XYZ Company⁹⁶

The implications of the first three stages come to what Merton (1957) called as the role set for individuals in society, and Evan (1960) generalized this notion for organizations to the organization set, which can be combined with the “stakeholder role set”, as seen on the figure 3.5.

The second implication is the interconnection of stakeholder groups, or the existing interorganizational relationships.⁹⁷

⁹⁶ Ibid., 57

⁹⁷ Ibid., 57-58

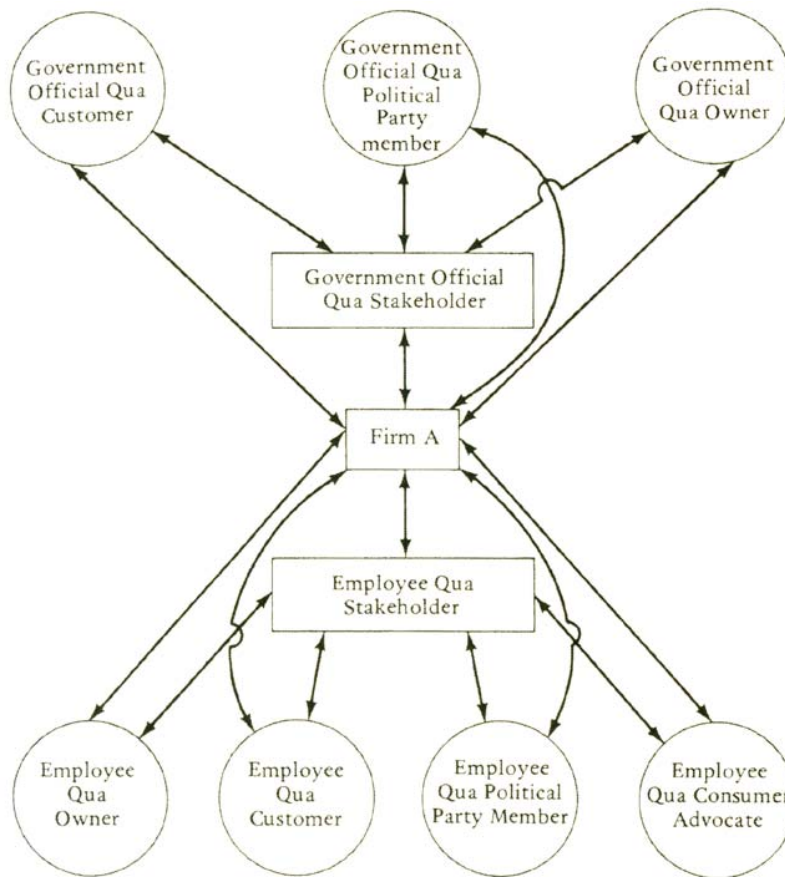


Figure 3.5 Possible Stakeholder Role Set of Employee and Government Officials⁹⁸

iv. Preparing a power versus stake grid

In the next level, two dimensional grid is prepared. This grid is used to understand the power and stakes of a variety of influential and interconnecting stakeholder groups. The first dimension of the grid groups stakeholders based on “interest” or “stake.” It is used to look at the range of perceived stakes of multiple stakeholders. There are no exact criteria have been applied here. Freeman says that the typical criteria are by classifying “stake” from “having an equity interest in the firm” to “being an influencer.”⁹⁹ The second dimension of the grid is understood in terms of power, the ability to use resources to make an event actually happen.¹⁰⁰ The three

⁹⁸ Ibid., 59.

⁹⁹ Ibid., 60.

¹⁰⁰ Ibid., 61.

main points of this continuum are voting, economic, and political power. The grid also changes from the classical into the “real world” stakeholder grid since the classical stakeholder grid is no longer realistic. The classical stakeholder sees the two dimensional grid as the diagonal relations between power and stake. Freeman underlines that in the classical grid “...owners being the textbook case of an equity stake and voting power; customers and suppliers having a market stake and economic power; and government having an influencer stake and political power”.¹⁰¹ The example does not fit the real condition since there is a possibility that every stakeholder has more than one relation between power and stake. The “real world” power versus stake grid can be seen on the Figure 3.6.

POWER STAKE	Formal or Voting	Economic	Political
Equity	Stockholders Directors Minority Interests		Dissident Stockholders
Economic		Suppliers Debt Holders Customers Unions	Local Governments Foreign Governments Consumer Groups Unions
Influencers	Government SEC Outside Directors	EPA OSHA	Nader's Raiders Government Trade Associations

Figure 3.6 “Real World” Stakeholder Grid

v. Conducting a process level stakeholder analysis

At this stage, it is necessary to look at the process as the procedures to accomplish routine tasks and routinize complex tasks, to understand the organizations and how they manage the stakeholder relationship; and how to achieve a specific objective that fit to external environment;

¹⁰¹ Ibid., 62-63.

and how all those components will suit enough the stakeholder map. Some of the common tools to analyze are a portfolio analysis process, a strategic review process and an environmental scanning process.¹⁰²

vi. Conducting a transactional level

At this stage, the focus is on the understanding of the transaction or bargaining between the manager and the stakeholders and see if it conforms to the stakeholder map. Transactions can be a success when they are built upon understanding the legitimacy of each stakeholder and making this process to be something routine.¹⁰³

vii. Determining the stakeholder management capability

Freeman defines stakeholder management capability of organization as “its understanding or conceptual map of its stakeholders, the process for dealing with these stakeholders, and the transactions which it uses to carry out the achievement of organization purpose with stakeholders.” All the elements of the stakeholder management capability are supposed to suit each other enough. The stakeholder management capability can be used to make sure an organization lies on the correct stakeholder map or not.¹⁰⁴ Basically the stakeholder management capability is divided into two charts that describe the relations between process and transaction level of each stakeholder. Every relation has different magnitude. It ranges from the high process and high transaction stakeholder, high process and low transaction stakeholder, low process and high transaction stakeholder, and low process and low transaction stakeholder.

¹⁰² Ibid., 64.

¹⁰³ Ibid., 73.

¹⁰⁴ Ibid., 73-74.

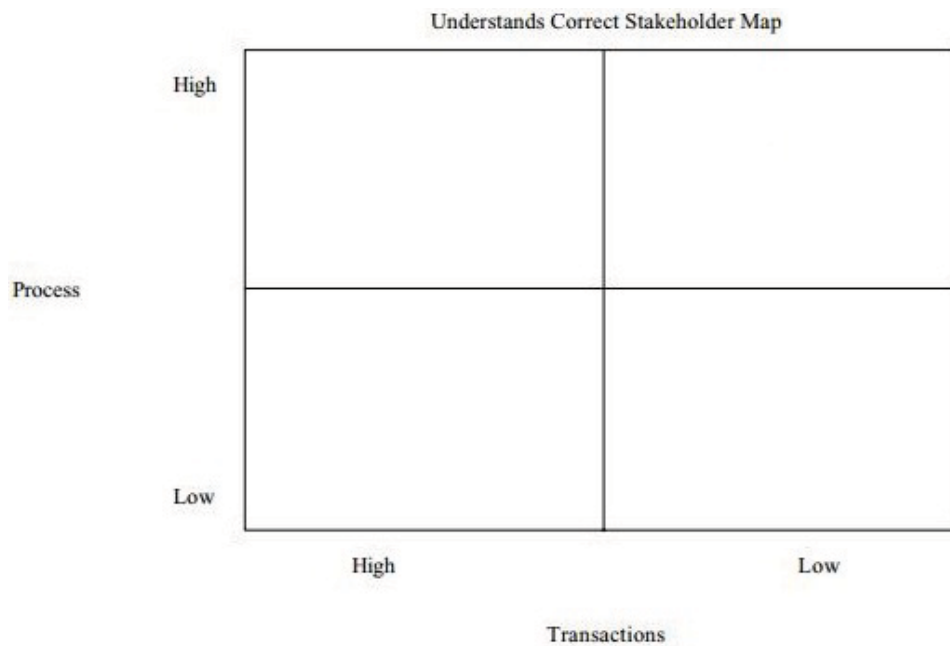


Figure 3.7 Stakeholder Management Capability¹⁰⁵

viii. Analyzing the dynamics of stakeholders

Eighth stage is stakeholder typology model developed by Mitchell et al. (1997) Mitchell's typology can be used to capture the dynamics of stakeholder salience which always changes based on time. Classes of stakeholders can be classified based on the attributes of power, legitimacy and urgency. The combination of these three attributes will be continued on an analysis of stakeholder classes as shown by Figure 3.8.

¹⁰⁵ Ibid., 73.

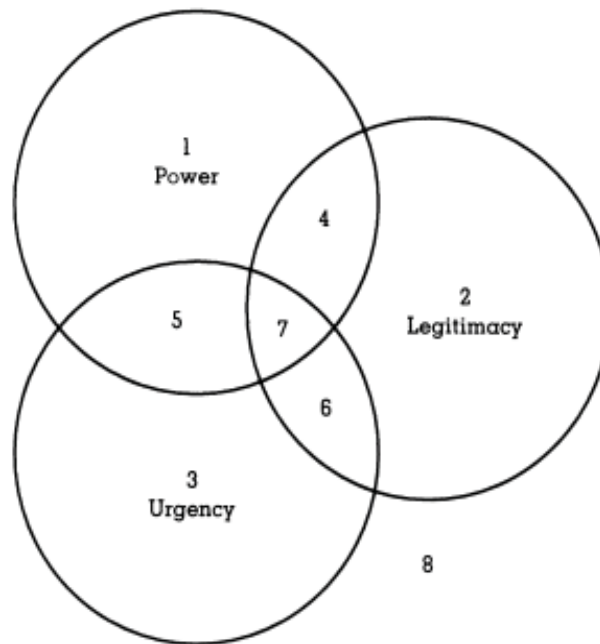


Figure 3.8. The Combination of Power, Legitimacy, and Urgency¹⁰⁶

Seven classes of stakeholders were born out of the combination of these three attributes. Based on this analysis, we will be able to see which one from the combination is considered an important entity and which one is not according to the manager of a company or organization. There are three classes of salient stakeholders. Areas 1, 2, and 3 are low salience classes. In the terminology, those three are called latent stakeholders, identified through their ownership of one attribute. Areas 4, 5, and 6 are moderately salient stakeholders or called expectant stakeholders, identified through a combination of two attributes. Area 7 is a highly salient stakeholder who has a combination of all three attributes or referred to as definitive stakeholders. The relationship between the seven stakeholders can be seen in Figure 3.9.

¹⁰⁶ Mitchell et.al, "Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts", *The Academy of Management Review*, Vol. 22, No. 4 (2002), 872, http://courses.washington.edu/ilis580/readings/Mitchell_et_al_1997.pdf.



Figure 3.9 Stakeholder Typology: One, Two, or Three Attributes Present¹⁰⁷

Latent stakeholders basically have the time, energy and limited resources to track and manage relationships with stakeholders. Managers have the ability to transform and handle everything by themselves, including marking which attribute belongs to their organization, and mostly do not even take action to identify its stakeholders. Latent stakeholders consist of dormant, discretionary, and demanding stakeholders. The main core of the dormant stakeholders is the power to impose its will on the company, but having the power does not mean there is no legitimate connection to the company or the urgent claims. Discretionary stakeholders do have legitimacy, but they do not have the power to influence the company and do not have immediate claims. Demanding stakeholders describe the urgency of the stakeholder attributes as "demanding". Meanwhile, expectant stakeholders consist of dominant, dependent, and dangerous stakeholders. Dominant stakeholders have a strong and legitimate position, for example forming a "dominant coalition" that guarantees their influence within the firm (Cyert & March, 1963). A dependent stakeholder has the weak force, but has strong claim legitimacy. This is because the

¹⁰⁷ Ibid., 874.

dependent stakeholders need other stakeholders to carry out his will. The latter is a dangerous stakeholder characterized by coercion or even by violence that may be harmful to the company.

<i>Dormant (Power only)</i>	<i>Discretionary (Legitimacy only)</i> Booz, Allen & Hamilton McDermott Miller Consultants Commercial banks Private funding companies	<i>Demanding (Urgency only)</i>	<i>Dominant (Power & Legitimacy)</i> The Treasury Inland Revenue Department
<i>Dangerous (Power & Urgency)</i>	<i>Dependent (Legitimacy & Urgency)</i> Transmission Gully Action Council Iwi group – Ngati Toa Transport 2000	<i>Definitive (Power, Legitimacy & Urgency)</i> Regional Land Transport Committee Transit New Zealand Transfund New Zealand Wellington Regional Chamber of Commerce	<i>Non-stakeholder (No Power, Legitimacy or Urgency)</i>

Figure 3.10 Stakeholder Typology for Selected Stakeholders of Road Pricing R&D Project¹⁰⁸

D. Effectiveness of Multi-stakeholder

The early thinkers in the field of stakeholder management such as Emshof and Freeman developed techniques management stakeholders in 1981. They focus on the notion of stakeholders' actual behavior, also cooperative and competitive potential threat to each stakeholder group. This is followed by Freeman in 1992 by publishing the original manuscript "strategic management: a stakeholder approach," which aims to assign or devise a method for managing the executive level in relationship with stakeholders.

Strategic management consists of narrative about how to become a more effective executive. An executive is required to consider the strategies in managing relationships with

¹⁰⁸ Elias et.al, "Stakeholder Analysis for R & D Project Management", 108.

stakeholders in advance in order to achieve the effectiveness on stakeholder management. In the other way, if there is ineffectiveness during managing the stakeholder then there must be something wrong in the professional relationship of executives and stakeholders. This becomes an important in dealing with any changes in organizations and companies.¹⁰⁹

Freeman's thought was summarized by Walsh when he states that stakeholder management captures the manager's role in developing relationships, inspiring and creating a community for stakeholders so that they provide maximum support in achieving the goals of a company or organization.¹¹⁰

E. Previous Research

Stakeholder theory can be said to be very popular in the environmental policy. This is due to the importance and complexity of environmental issues, coupled to the various interests involved in it. Much research has been done regarding stakeholders relationships in the field of environmental analysis. One example is De Lopez; he analyzes the five-step framework for stakeholder management in the case of environmental conservation against development in Ream National Park, Cambodia. He uses stakeholder analysis as the first analysis tool of the framework.¹¹¹

Boutler in 2005 did a research related to stakeholders in irrigation and drainage district decision within the California Water Plan. He discovered the importance of the use of multi-stakeholder processes (MSPs) at the beginning of a process that can provide important insights, enable effective management, and provide a strategic assessment of threats including an

¹⁰⁹ Freeman, *Strategic Management: A Stakeholder Approach*, 54, 57.

¹¹⁰ *Ibid.*, 58, 59.

¹¹¹ *Ibid.*, 183.

opportunity.¹¹² Grimble and Wellard in 2007 examined the relevance of stakeholder analysis to help natural resource managers. They found the dual function of the stakeholder analysis for the organization, it is to promote choices, efficiency, effectiveness, and evaluation of policies and projects; and to improve assessment of the effect of distributional, social and political policies and projects.¹¹³

¹¹² Ibid., 186.

¹¹³ Ibid., 187-188.

CHAPTER IV

RESULTS AND DISCUSSION

A. The Waste Management System Profile in Jakarta

1. Jakarta City Profile

Daerah Khusus Ibukota/Special Capital Region (DKI) Jakarta or commonly called Jakarta is the capital city of Indonesia. Jakarta is the only city that also has the provincial status. Jakarta is located in the eastern part of Java Island by land area 661.52 km² and sea area 6,977.7 km². 40% of the lowland of Jakarta is under sea level. Thirteen rivers pass through the city from Bodetabek region, the urban area surrounding Jakarta (Bogor-Depok-Tangerang-Bekasi).¹¹⁴

Jakarta is divided into five administrative areas and one area of the District Administration. They are Central Jakarta Administrative Region, North Jakarta Administrative Region, West Jakarta Administrative Region, South Jakarta Administrative Region, East Jakarta Administrative Region and the Kepulauan Seribu District Administration.¹¹⁵

The density of Jakarta population increases continuously. Based on the Department of Population and Civil Registration, the data in 2011 showed Jakarta's total population was 10,187,595 with a density of 14,000 / km². Thus, it makes Jakarta the most populous region in Indonesia, despite the population decrease from 1.13% in the period 2005-2008 to 1.06% in the period 2005-2009.¹¹⁶

¹¹⁴ Team Mirah Saketi, *Mengapa Jakarta Banjir Pengendalian Banjir Pemerintah Provinsi DKI Jakarta* (Jakarta: PT. Mirah Saketi, 2010), 4.

¹¹⁵ Dinas Kebersihan Pemerintah Provinsi DKI Jakarta, *Masterplan dan Kajian Akademis Persampahan Provinsi DKI Jakarta, 2012* (Jakarta: Dinas Kebersihan Provinsi DKI Jakarta), 3-1.

¹¹⁶ *Ibid.*, 3-9-10.

The website Citymayor.com stated that out of the twenty-five highest populous cities in the world, Jakarta ranks tenth. Paris which is twice the size of Jakarta only ranks twentieth.¹¹⁷ UN Habitat on its Country Program Document 2008-2009 said that the population density in Jakarta is in line with 60 percent of Indonesia's populations living in Java while the size of Java Island is only 7% of the entire land of Indonesia.¹¹⁸

Jakarta provincial economy in 2009 grew by 10.51%, this number is higher than in 2008 in which the growth rate reached 6.22%. The sectors that show high growth in this period were the transportation and communications sector (15.90%), electricity and gas sector (15.29%), and building and construction sector (14.38%). It was a macro number because it only depended on the value of Gross Domestic Regional Product (GDRP) per capita and population mid-year without taking ownership of the value added created in each economic sector.¹¹⁹

Waste in Jakarta is increasingly worrisome as its population and economy grow. Every year, Jakarta produces approximately 6,500 tons of waste that mostly comes from household. From the total amount of waste, 55.37% of it is organic waste and 44.63% of it is non-organic waste. The data on the volume of waste in five Administrative Region of Jakarta can be seen in table 4.1 below. The data on the composition and characteristics of the waste in five Administrative Region of Jakarta can be seen on the table. 4.2 below.

¹¹⁷ Quoted in Team Mirah Saketi, *Mengapa Jakarta Banjir Pengendalian Banjir Pemerintah Provinsi DKI Jakarta*,11.

¹¹⁸ Quoted in Team Mirah Saketi, *Mengapa Jakarta Banjir Pengendalian Banjir Pemerintah Provinsi DKI Jakarta*,11.

¹¹⁹ Dinas Kebersihan Pemerintah Provinsi DKI Jakarta, *Masterplan dan Kajian Akademis Persampahan Provinsi DKI Jakarta*, 3-21-22).

Table 4.1. Volume of waste in 5 Administrative Region of Jakarta

Sub Cleaning Agency Administrative Region	Waste Generation (m ³ /day)	Surmountable (m ³ /day)	Insurmountable (m ³ /day)
Central Jakarta	5,479	5,479	0
North Jakarta	4,519	4,517	2
West Jakarta	6,490	5,526	964
South Jakarta	5,696	5,642	54
East Jakarta	6,331	3,901	2,430
Total	28,515	25,065	3,450
Percentage		87,90	12,10

Source: Cleaning Agency of Jakarta Provincial Government, Cleaning Management Data Information First Quarter, 2011

Table 4.2. The composition and characteristics of waste in 5 Administrative Region of Jakarta

Type of Waste Characteristic	Percentage (%)
Organic	55.37
Inorganic	44.63
Paper	20.57
Plastic	13.25
Wood	0.07
Textile	0.61
Rubber / Artificial Skin	0.19
Metal	1.06
Glass	1.91
Debris Waste	0.81
Hazardous Waste	1.52
Others	4.65
Total	100

Source: Cleaning Agency of Jakarta Provincial Government, Cleaning Management Data Information First Quarter, 2010

2. Waste Regulation

The existing conditions of waste in Indonesia in the past did not give a way to handle the waste properly. This is due to the lack of waste-related regulation. Before 1999, the responsibility of the waste management was in the hands of the central government. In 1999, the change in the government system from Centralization to Decentralization which was legalized by

Act no. 32/2004 on Regional Autonomy, and Regulation no. 38/2007 on the coordination between the Central Government, Provincial Government, and the Government of Regency / City, made the responsibility of waste management transfer from central to local government. Through this change, it was expected that the efficiency and effectiveness of urban waste management would increase.¹²⁰ The serious condition of waste in Indonesia, along with the transfer of greater responsibilities to provincial and local governments to manage waste, forced Indonesian Government to enact the Law No. 18 year 2008 on Waste Management. This was the first law that specifically regulated the waste management in Indonesia comprehensively. The purpose of the Act is to improve public health and environmental quality and to make waste become a resource. This Act also emphasizes on policies 3R (Reduce, Reuse, Recycle). This Act clearly states that waste management is a shared responsibility of the various parties - individuals, communities, businesses, and government so that this law encourages the creation of partnerships between businesses sectors and government agencies, also authorizes local governments to facilitate partnerships and inter-regional networks in waste management including mediation of disputes in districts / cities. The act also encourages the creation of systems and technologies that are environmentally friendly based on international standard. This Act establishes ambitious targets by closing all open dumps or establishing improvement plans within a year. And within five years, all open dump sites should be closed and fixed into integrated sanitary landfills. The deadline to achieve this goal was 2013,¹²¹ which was extended one year ago. Considering the fact, this aim is still far away to achieve.

¹²⁰ Djoko Mursito et.al, "Pesan Editor," "Mengelola Sampah Perkotaan di Indonesia, Sebuah Sudut Pandang Pemerintah," *Jurnal Prakarsa Infrastruktur Indonesia Prakarsa*, Oktober, 2013, 9, http://www.indii.co.id/upload_file/201310211531360.Prakarsa%20Oct%202013%20print-friendly%20Indonesian.pdf.

¹²¹ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management): Policy Paper, 2008* (Jakarta : GPO, 2008), Article 44 and 45.

As the main regulation of waste, the Law No. 18 year 2008 is specified more detailed into other regulations as instruments for implementing the law as seen at the table. 4.3. The published laws recently were followed by the issuance of Government Regulation No. 81 year 2012 on Household Waste Management and Household-Waste-Type Waste. This Act essentially regulates the collection, processing, and final processing of household waste in various forms. According to this Act, the garbage consists of three categories: household waste, household-waste-type waste and specific waste. This Act also includes commercial waste and hazardous waste (including medical waste).¹²²

¹²² President of Republic of Indonesia. *Government Regulation No. 81 year 2012 on Household Waste Management and Household-Waste-Type Waste: Policy Paper* (Jakarta: GPO, 2012).

Table 4.3. Regulations on Waste Management in Indonesia¹²³

No.	Instruments Regulations	Substance
1.	Presidential Regulation No. 5 Year 2010 concerning RPJMN (Medium Term National Development Plan) 2010 - 2014	<p>This Regulation states the waste management objectives are :</p> <ul style="list-style-type: none"> • Increasing the amount of waste transported to 75% • Improving the performance of landfill management that is environmentally guided .
2.	Presidential Regulation no. 13 of 2010 concerning Government cooperation with the Business Entities in the Provision of Infrastructure	<p>In article 4 of this regulation it is stated that transport facilities and disposal site are waste infrastructure for which cooperation with a Business Entity is possible .</p>
3.	Regulation of Home Affairs Minister No. 33 year 2010 concerning Guidelines for Waste Management	<p>This regulation sets about:</p> <ol style="list-style-type: none"> 1. The necessity for the Local Government to formulate the Waste Reduction and Management Plan in the Strategic Plan and Work Plan of the SKPD (Regional Work units). 2. The waste reduction is done by the way of reducing, recycling, and / or reusing the waste. Which is carried out through: <ol style="list-style-type: none"> a. monitoring and supervision of the implementation of the plan to use environmentally friendly production materials b. facilitation to the community and business sector 3. The Waste handling is done by providing facilities for waste segregation, collection, transportation, treatment and final processing . 4. In the framework of waste reduction and management, local government may establish waste management institutions. It can be a BLUD (Local Public Service Agency) for waste which is equal with the working unit in the SKPD for waste management. 5. Local Government may provide incentives and disincentives to individuals, institutions and business entities.

¹²³ Indonesia Infrastructure Initiative (IndII), *Scoping Study for Solid Waste Management In Indonesia Technical Report* (Jakarta: IndII, 2011). Kindle Edition, 17-18.

No.	Instruments Regulations	Substance
		<p>6. Local Government may enter into agreements with other local government or any business entity, with a specific scope within the waste management system.</p> <p>7. The procedure for granting compensation</p>
4.	Regulation of Public Work Minister No. 14 Year 2010 concerning Minimum Services Standard of Public Work field and Area Spatial	<p>This regulation contains performance indicators and targets for waste management in 2010 – 2014, which are:</p> <p>1. Availability of urban waste reduction facilities. Target: Reduced waste amount by 20% by the year 2014.</p> <p>2. Availability of urban waste handling system. Target: 70% of waste transportation in 2014.</p>

In implementing the waste policy, Jakarta's waste regulations are directed towards a few main points as follows:

- Cleaning management in the Jakarta areas are directed towards strategic locations which function as activity centers;
- Encouraging the development of waste management, particularly waste collection and transportation activities based on “tridaya” (community participation, increase private business and increase environmental conditions);
- Developing institutional capacity of government agencies as well as awareness, community participation, private parties and the law both in the context of good governance;
- Improving the quality of the environment, particularly the aspect of cleanliness and beauty through sweeping, collection and transportation of waste either in self-managed Cleaning Agency or private parties;
- Identifying the activities and areas / regions that have the potential to be developed
- Developing a monitoring and evaluation system to optimize the implementation of effective cleaning management from upstream to downstream.

- Preparing a variety of approaches and guidance in all aspects of planning, engineering design, engineering techniques for implementing of cleaning management.

3. Type of Waste

Based on the article 2 of Law No. 18 year 2008, there are three types of waste that managed by Indonesian Government. They are household waste, household-waste-type waste, and specific waste. Household waste is basically every type of solid waste that is produced from the household or residential places. It is not specific and includes fecal waste. Household-waste-type waste is some kind of household waste but produced by other than household. It comes from commercial areas (trade centers, markets, shops, hotels, offices, restaurants and entertainment venues), industrial areas (areas where the concentration of industrial activities which are equipped with the infrastructure and support facilities developed and managed by a company that already has industrial areas permit), specific areas (an area that is specifically used for the national interest / national scale, for example, the area of cultural heritage, national parks, the development of strategic industries, and the development of high technology), social services (among other things, houses of worship , orphanages, and social institutions), public facilities (e.g., public transportation terminals, railway stations, seaports, airports, public transport stops places, parks, roads, and sidewalks), and / or other facilities (every other facilities except commercial areas, industrial areas, special areas, social facilities, and public facilities such as detention centers, prisons, hospitals, clinics, community health centers, education area, tourism area, bonded area, and sports activity center). The specific waste includes waste containing hazardous and toxic materials; waste containing hazardous and toxic waste; waste arising from

the disaster; building demolition debris; waste technology which cannot be processed; and / or; waste arising that is not periodic.¹²⁴

4. Waste Management

Waste in accordance with Article 8 Regulation of Home Affairs Minister No. 33 year 2010 is done by changing the characteristics, composition, and the amount of waste that is implemented in the waste transfer site (TPS) / integrated waste treatment facility (TPST) and final processing site (TPA) by utilizing environmentally friendly technologies. TPS, TPST and TPA are three types of landfills in Indonesia. The waste management in Jakarta based on Article 4 Regulation of Home Affairs Minister No. 33 year 2010 basically consists of five stages, waste separation, waste collection, waste transportation, treatment and final treatment of waste.¹²⁵

Waste separation is explained in Article 5 Regulation of Home Affairs Minister No. 33 year 2010. It is done by sorting household waste based on its type. The household waste is separated into organic and inorganic facilities that are placed in various places such as households, residential areas, commercial and industrial areas, also special, public and social facilities. Waste collection relates to any activity of waste gathering that is done firstly at the source level. As mentioned in Article 6 Regulation of Home Affairs Minister No. 33 year 2010, it starts with waste removal from household trash to waste transfer site / integrated waste treatment facility to final processing site while ensuring separation of waste according to the type of waste.¹²⁶ The terminology of waste collection before just focused on collecting the waste at the source of waste. In consequence, only waste disposal problem in the source that is solved. This strategy results only in moving the waste from the source to the final disposal. As the

¹²⁴ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management*): *Policy Paper*, 2008 (Jakarta : GPO, 2008), Article 2.

¹²⁵ Home Affairs Minister, *Regulation of Home Affairs Minister No. 33 year 2010 Concerning on The Guidelines of Waste Management: Policy Paper*, 2010 (Jakarta : GPO, 2010), Article 8.

¹²⁶ *Ibid.*, Article 5 and 6.

consequences, the waste still become a problem at the final treatment. When the Law No. 18 year 2008 on Waste Management was passed, urban waste management paradigm has changed from an "end-of-pipe" approach "to reduce at the source" by promoting the 3R.¹²⁷ The change of paradigm caused the Indonesian government to adopt a policy priority of waste treatment, based on the following hierarchy:¹²⁸

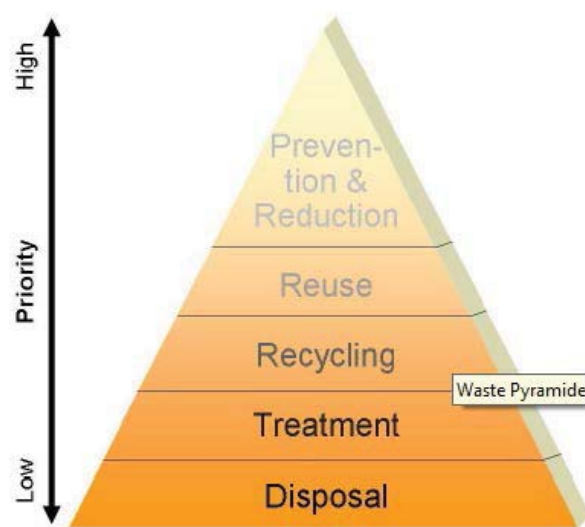


Figure 4.1. Waste Treatment Priorities in Indonesia

The highest priority of the policy is 3R, even though it needs a huge effort to realize. Until now, only limited numbers of municipalities have adopted the 3R policy. The data of Indonesia Infrastructure Initiatives (IndII) in 2011 showed that approximately only 2.26% municipalities have recycled the waste from the source, 2% from the waste transfer site and 1.6% from the final processing site. The scavengers also have a role in the recycling process, maybe up

¹²⁷Djoko Mursito et.al, "Mengelola Sampah Perkotaan di Indonesia, Sebuah Sudut Pandang Pemerintah," Jurnal Prakarsa Infrastruktur Indonesia Prakarsa, Oktober, 2013, 9-10, http://www.indii.co.id/upload_file/201310211531360.Prakarsa%20Oct%202013%20print-friendly%20Indonesian.pdf.

¹²⁸Indonesia Infrastructure Initiative (IndII), *Scoping Study For Solid Waste Management In Indonesia Technical Report* (Jakarta: IndII, 2011). Kindle Edition, 9.

to 10% of the total waste flow that has withdrawn from the municipal waste streams: household, waste transfer site, or final processing site.

Waste transportation relates to the act of mobilizing waste from waste producer to final treatment. Waste transportation in accordance with Article 7 Regulation of Home Affairs Minister No. 33 year 2010 is conducted by way of identifying the waste coming from household, housing, commercial areas, industrial areas, special areas, public facilities, social facilities, and other facilities in waste sources and then transport it to the waste transfer site / integrated waste treatment facility and finally to the final processing site. Waste transportation equipment must meet the safety requirements, environmental health, comfort, and cleanliness.¹²⁹

The waste usually is collected from small waste transfer sites by waste transportation vehicles such as trucks and transported to large integrated waste treatment facilities and final processing sites. Approximately 7,700 waste transportation vehicles are operated in Indonesia; from around which 3,600 are operated in Java. About 97% waste transportation vehicles are owned by the municipalities and 3% are rented from private companies. The types of the trucks are dump trucks with or without hydraulic system (51%), arm roll trucks (29%) and composter trucks (2.5%).¹³⁰

Final waste processing in Article 9 Regulation of Home Affairs Minister No. 33 year 2010 is carried out through placement of bins and / or processing residues to the environment safely. It relates to the waste treatment method of waste breaking so that it will not harm the environment and also human being. The final treatments can be quite different depending on the type of waste. In Indonesia, some treatments are used to this day. The household waste and

¹²⁹ Home Affairs Minister, *Regulation of Home Affairs Minister No. 33 year 2010 Concerning on The Guidelines of Waste Management: Policy Paper, 2010* (Jakarta : GPO, 2010), Article 7.

¹³⁰ Indonesia Infrastructure Initiative (IndII), *Scoping Study For Solid Waste Management In Indonesia*, 9.

household-waste-type waste are usually handled by using landfills, even though it is not rare that the specific waste is also dumped there.¹³¹

There are three types of landfills in Jakarta. The first is waste transfer site. It is used temporarily to accommodate the waste that finally has to be transported to the recycling, processing, and / or an integrated waste treatment facility. The second is integrated waste treatment facility which is for the implementation of the activities of collecting, sorting, reusing, recycling, processing, and final processing of waste. The last is a final processing site, a place to process and return the waste into the environment safely for humans and the environment. Most municipalities operate their own landfills within the city boundaries. In estimation, 12 percent of the municipalities use a final processing landfill outside their own city area. Most dumpsites lack protection in terms of lining, soil or groundwater protection, causing direct negative impact on nearby water resources and the environment. The final processing landfills are favorite spots for scavengers, who come and pick valuable waste. Totally, 50,000 scavengers continuously operate in these landfills throughout Indonesia. Aside from waste disposal on landfills, in Indonesia a limited number of municipalities operate modest composting or incineration facilities. Around 242 municipal composting facilities are in operation, processing less than 1% of the total waste volume, also 64 small incinerators processing less than 10,000 tons waste per year. These figures do not take into account home composting activities by individuals for individual use, such as fertilization of home garden plantation. Indonesian Government has decided to develop an integrated waste treatment facility which can also functions as regional sanitary landfill in some ways to alleviate the waste dumping practices. The sanitary landfills are usually equipped with lining, soil protection, groundwater monitoring and landfill gas processing.

¹³¹ Home Affairs Minister, *Regulation of Home Affairs Minister No. 33 year 2010 Concerning on The Guidelines of Waste Management: Policy Paper, 2010* (Jakarta : GPO, 2010), Article 9.

The Jabotabek (Jakarta-Bogor-Tangerang-Bekasi) region uses the Bantar Gebang landfill with total area of 108 ha, receiving more than 2 million tons of waste per year. Due to the limited space, waste here is piled up very high without sufficient sanitary provisions, although a composting section at the landfill is in operation since 2004 producing about 100,000 tons of compost per year, and part of the leachate is collected and treated. The remaining lifetime of the Bantar Gebang Landfill may be five years.¹³²

Each kind of waste has its waste management. The household waste and household-waste-type waste basically have the same waste management process, because they have a similarity in their generation, which is solid waste. It is stipulated in Article 19 of Law No. 18 year 2008, the management of household waste and household-waste-type waste consists of waste reduction and waste management. Waste reduction, as mentioned in Article 19 of Law No. 18 year 2008, covers all the activities restrictions of waste generation; recycling of waste; and / or; utilization of waste.¹³³

Waste handling activities as stated in Article 22 of Law No. 18 year 2008 consists of waste separation, waste collection, waste transportation, waste processing and final processing. Waste separation is carried out by categorizing the waste in accordance with the type, amount, or nature of the waste. The collection is done in the form of collection and disposal of waste sources to waste transfer site or integrated waste treatment facility. Waste transportation is related to every activity to mobilize the waste from its sources or waste transfer site or integrated waste treatment facility to the final processing site. Waste processing is an attempt to change the characteristic, composition, and the amount of waste. And final processing of waste deals with

¹³² Quoted in, Indonesia Infrastructure Initiative, Scoping Study For Solid Waste Management In Indonesia Technical Report, 6.

¹³³ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management: Policy Paper, 2008* (Jakarta : GPO, 2008), Article 19.

carrying back waste or its residue from the previous waste handling activities into the environment.¹³⁴

The concept of solid waste management can be seen in the Figure 4.2.

¹³⁴ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management: Policy Paper, 2008* (Jakarta: GPO, 2008), Article 22.

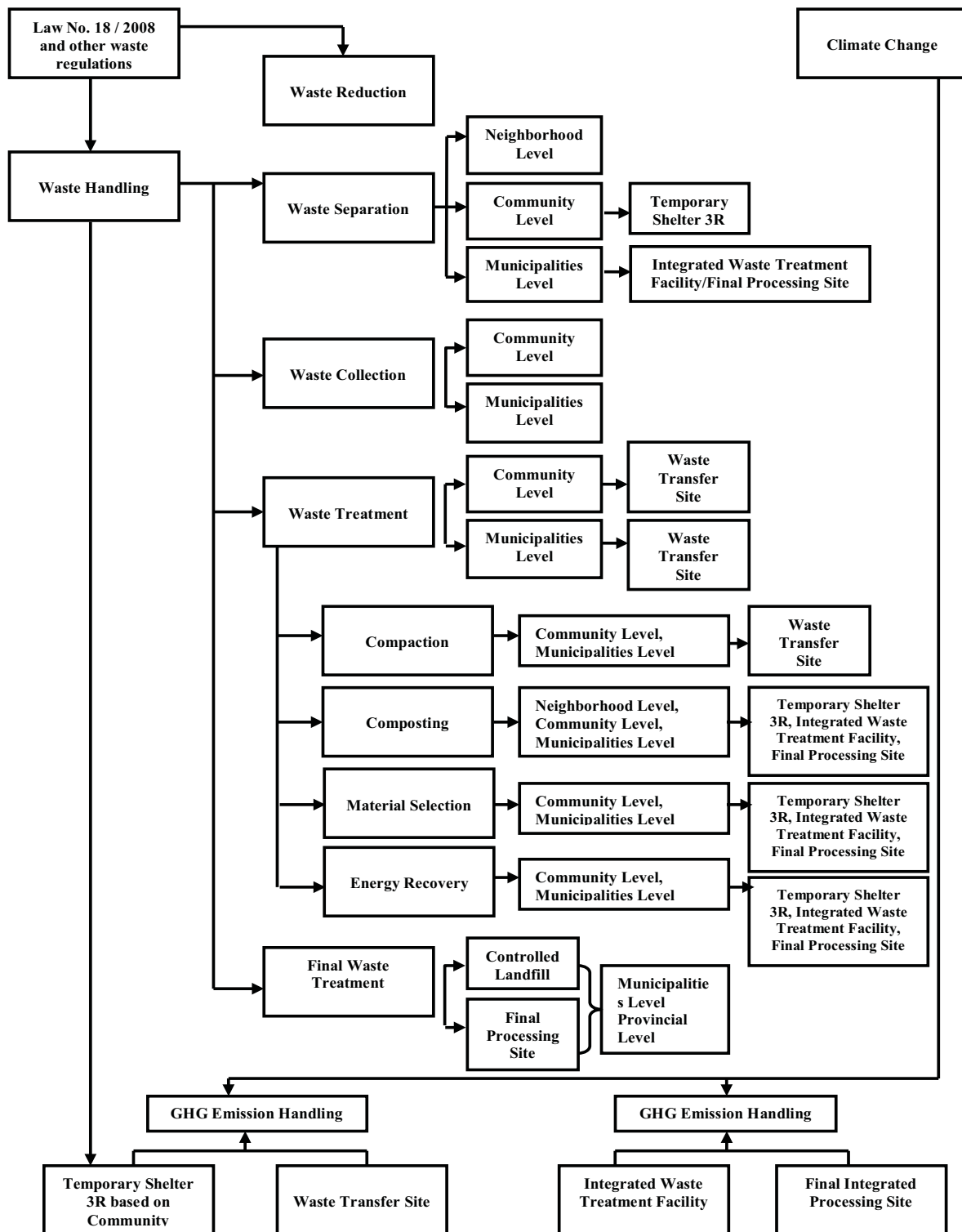


Figure 4.2. Solid Waste Management Concept¹³⁵

¹³⁵ Djoko Mursito et.al, "Mengelola Sampah Perkotaan di Indonesia, Sebuah Sudut Pandang Pemerintah," *Jurnal Prakarsa Infrastruktur Indonesia Prakarsa*, Oktober, 2013, 11.

The specific waste is different since hazardous waste is usually not solid and needs special treatment. It consists of several types of waste: waste containing hazardous and toxic materials; waste arising from the disaster; building demolition debris; waste technology which cannot be processed; and / or; unperiodical waste. The first is called B3 (Hazardous Waste and Toxic). It is defined as business and / or activities residues that contain hazardous materials that can be identified by source and / or testing or test characteristics and toxicology (PP 85/99 chapters 1, 2 and 6). The B3 waste management consists of activities starting from reduction, storage, collection, treatment and land-filling as mentioned in article 1-3 Government Act No. 85 Year 1999 on specific waste. The management objectives are preventing and tackling pollution and / or damage to the environment caused by the B3 waste and recovering the quality of the environment that has been contaminated.¹³⁶ Each B3 waste producer is required to perform B3 waste processing with existing technology in their country, and if they are not able to process it, it can be exported to other countries that have the B3 waste technology (article 9 of Law No. 18 year 1999).¹³⁷

The debris or waste from natural disaster is not processed and simply discarded. Some of the major processes of debris waste management are the collection, transport, and disposal. Collection refers to the debris cleanup activities due to development or due to natural disasters. The debris waste is then removed and carried around and is transported to a designated dump. Trash will not be carried to further processing but will only be disposed of in open fields and used as backfill material.¹³⁸

¹³⁶ President of Republic of Indonesia, *Government Act No. 85 Year 1999 on The Changes of Government Act No. 18 Year 1999 About the Hazardous Waste and Toxic Waste Management: Policy Paper* (Jakarta:GPO, 1999).

¹³⁷ President of Republic of Indonesia, *Government Act No. 18 Year 1999 on the Hazardous Waste and Toxic Waste Management: Policy Paper* (Jakarta:GPO, 1999).

¹³⁸ Sri Wahyono, "Mengelola Sampah Puing Pasca Bencana", *Kompas*, April 28, 2005.

The source for cleanliness management financing in DKI Jakarta is the Jakarta Provincial Budget, some of which is derived from deposited cleanliness retribution. The number is around 1,000 to 1,100 Billion USD. The number excludes the direct fees collected by non-governmental waste collectors in the individual communities. The data from 2006 showed that there was a lack of budget at waste management in Jakarta. The Cleansing Department of Jakarta has a budget of 678 billion USD and the total expenditures for every person per year is about 1€ or about 1.3 USD. These figures are extremely low from an international perspective.¹³⁹

B. The multi-stakeholder partnership of Solid Waste Management in Jakarta

1. Before Decentralization

Before decentralization, solid waste management was the responsibility of several departments and ministries such as The Ministry of Public Works, Ministry of Home Affairs, Ministry of Health, Agency for Technology Assessment and Development, Environmental Impact Management Agency (BAPEDAL), and the Sub Directorate for Solid Waste Management. This led to overlapping responsibilities and weak implementation and enforcement of laws and regulations of solid waste management. The decentralization in 1999 caused the government to have a role as regulator and local government as policy implementation in their area.¹⁴⁰ Furthermore in 2002, the national waste management structure was renewed with the Presidential Decree No. 2/2002 when The Ministry of Environment took over the responsibility of BAPEDAL, which was responsible for controlling environmental pollution impact.

¹³⁹ Ken Butler, "Membuka Jalan bagi Sektor Swasta untuk Terlibat dalam Pengelolaan Sampah di Perkotaan Indonesia," *Jurnal Prakarsa Infrastruktur Indonesia Prakarsa*, Oktober, 2013, 22.

¹⁴⁰ Indonesia Infrastructure Initiative, Scoping Study For Solid Waste Management In Indonesia Technical Report, 19.

2. After Decentralization and Law No. 18 Year 2008

Basically based on the Law No. 18 Year 2008, the stakeholder partnership in waste management can be divided into four major components. They are government, local government, business sector and society, and they can establish cooperation in waste management.¹⁴¹

2.1. Government

There are mainly four ministries involved in waste management: the Ministry of Environment, for pollution control related to SWM. The Ministry of Environment (MoE) is responsible for regulating, monitoring and managing of specific waste types, including toxic, hazardous and intractable wastes. MoE also encourages people to recycle waste by developing garbage bank that helps them to earn a living through their recycling efforts. The garbage bank has a concept like a conventional bank. People can get cash money, keep savings or loan money by selling their recycled waste to the Garbage bank. This initiative is supported by the Regulation of the Minister of Environment no. 13/2012, which establishes guidelines for the implementation of the 3R through Garbage Bank. As of December 2012, the MoE has supported the construction of 1,195 Garbage Bank in 55 counties and cities in Indonesia. Garbage Bank initiative has succeeded in involving more than 96,200 individual "depositors waste" (waste savers) who together have managed to gain about 15.1 billion USD. The total non-organic waste processed at the Garbage Bank has reached about 2,262 tons per month.¹⁴²

The Ministry of Public Works is responsible for the guiding and financing construction in solid waste management related to infrastructure, and provides regulation framework related to solid waste management. The Ministry of Public Works also takes initiatives to initiate regional

¹⁴¹ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management): Policy Paper, 2008* (Jakarta : GPO, 2008), Article 26-27.

¹⁴² Nigel Landon, "Sebuah Tinjauan Tentang Sektor Manajemen Persampahan Indonesia," *Jurnal Prakarsa Infrastruktur Indonesia Prakarsa*, Oktober, 2013, 8

solid waste management with provincial governments, involving different municipalities and districts.¹⁴³ National Development Planning Agency (BAPPENAS) plays a role in sector planning and financial planning, the Ministry of Settlement and Regional Infrastructure provides technical guidance, promoting pilot projects, and supervising large-scale off-site sanitation systems including waste management system.¹⁴⁴

2.2. Local Government

The provincial government is responsible to municipal and district governments for the provision of solid waste management services, either by themselves or through contracting private service providers while the solid waste collection and transportation are the responsibility of individual or combined municipalities. The municipality can hire private companies in cleansing and collecting street waste in commercial areas. Some large commercial and industrial enterprises in large cities like Jakarta, Bandung and Surabaya employ the Cleansing Department and/or private contractors.

The Provincial Governments also has responsibility for the new Regional Sanitary Landfills. The examples of regional initiatives are the Bantar Gebang Disposal Site for the Jabotabek region. To facilitate the operations of the Regional Sanitary Landfills, the government intends to set up Regional Waste Management Organizations that will operate under Integrated Solid Waste Management Principles. Controlling the environmental pollution impacts is in the hand of BAPEDALDA or Local Board of Environmental Impact Management. Other institutions active at municipal level are the Planning Agency (BAPPEDA) and the Cleansing Departments that are dealing with implementation of solid waste management, such as transportation from the transfer points to the final disposal site.

¹⁴³ Quoted in, Indonesia Infrastructure Initiative, Scoping Study For Solid Waste Management In Indonesia Technical Report, 1-2.

¹⁴⁴ Ibid., 1-2.

The waste management services are usually provided by the local government unit through one or more of their offices or SKPD (regional work units). The process of waste management services performed by the local government generally starting from collecting waste from waste producers (household or small business by individuals or small companies) are governed by the head of the neighborhood, and then transported to a waste transfer site. To transport this waste, waste producer must issue monthly retribution for garbage collection which is paid to the head of the neighborhood and in turn contributed to the treasurer of the local government. Reduced trash items that can be reused or recycled are usually taken by scavengers, and then transported to the final processing site by trucks belonging to the local government or contracted private business. This landfill is owned or managed by the local government.¹⁴⁵ Jakarta has at least 5 agencies involved in handling this waste, namely Cleaning Department, Department of Public Works for Water Management Section, Environmental Management Agency (BPLHD), Park and Cemetery Department, and PD Pasar Jaya.

Cleaning Department is the agency that manages the implementation of the core issues of cleanliness in Jakarta. This position is regulated in the Provincial Governor Special Capital Region of Jakarta Regulation No. 131 year 2009. Governor Regulation states that the Cleaning Department is implementing elements of regional autonomy in the area of hygiene. Sanitation Department has the task of carrying out hygiene management. Department of Public Works for Water Management Section is a line of Unit Public Works Department in implementing maintenance of water resources. It has the task of carrying out maintenance of water resources and coastal flooding as well as implementation and control. BPLHD is a supporting element of the Local Government's task in the field of environmental management area. BPLHD has the

¹⁴⁵ Joel Friedman, "Memperkuat Lingkungan Kelembagaan untuk Manajemen Persampahan Perkotaan," *Jurnal Prakarsa Infrastruktur Indonesia Prakarsa*, Oktober, 2013, 15.

task of organizing the management of environment in its area including hazardous and toxic waste and controlling utilization of underground water.

Parks and Cemetery department has a major task to develop, implement, manage, structure, maintain, and utilize parks, green belts, and the beauty of the city. PD Pasar Jaya is a regional-owned enterprise engaged in the marketing sector and other facilities. PD Pasar Jaya has the tasks to hold public service in the field of marketing sector, foster market traders, help creating price stability, and distribute goods and services in the market.

While based on the decision of the Governor of Jakarta no. 1281 year 1988 about the handling pattern of environmental cleanliness in Jakarta, the responsibility for the implementation of environmental cleanliness are at the levels of neighborhood (RT) / hamlet (RW), Village, District, City Region, and of the provinces of Jakarta (DKI Jakarta).

2.3. Private Waste Business Sector

Government can cooperate with private business sectors to implement waste management. The initiating of the Indonesia's Program for Pollution Control, Evaluation, and Rating (PROPER) in 1995 marked the Private Sector Participation (PSP) in waste sector. The private waste business usually plays a role in waste management such as waste disposal and treatment. Jakarta not only cooperates with private sector in waste treatment or disposal but also in operating the Bantar Gebang landfill.¹⁴⁶ Bantar Gebang landfill now is under joint operation of PT Godang Tua Jaya (GTJ) and PT Navigat Organic Energy Indonesia (NOEI).¹⁴⁷

¹⁴⁶ Indonesia Infrastructure Initiative, Scoping Study For Solid Waste Management In Indonesia Technical Report, 10.

¹⁴⁷ Jonder Sihotang, "Pengelolaan Sampah Bantar Gebang Berdasarkan Kontrak," *Sinar Harapan*, July 2, 2014, <http://sinarharapan.co/news/read/140702191/Pengelolaan-Sampah-TPST-Bantargebang-Berdasarkan-Kontrak-span->.

2.4. Society

The society has a very important role in managing waste. Society is a producer of household waste and household-waste-type waste. Waste management is largely carried out directly by the community. Household waste collected from home or from the local waste collection (container-swivel arm [roll-arm container] or concrete bunkers). The waste carried by the local garbage men using a cart, or by scavengers. Scavengers usually just pick up the trash that can be recycled (plastic, metal, paper, or glass), or can be sold from household. Local garbage men will transport the waste to a waste transfer site or place of final processing to be sorted and discarded.¹⁴⁸ The community has to pay small amounts of money, usually from community savings, to pay for operational activities, such as salaries of (non-municipal) garbage collectors and street sweepers, providing garbage bins and containers, and purchasing of carts.

Society plays an important role in waste reduction and also waste handling in its sources through 3R. As waste transportation services by the private sector and society develops, waste recycling becomes a rapidly growing sector for the public and private sectors in Indonesia.¹⁴⁹ The data of IndII shows that there are many community initiatives in Indonesia, such as women-owned collection cooperatives, itinerant waste scavenging improvement, neighborhood-based youth groups for collection, contract to micro-enterprises, neighborhood composting or vermin-composting facilities, and collection of user charges from each household.¹⁵⁰

¹⁴⁸ Landon, "Sebuah Tinjauan Tentang Sektor Manajemen Persampahan Indonesia," 6-7.

¹⁴⁹ Ibid., 6-7.

¹⁵⁰ Indonesia Infrastructure Initiative, Scoping Study For Solid Waste Management In Indonesia Technical Report, 11.

C. The Multi Stakeholder’s Role of Waste Management in Jakarta based on Waste Management policy

The multi stakeholder’s role in solid waste management in Jakarta can be seen at Table 4.4.

Table 4.4. The Multi Stakeholder Role of Solid Waste Management in Jakarta¹⁵¹

Stakeholders	Roles	Remarks
Government	Keeping waste management and environment good, by: a. growing, developing and increasing public awareness on waste management; b. conducting research, technology for development reduction, and waste management; c. facilitating, developing, and implementing reduction, handling, and using of waste; d. implementing and facilitating the provision of waste management infrastructure and waste management; e. encouraging and facilitating the development benefits from waste processing; f. facilitating the application of specific technologies developed in the local community to reduce and manage waste; and g. coordination among government agencies, communities, and industry towards an integrated waste management.	Article 5 & 6 Law No. 18 Year 2008
	a. waste reduction targets set in stages within a specified period; b. facilitating the application of environmentally friendly technologies; b. facilitating the labeling of environmentally friendly products; c. facilitating reuse and recycle; and d. facilitating the marketing of recycled products	Article 19 Law No. 18 / 2008
	Specific waste management	Article 23 Law No. 18 / 2008
	Supervising and coaching waste management in the district / city by the Minister	Article 36, 37 Regulation of Home Affairs Minister No. 33 year 2010
	Conducting an investigation of a	Article 38 Law No. 18 Year 2008

¹⁵¹ President of Republic Indonesia, *Law Number 18 Year 2008 on Waste Management: Policy Paper, 2008* (Jakarta : GPO, 2008); Home Affairs Minister, *Regulation of Home Affairs Minister No. 33 year 2010 Concerning on The Guidelines of Waste Management: Policy Paper, 2010* (Jakarta : GPO, 2010), summarized by author.

Stakeholders	Roles	Remarks
	criminal offense related to waste management by civil servants investigating officers and cooperate with police	
	Government gives: a. incentives to everyone who reduce waste; and b. disincentive to any person who does not do waste reduction	Article 21 Law No. 18 Year 2008
	Government alone or together with the local government provides compensation to persons as a result of the negative impact caused by waste management activities in the final waste processing site. Compensation in the form of: a. relocation; b. environmental restoration; b. health and medical expenses; and / or c. compensation in other forms.	Article 25 Law No. 18 Year 2008
Local Government	Local government have duties to ensure that waste management and environmental are good that are: a. growing, developing and increasing public awareness on waste management; b. conducting research, technology for development reduction, and waste management; c. facilitating, developing, and implementing reduction, handling, and using of waste; d. implementing and facilitating the provision of waste management infrastructure and waste management; e. encouraging and facilitating the development benefits from waste processing; f. facilitating the application of specific technologies developed in the local community to reduce and manage waste; and g. coordination among government agencies, communities, and industry towards an integrated waste management.	Article 5 & 6 Law No. 18 Year 2008
	a. waste reduction targets set in stages within a specified period; b. facilitating the application of environmentally friendly technologies; b. facilitating the labeling of environmentally friendly products; c. facilitating reuse and recycle; and d. facilitating the marketing of recycled products	Article 19 Law No. 18 Year 2008

Stakeholders	Roles	Remarks
	a. setting policy and strategy for waste management in accordance with Government policy; b. facilitating cooperation between regions in the province, partnerships, and networks in waste management; c. organizing coordination, guidance, and supervision of the performance of the district / city in waste management; and d. facilitating the settlement of disputes between districts waste management / intercity within 1 (one) province.	Article 8 Law No. 18 Year 2008
	Waste management of public facilities, social facilities, and other facilities from waste sources and / or from waste transfer site / integrated waste treatment facility to final processing site.	Article 7 Regulation of Home Affairs Minister No. 33 year 2010
	Developing plans and waste reduction as outlined in the strategic plan and annual work plan of SKPD	Article 2 Regulation of Home Affairs Minister No. 33 year 2010
	Reducing waste by limiting waste generation, waste recycling, and / or re-utilization of waste.	Article 3 Regulation of Home Affairs Minister No. 33 year 2010
	Governors are responsible for the supervision and guidance of the implementation of waste management at the district / city	Article 30 UU No. 18 Tahun 2008 Article 36, 37 Regulation of Home Affairs Minister No. 33 year 2010
	Regent / Mayor oversight and supervision of waste management in the district / city	Article 36, 37 Regulation of Home Affairs Minister No. 33 year 2010
	Governor's reporting of waste management and waste management in the development of the district / city to the Minister	Article 41 Regulation of Home Affairs Minister No. 33 year 2010
	Regent / Mayor report waste management to the Governor with a copy to the Minister.	Article 41 Regulation of Home Affairs Minister No. 33 year 2010
	Facilitating the establishment of waste management institutions in rural / village or other names, commercial areas, industrial areas, public facilities, social facilities, and other facilities, as needed. Waste local public service agency (BLUD) can form on the unit level of SKPD to manage waste	Article 14 Regulation of Home Affairs Minister No. 33 year 2010
	a. Institutions business waste at the neighborhood level to facilitate the availability of household waste in each household and transport equipment from household trash to the polls; and b. Institutions business waste at the	Article 15 Regulation of Home Affairs Minister No. 33 year 2010

Stakeholders	Roles	Remarks
	neighborhood level to guarantee the orderly sorting of waste in each household.	
	Institution waste at the hamlet level (RW) is in charge of a. waste management agency to coordinate the neighborhood level; and b. proposing a temporary shelter needs to groove.	Article 15 Regulation of Home Affairs Minister No. 33 year 2010
	Institution garbage at the village is in charge of : a. leveling waste management agencies coordinated by neighborhoods; b. overseeing the orderly implementation of waste management from the neighborhood (RT) level up to hamlet (RW); and c. proposing a temporary shelter needs and integrated waste treatment facility to the sub-district heads.	Article 15 Regulation of Home Affairs Minister No. 33 year 2010
	Waste management agency in charge of the sub-district level: a. waste management agency to coordinate the village level; b. overseeing the orderly implementation of waste management from the level of neighborhoods to village and regional environment; and c. proposing a temporary shelter needs and integrated waste treatment facility or BLUD to charge waste.	Article 15 Regulation of Home Affairs Minister No. 33 year 2010
	Regional waste management agency in charge: a. providing household trash in each region; b. transporting waste from waste sources to the waste transfer site (TPS) / dump site or landfill; and c. ensuring the orderly realization of waste segregation.	Article 16 Regulation of Home Affairs Minister No. 33 year 2010
	Waste BLUD charge of implementing policies, strategies, and plans on education in charge of garbage.	Article 17 Regulation of Home Affairs Minister No. 33 year 2010
	Waste BLUD may collect and manage the cost of goods and / or waste management services appropriate set rates with the decision of the head.	Article 18 Regulation of Home Affairs Minister No. 33 year 2010
	Local governments can make cooperation among local government on waste management.	Article 26 Law No. 18 Year 2008
	Local governments can partner with business entities in waste management	Article 27 Law No. 18 Year 2008

Stakeholders	Roles	Remarks
Business Sector	<p>The scope of the partnership business entities and local governments within the scope of:</p> <p>a. withdrawal waste services retribution; (Component waste services retribution calculation costs include: the cost of collection and lug from waste sources to the waste transfer site / integrated waste treatment facility; transportation costs of the waste transfer site / integrated waste treatment facility to landfill; costs of providing the location of disposal / destruction of the waste, and cost management.</p> <p>b. provision / development of integrated waste treatment facility, waste transfer site, and final processing site, as well as the supporting infrastructure;</p> <p>c. transporting waste from integrated waste treatment facility, waste transfer site to final processing site;</p> <p>d. landfill management; and / or</p> <p>e. managing the other processed products.</p>	Article 28 Regulation of Home Affairs Minister No. 33 year 2010
Society (Every Waste Producer household or Other than Household)	Every resident, owner / occupant / person in charge of the building shall maintain environmental hygiene includes cleaning up around the yard limits of the shoulder, respectively.	Article 3 Government of DKI Jakarta Regulation No. 5 Year 1988
	Establishing a waste management agency through neighbourhood / hamlet, Household Waste Management to waste transfer site / integrated waste treatment facility, through waste management institutions	Article 7 Regulation of Home Affairs Minister No. 33 year 2010
	<p>Community can play a role in waste management organized by the Government and / or local government through:</p> <p>a. Proposal making, consideration, and advising the Government and / or local government;</p> <p>b. Provision of waste management policy; and / or</p> <p>c. Giving advices and opinions in garbage dispute resolution.</p>	Article 28 Law No. 18 Year 2008
	<p>The role of the community in the form of waste management include:</p> <p>a. maintaining a healthy environment;</p> <p>b. active in the reduction, collection, sorting, transport, and waste management; and</p> <p>c. provision of advice, suggestion,</p>	Article 34 Regulation of Home Affairs Minister No. 33 year 2010

Stakeholders	Roles	Remarks
	complaint, judgment, and opinion to improve waste management in the region.	
	Area manager is responsible for waste management of public facilities, social facilities, and other facilities from waste sources and / or from waste transfer site / integrated waste treatment facility to final processing site	Article 7 Regulation of Home Affairs Minister No. 33 year 2010
	Business settlement areas (including residential areas in the form of clusters, apartments, condominiums, dormitories and the like), commercial areas, industrial areas, special areas, public facilities, social facilities, and other facilities require to provide waste segregation facility (placed in an easily accessible place by the public).	Article 13 Law No. 18 Year 2008
	Each manufacturer must include a label or mark that is associated with the reduction and management of waste in the packaging and / or products. Manufacturers are required to manage the packaging and / or product which unable or difficult to decompose by natural processes.	Article 14 & 15 UU Law No. 18 Year 2008

The appearance of the multi-stakeholder is so important to deal with waste. The crucial point is how to make the multi-stakeholder collaboration work properly so that the waste management runs well. The next point below will analyze the effectiveness of stakeholder partnership in Jakarta's waste management system.

D. The Implementation of Multi-Stakeholder's Role of Waste Management in Jakarta based on Stakeholder Analysis

The stakeholder analysis is conducted based on seven steps by Freeman and Mitchel, using the primary data taken from online news and magazine archives related to waste management in Jakarta.

1. The Stakeholder Map of The Jakarta Solid Waste Management

The first step is by identification the stakeholder map of the Jakarta solid waste management as a large waste management organization. It can be seen on the figure 4.3 below.

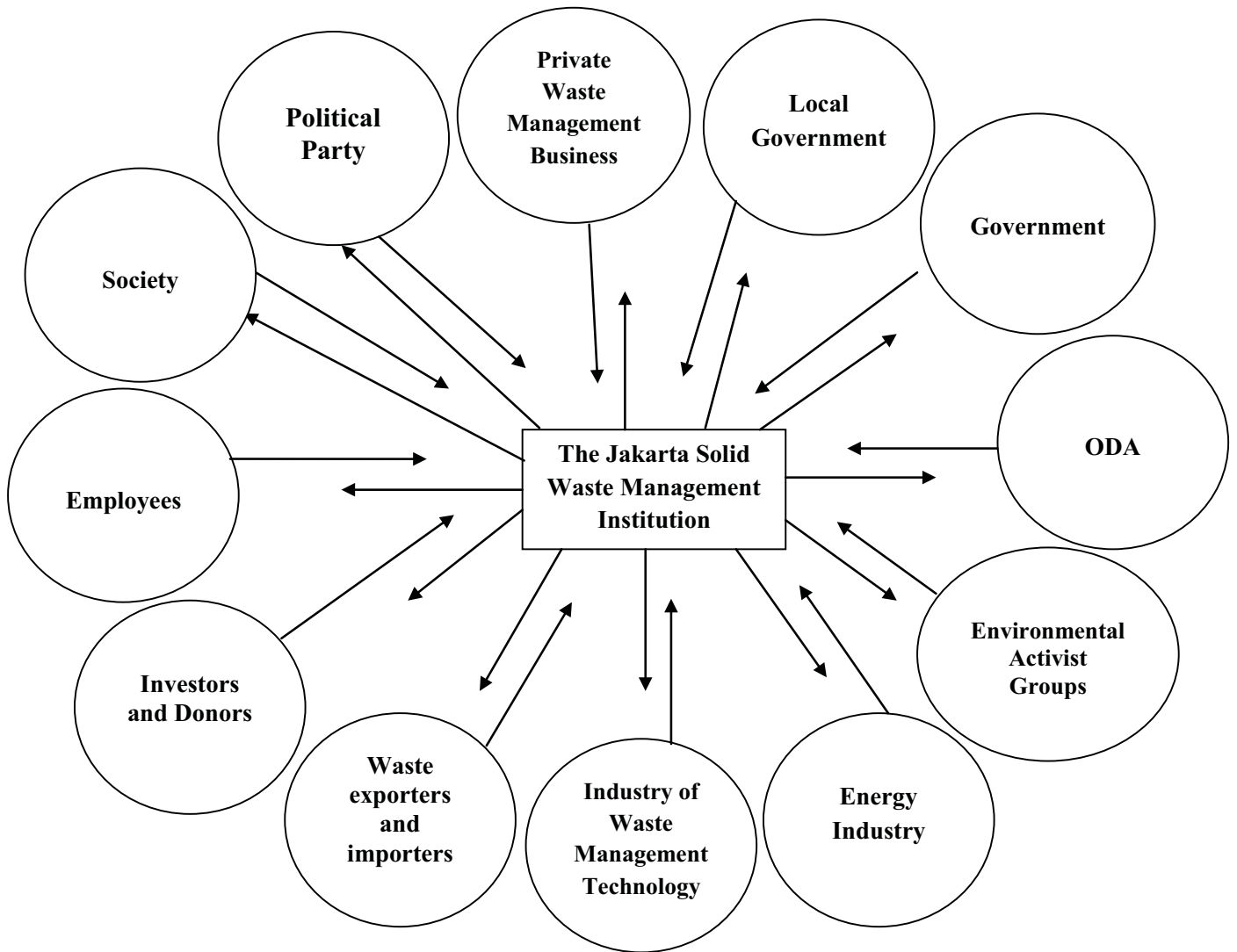


Figure 4.3 Stakeholders Map of The Jakarta Solid Waste Management System Institution

2. The Chart of Specific Stakeholders

<u>Government</u>	<u>Local Government</u>
Ministry of Environment	Department of Health
Ministry of Public Works	Dinas Pekerjaan Umum Bagian Tata Air
National Development Planning Agency (BAPPENAS)	Environmental Impact Management Agency (BAPPEDAL)
Ministry of Settlement and Regional Infrastructure	Park and Cemetery Agency
	PD Pasar Jaya
<u>Private Waste Business Sectors</u>	<u>Society</u>
Private Cleaning Business	Individual (household)
Private Waste Management Business	Individual (other than household)
	Waste haulers
	Waste Community
	Scavengers
<u>Environmental Activist Group</u>	<u>Donor Country and Investor</u>
Local Non Governmental Organization (NGO) concern on waste	International Project on waste
International NGO concern on waste	Grant on waste project
	Foreign and local investor on waste management business

Figure 4.4 Specific Stakeholders in Jakarta Solid Waste Management Institution

3. Identification of The Stakes of Stakeholders

<p>Government</p> <hr/> <p>Completing the waste management problem that has become a national issue comprehensively and integratedly from upstream to downstream in order to provide economic benefit, health for people, safety for the environment, and to change people's behavior</p>	<p>Local Government</p> <hr/> <p>Implementing national policies related to waste management issues comprehensively and integratedly from upstream to downstream in order to provide economic benefit, health for people, safety for the environment, and to change people's behavior</p>
<p>Private Waste Sector</p> <hr/> <p>Profit oriented</p>	<p>Society (household)</p> <hr/> <p>Keeping their health and their environment clean</p>
<p>Society (other than household)</p> <hr/> <p>Keeping their health and environment clean; profit oriented and efficiency</p>	<p>Waste Haulers</p> <hr/> <p>Gainful job opportunity to meet daily needs</p>
<p>Waste Community</p> <hr/> <p>Creating job opportunity, doing profit-oriented business, saving the environment</p>	<p>Scavengers</p> <hr/> <p>Gainful job opportunity to meet daily needs</p>

Figure 4.5 “Stakes” of Selected Stakeholders in Jakarta Solid Waste Management Institution

The implications of the first three stages lead to the role set identification of each stakeholder which can be combined into the “stakeholder role set”, as seen on the figure 4.6.

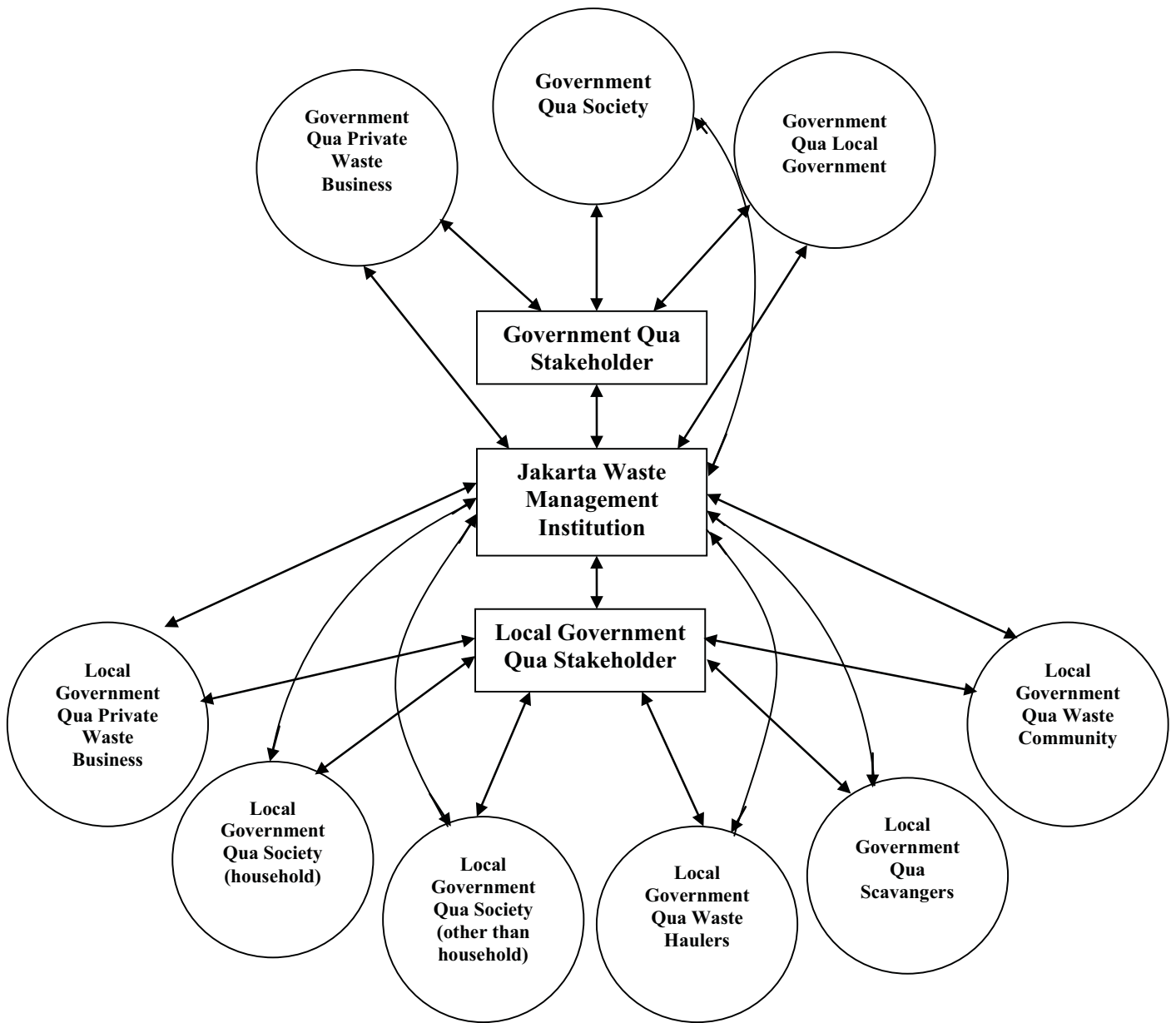


Figure 4.6 Possible Stakeholder Role Set of Jakarta Solid Waste Management Institution

4. The Power Versus Stake Grid

The power “real world” versus stake grid can be seen on the Figure 4.7.

Power Stake	Formal or Voting	Economic	Political
Equity	Society (Household) Waste Haulers Scavangers Waste Management Community		
Economic		Society (Other than Household) Private Cleaning Business Private Waste Processing Business	
Influencers	Government Local Government		Government Local Government Society

Figure 4.7 Jakarta Waste Management System Stakeholder Grids

5. The Process Level Stakeholder Analysis

Jakarta’s solid waste management system in managing their institution, in order to accomplish routine tasks and make them regular, can not be separated from some process levels inside the organization. The dynamic activities occur to maintain the stakeholder relationship to achieve the organization’s objective, but they have to fit the external condition enough and at the

same time not to deviate from the stakeholder map. Analyzing the process level between the waste management system and all its stakeholder is a mixed component that can be categorized into three type of analysis.

The first is portfolio analysis. The portfolio analysis appears in any process related to solid waste management projects in the area of Jakarta waste management institution. They will open an offer for national or private contractors to join a tender for the implementation and bidding the contract. In the case of Jakarta, the Waste Management institution usually accepts many cooperation proposals from several contractor companies that perform assessment usually based on the portfolio. The portfolio documents are the first stage of selection to decide which company will finally run the project, for example the Intermediate Treatment Facilities (ITF) Sunter development project. It will build waste treatment in the municipalities level by using thermal technology to run the incinerator.¹⁵² There were 30 bidders that joined the project and there were two candidates left, PT Phoenix Pembangunan Indonesia, representing Keppel Seghers Engineering Singapore Pte Ltd, and PT Wira Gulfindo Sarana (PT Ramky International Singapore Pte Ltd (consorsium). Nevertheless, the project auction that opened from 2012 and will be originally running for 2.5 years until 2016 still did not decide the winner yet. It still has no progress and even threatens to be cancelled because of the “red tape” reasons.¹⁵³ However, portfolio analysis has a weakness since the actual record of private waste businesses is not visible. They might lie to the government and hide the real condition of their company. The lack of this analysis can be seen in the case between Jakarta Government and the joint operation of PT GTJ and PT NOEI that operated Bantar Gebang Sanitary Landfill. PT GTJ and PT NOEI had violated the contract. PT GTJ has had cooperation contract waste management since 2008. The

¹⁵² Zak, “Inswa Desak Jokowi Umumkan Pemenang Lelang ITF Sunter,” *Gatra News*, September 19, 2013, <http://www.gatra.com/nusantara-1/jawa-1/39051-inswa-desak-jokowi-umumkan-pemenang-lelang-itf.html>.

¹⁵³ Andi Muttya Keteng, “Ahok Keluhkan Pengolahan Sampah Sunter Belum Dibangun,” *Liputan 6*, February 4, 2014, <http://news.liputan6.com/read/817611/ahok-keluhkan-pengolahan-sampah-sunter-belum-dibangun>.

contract is valid for 25 years and will be completed in 2033. During the current contract, the tipping fee (the cost of waste disposal) paid to PT GTJ continues to rise. At first, the cost per ton is only Rp 114,000, but in 2014, the cost of waste disposal is Rp 123,000 per ton. This problem is increasing as Bantar Gebang land is owned by the provincial government of DKI Jakarta. Jakarta provincial government should pay at least Rp 287.8 billion per year to PT GTJ for waste management. The problem arised when the CCTV installed in Bantar Gebang that should monitor the supply of garbage from Jakarta supposedly amounted to 6500 tons per day barely function.¹⁵⁴

This further heightened when the contract compelling PT GTJ to have an obligation to make waste management technology with gasification landfill, and an Anaerobic Digestion (Galvad) that has yet to be built as well. PT GTJ is still running Gas Landfill since the first Department of Health (Government Sanitation Department as the earlier managers) until now.¹⁵⁵ Government of DKI Jakarta believes that there is a corruption issue in PT GTJ.¹⁵⁶

The second is strategic review progress analysis. The activity in this analysis is usually prone to “blame the stakeholder” action because an organization tends to think about their own internal interest. In Jakarta’s waste management system, this dynamic behavior often appears not as a planned activity but more as a sudden reaction to the system that does not work properly. For example, the effect of using portfolio to select the contractor to run the project is that it sometimes does not work as planned. As a result, the local government starts to blame the private contractor that is considered denying its promise or deemed incompetent in their work. The termination contract in January 2014 from private haulers by the Jakarta Government is the proof

¹⁵⁴ Ida Nurcahyani, “Ahok minta KPK selidiki PT Godang Tua Jaya,” *Antara News*, February 20, 2014, <http://www.antaraneews.com/berita/420093/ahok-minta-kpk-selidiki-pt-godang-tua-jaya>.

¹⁵⁵ Berita Partai Politik, “Godang Tua Jaya Rugikan Pemprov DKI Rp 1,2 Triliun,” *Berita Parpol*, June 2, 2013, <http://beritaparpol.com/godang-tua-jaya-rugikan-pemprov-dki-rp-12-triliun.html>.

¹⁵⁶ Ida Nurcahyani, “Ahok minta KPK selidiki PT Godang Tua Jaya,” *Antara News*, February 20, 2014, <http://www.antaraneews.com/berita/420093/ahok-minta-kpk-selidiki-pt-godang-tua-jaya>.

that the portfolio document sometimes is not a good analysis process. In summary, this is a proof of “blame stakeholder” practice when the Jakarta Government starts to complain the incompetent work of the private waste hauler.¹⁵⁷ As the self defense mechanism, the other counterpart will do a plea to counter this issue. In some other cases, there are many institutions that are in charge of the Jakarta waste management organization. At least there are 5 institutions with their respective fields of work, and there are others which manage their waste independently. Common people were not aware about this because of the lack of socialization, and sometimes they criticized them because they did not give a good service to the society. Eventually, the institutions responded to critics not only by explaining the real situation, but also blaming other institutions. The case of the Cleaning Agency and the management of Monumen Nasional (National Monument) is one example. The management of Monumen Nasional has a responsibility to manage its own waste, apart from Cleaning Agency’s responsibility to do waste management at that area. The unclean condition in the surrounding area of National Monument leads to criticisms by the visitors that were addressed to Jakarta Cleaning Agency. Therefore, this institution responded not only by explaining about its responsibility but also blaming the management of National Monument.¹⁵⁸ Generally, the waste stakeholders did it to protect their internal interest.

The third analysis is the environmental scanning analysis. Its analysis should be carried out by looking at every activity in Jakarta waste management organization to look for any option for positive progress of Jakarta waste management system. The examples are comparative studies with other countries, research on waste management, developing a new technology to

¹⁵⁷ Lenny Tristia Tambun, “Ahok Tak Takut 25 Pengusaha Jasa Angkut Sampah Lapor Ketua DPRD,” *Berita Satu*, October 4, 2014, <http://m.beritasatu.com/megapolitan/170702-ahok-tak-takut-25-pengusaha-jasa-angkut-sampah-lapor-ketua-dprd.html>.

¹⁵⁸ Aisyah, “Sampah Numpuk, Kadis Kebersihan: Itu Tanggung Jawab UPT Monas!”, *Okezone*, Januari 1, 2014, <http://m.okezone.com/read/2014/01/01/500/920326/sampah-numpuk-kadis-kebersihan-itu-tanggung-jawab-upt-monas>.

manage waste, and establishing special divisions at every waste institution in Jakarta that do research and development activities. The Jakarta's Government learnt about waste management in other country that has been considered success such as Germany. The Indonesian Ambassador for Germany Eddy Pratomo has shared the German experienced in managing the waste with the Jakarta's Governor 2013, Joko Widodo, who elected as the President of Indonesia in 2014.¹⁵⁹ They also planned to install new technology such as Galvad, and thermal incinerator. Unfortunately, the Cleaning Agency that has the biggest portion to run the waste management in Jakarta still does not have the function at its agency.¹⁶⁰ The research and development related to waste usually is carried out by the institutions outside the government body such as academician, research institutes or local and international NGOs.

6. Conducting a Transactional Level

The transactional level is a very crucial action for every organization. It is a bargaining process between organizations with its stakeholder. In this regard, when the process level has done very well by an organization, the transactional level will be easier to do. Jakarta waste management institutions need to communicate with its stakeholder in order to find the win-win solution between the stakeholder interest and Jakarta waste management interest.

The transactional level at Jakarta waste management is done by conducting a stakeholder meeting and organizing a report on activity evaluation in order to coordinate and report the progress between Jakarta waste management and its stakeholder. Through this activity, many options can be established to overcome the current situation. This meeting level is not only at the top level but also at the grass root level where the society will usually report about the waste management condition at the lowest level to their neighborhoods and this report will be sent to

¹⁵⁹ Aisyah, "Tak Perlu Studi Banding," *Okezone*, April 4, 2013, <http://news.okezone.com/read/2013/04/04/500/786161/large/large>.

¹⁶⁰ Anthon P. Sinaga, Halo...Dinas Kebersihan DKI, Sampah Bertumpuk di Mana-mana, Last Modified, April 8, 2014, <http://m.tubasmedia.com/berita/halo-dinas-kebersihan-dki-sampah-bertumpuk-di-mana-mana/>

the upper level until the top level. Even, the grass root people can directly send the report to the Jakarta city's government. The report can be the current situation, complaint and also suggestion for the waste management improvement.¹⁶¹ They can report it through offline or online system via <https://lapor.ukp.go.id>.

Another way of transactional level is through complaint, suggestion, and criticism by the society, environmental activists, other stakeholders, and even political parties which are directed straight to the government or sent through the media. The weakness of this transactional level is that there is no direct feedback from both sides so the output is usually delayed.

7. Determine the Stakeholder Management Capability

High	Local Government	Government
Process	Private Waste Business	Society
Low	High	Low
	Transaction	

Figure 4.8 Stakeholders Management Capability of Jakarta Solid Waste Management Institution

In the grid we can see that the local government is a stakeholder that has high process and high transaction level. It can not be separated from its role as the main actor of the waste management in each municipality. The central government has a high process and low transaction level, since its role is mostly in the regulatory level. Private waste business has a low process but high transaction level, especially which is related to their interest, and the society has a low process and a low transaction level. It is because the society is the target of the policy

¹⁶¹ President of Republic of Indonesia, *Government Regulation No. 81 year 2012 on Waste Management Household and Similar Waste Household Waste: Policy Paper*, (Jakarta: GPO, 2012), Article 35.

which is in the level of implementation. They are still seen as the policy object, not the subject of the policy. That is why the rate of NIMBYism is still high in the Jakarta's society. They do not want to change their behaviour and have low awareness, but when they suffer as the result of the improper waste management such as the odor pollution and flood they will complain to the government.¹⁶²

8. Analyzing the Dynamics of Stakeholders

Dormant	Discretionary Private Waste Management Business Sector	Demanding	Dominant The Society
Dangerous	Dependent	Definitive Government Local Government	Non-stakeholder

Figure 4.9 Stakeholders Typology for Selected Stakeholders of Jakarta Solid Waste

Management Institution

From the picture it can be seen that there are three categories of salient stakeholders. The private waste management business sector is classified as the low salient stakeholder or latent stakeholder that only owned one attribute. The private waste management business sector has strong legitimacy to handle every single situation inside the organization, but do not have eagerness. It is weak to identify its stakeholders because usually, they have already built partnership with the Jakarta Waste management institution. In their mindset, the Jakarta Waste management institution is the only one that needs to serve well. It caused them are classified as discretionary stakeholders.

The society has a strong legitimacy and power. They can develop their own coalition to make sure that they involve and influence in the process of a waste management activity, such as

¹⁶² Pramirvan Datu Aprillatu, "Surati Jokowi, Warga Kelapa Gading Frustrasi Masalah Sampah," *Merdeka.com*, June 18, 2013, <http://www.merdeka.com/jakarta/surati-jokowi-warga-kelapa-gading-frustasi-masalah-sampah.html>.

a protest during solid waste management policy implementation. Therefore, society can be classified as dominant in the moderate salient or expectant stakeholder class.

The last is local and central government, which have three attributes of legitimacy, power and urgency. These makes them belong to the high salient category or definitive stakeholder.

E. The Waste Management System Profile in Seoul

1. Seoul Metropolitan City Profile

The Seoul Special City, Seoul Metropolitan City or commonly called Seoul is the largest metropolis area of South Korea and the third largest metropolitan city in the world.¹⁶³ Seoul is located in the Korean Peninsula in the northwestern South Korea, with a land area of 605.25 km². Seoul is the center of politics, economy, culture and education that serves as the capital of the country since the 1394.¹⁶⁴ Seoul evolved from the post-Korean War economic poverty into 4th metropolitan economy power in the world with a Gross Domestic Product (GDP) of \$ 774 billion US as a result of the economic boom called “The Miracle of the Han River”.¹⁶⁵ Through the development strategy that was well designed and effective use of foreign aid, Korea has grown into a major manufacturer of ships, steel, automobiles, and semiconductors.

Seoul is composed of 25 “gu” (district) with an area of between 10-47 km² with population between 14,0000-63,0000. Each “gu” is divided into “dong” (neighborhood) where there are 423 “dong” in Seoul. Each “dong” is divided into smaller administrative areas and called “tong”, then each tong will be further divided into “ban”. A total of 13,787 “tong” and 102,

¹⁶³ World Population Review, Seoul Population 2014, Last Modified, October 4, 2014, <http://worldpopulationreview.com/world-cities/seoul-population/>.

¹⁶⁴ Seoul Metropolitan Government, “South Korea Implementation of Local Agenda 21” *Case Study Vol.7, 20% Club for Sustainable Cities, March 2001*, http://www.gef.or.jp/20club/E/seoul_e.pdf.

¹⁶⁵ Global Compact Cities Program, Seoul, Last Modified, October 4, 2014, <http://citiesprogramme.com/cities/asia/republic-of-korea/Seoul>.

796 “ban” in Seoul.¹⁶⁶ A quarter of South Korea’s population live in Seoul.¹⁶⁷ The data in December 2013 states that the total population of Seoul was 10,140,000 with a density of 17,000 / km² (43,000 / sq mi). Administrative territorial divisions of Seoul can be seen through Table 4.5.¹⁶⁸

Table 4.5 Area and Number of Administrative Units

UNIT : number, %, km2

Period	Name	Area(km2)		Dong		Tong	Ban
		Area(km2)	Composition	Admini-strative	Legal		
2013year	Total	605.2	100	423	466	12,423	94,855
	Jongno-gu	23.91	3.95	17	87	270	1,708
	Jung-gu	9.96	1.65	15	74	254	1,599
	Yongsan-gu	21.87	3.61	16	36	350	2,556
	Seongdong-gu	16.85	2.78	17	17	421	3,122
	Gwangjin-gu	17.06	2.82	15	7	357	2,994
	Dongdaemun-gu	14.21	2.35	14	10	361	2,628
	Jungnang-gu	18.5	3.06	16	6	536	4,062
	Seongbuk-gu	24.58	4.06	20	39	467	3,780
	Gangbuk-gu	23.6	3.9	13	4	388	3,370
	Dobong-gu	20.7	3.42	14	4	385	2,932
	Nowon-gu	35.44	5.86	19	5	682	6,009
	Eunpyeong-gu	29.7	4.91	16	11	552	4,112
	Seodaemun-gu	17.61	2.91	14	20	540	4,239
	Mapo-gu	23.84	3.94	16	26	406	3,191
	Yangcheon-gu	17.4	2.88	18	3	558	4,550
	Gangseo-gu	41.43	6.85	20	13	601	4,663
	Guro-gu	20.12	3.32	15	10	588	4,597
	Geumcheon-gu	13.02	2.15	10	3	362	2,962
	Yeongdeungpo-gu	24.53	4.05	18	33	575	4,837
Dongjak-gu	16.35	2.7	15	9	525	3,549	
Gwanak-gu	29.57	4.89	21	3	635	5,181	
Seocho-gu	47	7.77	18	10	532	3,672	
Gangnam-gu	39.5	6.53	22	14	802	5,375	
Songpa-gu	33.87	5.6	26	13	709	4,164	
Gangdong-gu	24.59	4.06	18	9	567	5,003	

The transformation of Korea in line with industrialization, urbanization and lifestyle since 1960 causing waste generation has been increasing rapidly, giving rise to various environmental problems. This condition triggered Korea to develop legislation and policies relating to the

¹⁶⁶ http://stat.seoul.go.kr/Seoul_System5.jsp?stc_cd=412.

¹⁶⁷ Sohyun Park, *Healthy Urban Planning in Seoul, Korea*, 8th Global Conference on Health Promotion, Helsinki, 2013.

¹⁶⁸ Chosun Media The Chosun Ilbo, “Seoul's Population Drops Below 10 Million for First Time in 25 Years,” *The Chosun Ilbo*, February 14, 2014, http://english.chosun.com/site/data/html_dir/2014/02/14/2014021400795.html.

environment in the 1970s.¹⁶⁹ Recorded in 1981, the city waste was 37,716 tons per day, 1.77 kg per capita and increased to 57 518 tons per day in 1985. This was relatively high compared to other developed countries such as Germany (0.7 kg) and Japan (0.8 kg). This condition was exacerbated by the waste that produced a strong greenhouse gas such as burning briquettes from coal ash which was the motor of industrialization and from the culture of traditional Korean food consumption that provided large amounts of food with characteristics of containing high humidity.¹⁷⁰

2. Waste Regulation

Since waste management became public works in the 1960s, the Korean government recognized the importance to set it into policy. It is marked by the passing of the Waste Cleaning Act in 1961, which regulated the processing of waste and excreta. This was followed by the Environmental Pollution Prevention Act, which regulated the waste industry in 1963. It was regulated in more detail by the Environmental Protection Law in 1977 which is related to environmental and sanitation regulations including waste treatment. Until 1980, waste management policy focused on the collection of garbage without thinking about the waste dumps so much. Waste was dumped carelessly into a lower place like a river. As a result, the environmental pollutions such as odor pollution, pollution of rivers and groundwater due to leachate produced by landfills in urban landfills that did not adopt the sanitary landfill occurred.

This condition eventually led to the unification of Waste Cleaning Act and the Environmental Pollution Prevention Act into Waste Control Act in 1986. In this law, the concept of "recycling" was introduced and adopted for the first time. Recycling policy was then set independently in 1992 through a law on the saving of corporate resources and facilitation of

¹⁶⁹ Ministry of Strategy and Finance, Republic of Korea, *2011 Modularization of Korea's Development Experience Volume-based Waste Fee System in Korea: Knowledge Sharing Program* (Seoul: GPO, 2012), 22.

¹⁷⁰ *Ibid.*, 23.

recycling, followed by the Promotion of Installation of Waste Disposal Facilities and Assistance, etc., to Adjacent Areas Act to curb NIMBY effect in 1995.¹⁷¹ The main streams of laws on waste management in Korea can be seen on the Figure 4.10.

The establishment of all these laws changed the direction of waste management policy that focused on waste collection into the "proper management of generated waste," and the introduction of the "optimum generation and treatment of waste" as a primary objective. Currently waste management in Korea has been heading in the direction of circular economy as prevention and recycling of waste generated after that are not sufficient to overcome limits of multi-consumption society. Korea has achieved very high recycling rate during last 10 years through the EPR (Extended-Producer's Responsibility).¹⁷²

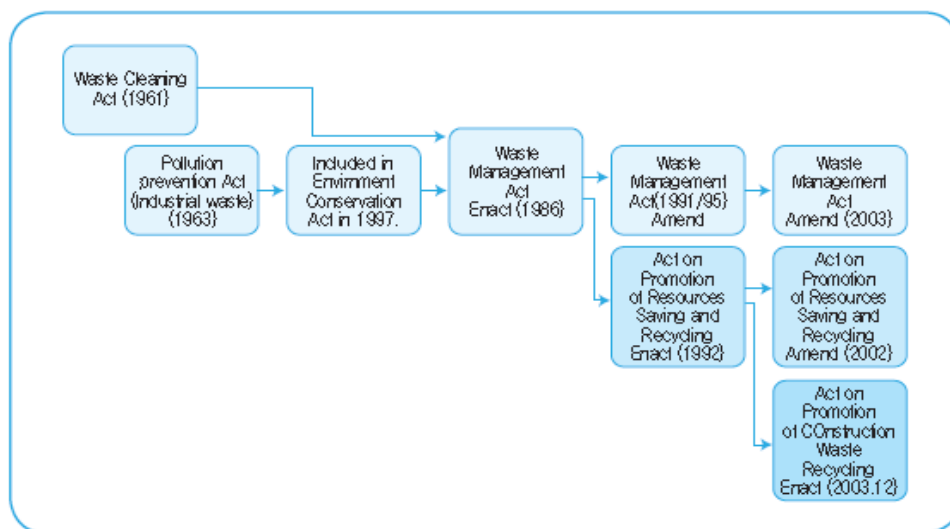


Figure 4.10 Main Stream of Laws on Waste from 1960 to 2000

2.1. Waste Control Act (1986)

Waste Control Act is the basic legal framework related to waste management policies in Korea. The law sets the basic things such as common definitions, classification of waste, the responsibility of the central and regional government, and community; waste management plan;

¹⁷¹ Ibid., 38.

¹⁷² Ibid., 24.

standards and rules of waste dumps; waste management license for the waste management business as well as sanctions. Regulation on the reduction of municipal solid waste is added in the Waste Management Act as a basis for the Volume-Based Waste Fee System in 1995.¹⁷³

2.2. Act on the Promotion of Resources Saving and Recycling (1992)

This law is a basic framework for the recycling of waste and regulating in more detail the roles and responsibilities of the government, private business, and citizens to promote recycling, mechanism of recycling, and waste charge system.¹⁷⁴

3. Types of Waste

Based on article 2 of Waste Control Act, the term “wastes” means such materials as garbage, burnt refuse, sludge, waste oil, waste acid, waste alkali, and carcasses of animals, which have become no longer useful for human life or business activities. The waste is then explained in other articles which classify waste by its source and volume into general waste, industrial waste, and hazardous waste or "special industrial waste". The first amendment of Waste Control Act in 1991 changed again the classification of waste, they were divided into general municipal waste, general industrial waste, and designated waste. In 1995, it was classified based on its harmfulness into general municipal waste, general industrial waste, and designated waste. Industrial waste was further divided into 'general industrial waste' which consisted of non-hazardous such as slag, ash, dust, and construction waste, 'designated waste' which consisted of toxic wastes such as waste acid, waste alkali, waste oil, waste organic solvent and so on. Waste management during this period had a dual system based on who the waste producer. The local government was responsible for the final disposal of municipal waste, while the discharger of industrial waste was responsible for the final disposal of it. Outline of waste classification in

¹⁷³ Ibid., 39.

¹⁷⁴ Ibid., 39.

Korea can be seen in Figure 4.11, while the concept and classification of waste can be seen in Table 4.6.

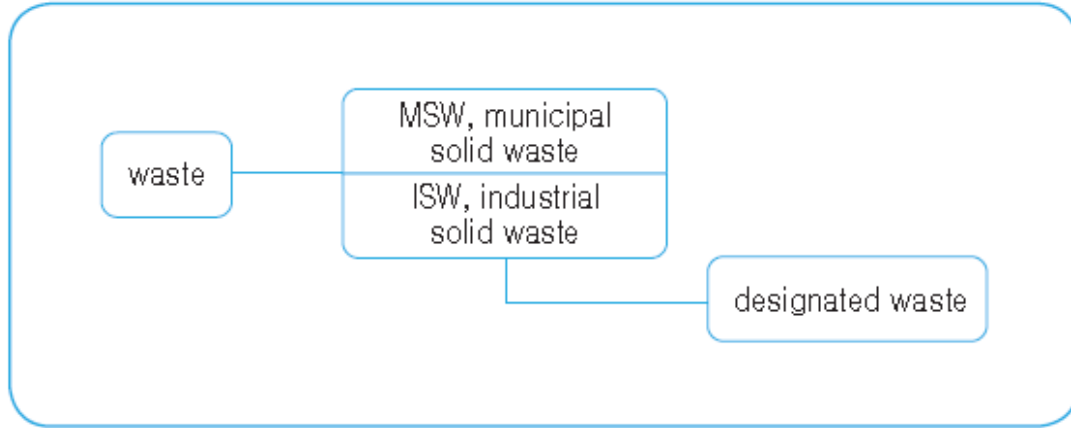


Figure 4.11 Waste Classification Outline in Korea¹⁷⁵

Table 4.6 Concept and Classification of Waste

Waste	
Municipal Solid Wastes	Industrial Solid Wastes
Among materials which became of no use for human life, any wastes other than industrial wastes	<p>General Industrial Wastes Any wastes generated from places of business with discharging facilities installed and managed in accordance with the Clean Air Conservation Act, the Water Quality and Ecosystem Conservation Act, or the Noise and Vibration Control Act or other places of business which discharge more than 300kg of wastes a day.</p> <p>Construction Wastes Construction wastes discharged in excess of 5 tons</p> <p>Designated Wastes Waste oil and waste acid, which may cause damage to the environment, or wastes produced by health and medical institutes, animal hospitals, research and inspection agencies that may cause damage to the human body, such as an extirpated parts of human bodies and the corpses of laboratory animals.</p>

4. Waste Management

4.1. Solid Waste Management

The initial scheme of waste dumps in the Korean method of garbage collection started at the household scale. Garbage hauler carried human-powered wheel carriage then took the waste

¹⁷⁵ Ibid., 40.

from household trash that was usually placed in front of the house. The waste was then discharged into the places that functioned as a garbage dump as the neighboring fields or paddies. Worsening environmental damage caused by economic growth in Korea triggered the introduction of the concept of recycling at the end of 1970 which was then introduced locally in the early 1980s. However, there were various constraints such as the availability of inadequate facilities, lack of specific standard regulation, and conflicts between waste haulers. This condition raised public skepticism, which in turn pushed the Korean Government to require the recycling as mandatory accompanied by a fine of KRW 1,000,000 for violations in 1991.¹⁷⁶ Although it had yet to be rooted in the culture of the community, this policy succeeded in increasing the number of waste recycling thus reducing the amount of waste disposed of in landfills. This was followed by the increasing number of incineration so that the waste dumped in landfills continues to decline. Waste dumps in landfills; recycling, incineration and composting were the primary method of solid waste disposal in Korea.¹⁷⁷ The treatment process of solid waste in Korea can be seen in Figure 4.12, while the number of discharges in each solid waste treatment in Korea from the year 1987 to 1994 is shown in Table 4.7.

¹⁷⁶ Ibid., 23.

¹⁷⁷ Ibid., 41.

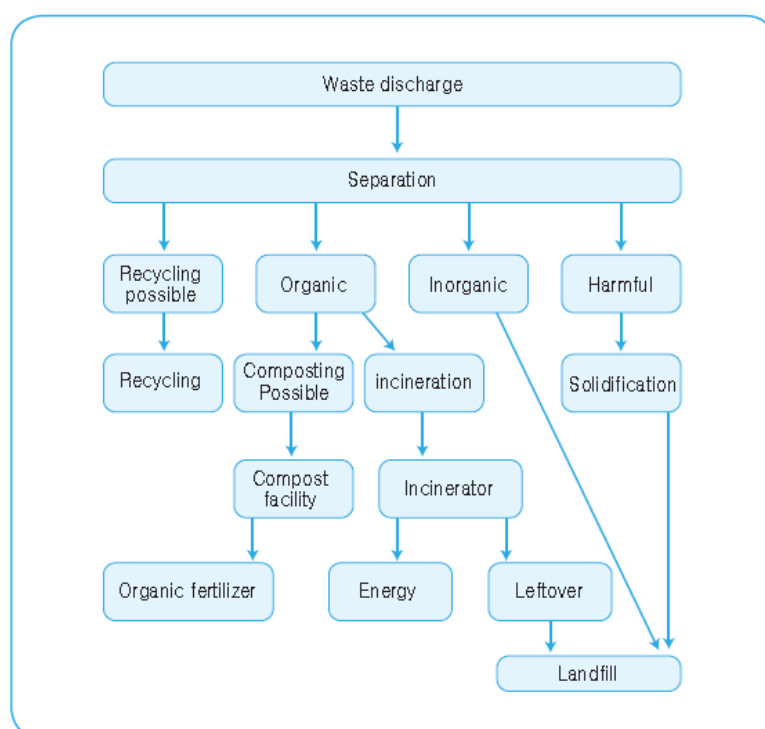


Figure 4.12 Waste Treatment Process

Table 4.7 Municipal Waste Treatment 1987-1994

(Unit: ton/day)

	Total	Landfill	Incineration	Recycle	Etc.
1987	67,031 (100)	63,411 (94.6)	1,508 (2.3)	1,562 (2.3)	550 (0.8)
1988	72,897 (100)	69,248 (95.0)	1,210 (1.7)	1,759 (2.4)	680 (0.9)
1989	78,021 (100)	73,294 (93.9)	1,478 (1.9)	2,275 (2.9)	974 (1.3)
1990	83,962 (100)	78,106 (93.0)	1,493 (1.8)	3,900 (4.6)	463 (0.6)
	Total	Landfill	Incineration	Recycle	Etc.
1991	92,246 (100)	82,411 (89.2)	1,497 (1.6)	6,786 (7.4)	1,552 (1.7)
1992	75,096 (100)	66,965 (89.2)	1,132 (1.5)	5,912 (7.9)	1,087 (1.4)
1993	62,940 (100)	54,227 (86.2)	1,480 (2.4)	7,233 (11.4)	-
1994	58,118 (100)	47,166 (81.2)	2,025 (3.5)	8,927 (15.3)	-

Although the recycle process contributed significantly, this condition did not necessarily solve the problem as the consequences of limited availability of landfills while the age of the landfills that was also limited. At that time, Nanjido Island was converted into landfills for rapid urbanization in Seoul in 1978. Seoul waste continued to increase from 9,300 tons in 1977 to 16,000 tons in 1981. Since 1993, 92 million tons of solid waste disposed to Nanjido landfills, produced mountains of trash with more than 90 meters high. Sudokwon landfills later built in 1992 to expand the area of the discharge; however the age of the landfills was expected to be shorter due to the increase in the amount of waste.¹⁷⁸ This condition directed the Korean government's policy to seek expansion of landfills. Yet huge challenges aroused from the community with the rising phenomenon of NIMBYism in the 1990s. This was compounded by the waste management budget increased dramatically as shown in Table 4.8. This has made the Korean government tougher to think what kind of effort to solve the problems. At the end, it only came to the idea of reducing waste of resources instead of focusing on environmentally friendly and efficient waste management. This paradigm changed the government policy in controlling demand for waste services by concentrating on waste reduction aiming at waste minimization toward a Sustainable Waste Management. This policy produced various policy products such as Deposit-Refund System (1993), Waste Charge System (1993), Packaging Waste Reduction (1993), Controls on the use of disposable goods (1994) and Volume-Based Waste Fee (1995) as shown in Table 4.9.

Management responsibility was no longer the responsibility of the government / local government but a shared responsibility among waste stakeholders. This policy change was followed by economic incentives in waste management. The efforts of the waste management campaign successfully increased public awareness in the form of participation in reducing the

¹⁷⁸ Ibid., 32.

volume of waste.¹⁷⁹ It was followed by legalization, the "Promotion of Installation of Waste Disposal Facilities and Assistance etc. to Adjacent Areas Act "in 1995 to reduce the impact of NIMBYism.¹⁸⁰

Table 4.8 Waste Management Budget 1987-1995
(unit: million KRW)

year	Total	State budget	Local budget	Loan	Municipal bond	Etc	Fee collection
1987	155,726	500	145,590	9,636	-	-	16,319
1988	153,041		146,361	3,094	-	2,777	28,118
1989	191,111	1,012	187,131	30	-	2,329	32,726
1990	377,379	119	370,504	6,756	-	-	53,182
1991	507,799	5,320	492,673	4,616	200	4,690	71,633
1992	662,127	3,750	606,867	3,565	7,711	40,234	78,790
1993	888,571	9,682	861,442	-	7,833	9,560	97,095
1994	1,049,935	19,818	984,159	-	11,811	34,147	142,800
1995	1,173,971	41,242	1,105,791	-	26,867	71	

Table 4.9 Paradigm Shift of Waste Policy as of 1990

	Before 1990	1990s
Paradigm	Service Supply	Demand Control
Goal	Expand treatment facility	Reduce waste, increase recycling
Tools	Fixed rate waste fee	<ul style="list-style-type: none"> - Volume-based Waste Fee system - Deposit-Refund System - Waste Charge System - Packaging Waste Reduction - Control over the use of disposable Goods

4.2. Volume-Based Waste Fee System

Volume-Based Waste Fee System (VBWFS) is one of the waste volume reduction policy introduced by the Korean Government. VBWFS can be said to be an excellent example of a market-based environmental policy with polluter pays basis. It was first introduced in January 1,

¹⁷⁹ Ibid., 37.

¹⁸⁰ Ibid., 37.

1995. The main objective of the system was to impose VBWFS waste treatment costs for each pollutant based on the amount of waste generated, and to provide a free collection service for recycling waste, so as to encourage a decrease in waste generation at the source. Type of waste managed through VBWFS solid waste were households, commercial sectors, small businesses and office buildings that were similar with household waste. This system applied for producer of less than 300 kg per day waste. Producer of large-scale waste or more than 300 kg per day was not affected by the VBWFS mechanism and they would be charged special rules for managing their own wastes. Target and source of waste VBWFS can be seen in Table 4.10. This volume-based standard is excluded for coal briquette ashes, bulky wastes, and recyclable materials. The VBFWS requires the VBFWS target to do waste separation by using standard garbage bags to dispose the waste that is sold by the local government. Waste that cannot be disposed of by this mechanism is broken glass and styrofoam. These mechanisms include food waste which then is usually composted or reused. Collection time is set by the local government, taking into account the local conditions, usually between 3 am - 5 am.^{181 182}

¹⁸¹ Ibid., 64.

¹⁸² Ibid., 17.

Table 4.10 The Waste Sources and Target of VBWFS

Sources		Types of Waste	Use of VBWF bag	Cost born by source	Note
Household & Small Commercial Sector	Urban Area	Household waste	Yes	Yes	
		Recyclable Waste	No	No	Paper, etc.
		Bulky Waste	No	Yes	Furniture, etc.
		Construction/ Demolition Debris	No	Yes	
	Food Waste	No	Yes		
	Rural Village	Agricultural Waste	No	Yes	Village-level VBWF
Large Commercial Sector/Small Business		Manufacture Solid Wastetype	No	Yes	300Kg/day

*Note : 1) Although coal ash discarded from households is collected for free, fees are levied for coal ash collection from business activities at some floriculture and farming houses etc. that still continue to use briquettes.
 2) Agriculture and fishing villages, other than “eup” and “myeon” located in county areas, are villages with low population densities.
 3) For large-scale retailers etc. that produce more than 300kg of waste per day, worksites are not subject to obligatory use of the Volume-based Waste Fee System of waste bags. However, application of the Volume-based Waste Fee System is recommended even for sites that produce more than 300kg per day for waste that is similar to municipal waste.

The VBWFS makes a major contribution in the reduction of waste generation and the recycling of municipal solid waste. In the first year of its implementation, VBWFS managed to lose 17.8% of waste generation and increased the recycling by 26%, with an average reduction of municipal solid waste generation by 13.96% from the year 1994 to 2004 nationally. The waste generation reduction data in Korea from year 1994 to 2000 can be seen in Table 4.11.¹⁸³

Table 4.11 Waste Generation 1994-2000

(Unit: ton/day)

	1994	1995	1996	1997	1998	1999	2000
Total	58,118	47,774	49,925	47,895	44,583	45,614	46,438
Recycle	8,927	11,306	13,085	13,907	15,566	17,394	19,167
Final treatment	49,191	36,468	36,840	33,988	29,017	28,220	27,271
Generation per capita	1.33	1.07	1.11	1.05	0.96	0.97	0.98

Source : Korea Environmental Policy Bulletin, Volume-based Waste Fee System (2003)

¹⁸³ Ibid., 92.

VBWFS also managed to increase Public Awareness of the Environment. This was not only a change of people's mindset but also behavior to reduce the production of waste, for example the use of shopping basket, reducing food waste, removing packing materials when purchasing, and reducing disposable materials. More excitingly, the independent local government fund for waste management grew from 14% in 1994 to 29.6% in 2000. The availability of funds was possible to improve the cleanliness and services also was safe enough to dispose of the waste sanitarly.¹⁸⁴

F. The Multi-Stakeholder Partnership of Solid Waste Management

1. The central government (Ministry of Environment)

At first, the problem of waste management was managed by the Environment agency that since 1994 has been upgraded to the Ministry of Environment. Department of Waste and Resources is a special department in the Ministry of Environment in charge of waste management issues. This department is divided into four specific departments; they are the Department of Waste Policy, Department of Waste Management, Department of Waste Facilities, and Department of Waste Recycling. The Ministry of Environment cooperates with the Ministry of Home Affairs and local governments, carrying out the collection / disposal of general waste. The other environmental works are performed by related departments. The Ministry for Energy and Resources is responsible for the collection / disposal of general waste in the special dry areas. The Ministry of Home Affairs is responsible for installation / management of public toilets. The management of organs extracted in hospitals is done by the Minister of Health and Social Affairs,

¹⁸⁴ Ibid., 95.

while the transport / treatment / disposal of nuclear materials and radioactive waste is done by the Ministry of Science and Technology.¹⁸⁵

2. Local Governments

As in Jakarta, Seoul's waste management is also the responsibility of local governments. Prior to the enactment of Waste Control Act and local autonomy in the 1990s, local governments had been responsible for waste management in the region based on Waste Cleaning Act. The government had big intervention in helping local governments dealing with waste cases such as disputes between local governments and solid waste garbage stakeholders. The enactment of Waste Control Act and local autonomy minimized the central government intervention in waste-handling areas. The process of the waste management became more difficult being added to various waste management standards that must have been followed. However, this brought a positive impact to the local governments so as to better understand the community needs and improve waste management services for the region.¹⁸⁶ In addition, local governments were also responsible for establishing local government departments in charge of waste management specifically related to VBWFS, secure waste budget, enact ordinances, and manufacture and distribute waste bags.¹⁸⁷

3. Private Waste Business (Disposal, Treatment, Recycle)

In managing waste, the Korean government under the Ministry of Environment also opens the opportunity for private waste business to contribute on waste management. Based on Waste Control Act, only waste business under the license can operate the waste management. They involve in disposal, treatment and recycling activities. Private waste business has responsibilities to do related to the method and standard of facility to operate their business that

¹⁸⁵ Ibid., 84.

¹⁸⁶ Ibid., 86.

¹⁸⁷ Ibid., 87.

is always inspected by Minister of Environment. They also need to regularly report their activities, if they cannot fulfill the standard that are prescribed; the Minister of Environment has a right to panelize them. Based on Article 25, Waste Control Act, the types and scope of waste management business shall be classified as follows:¹⁸⁸

- a. Waste collection and transportation business: A business collecting waste and transporting it to a disposal facility;
- b. Interim waste disposal business: a business specializing in interim disposal such as incineration, physical, chemical or biological treatments, or other methods approved and publicly announced by the Minister of Environment as safe ways of interim treatment of waste (excluding the recycling of household waste) with facilities for interim treatment of waste;
- c. Terminal waste disposal business: a business specializing in final waste disposal such as landfills (excluding discharging into the sea) with facilities for final waste disposal; and
- d. General waste management business: a business performing interim disposal and terminal waste disposal with facilities for waste disposal.

4. Citizens

The citizens in the cycle of solid waste management in Seoul are connected to every individual who produces solid waste generation. The source of waste can be household or commercial industry. The citizens play an important role in waste recycling and waste reduction. The civil groups such as environmental NGO also play an important role in raising public awareness such as on VBWFS. NGO and other civic groups take part in the process of VBWFS from designing, implementation until the evaluation process of the system. The citizens also play supervision function of the system itself, reporting to the government related to any violation,

¹⁸⁸ The Korea Legislation Research Institute Republic of Korea. Waste Control Act No. 8789: *Policy Paper 2007* (Seoul: GPO, 2007), Article 25.

complaint and suggestion for the municipal solid waste management system, and being responsible to root the system.¹⁸⁹

5. Communication: the Key Factor to Decrease NIMBYism in VBWFS Case

VBWFS can be considered as one of successful programs of waste management in Korea. This is due to good partnerships and initiatives that were built by the government and other stakeholders. Each stakeholder involved from the very beginning of the program were able to build mutual communication among stakeholders that was identified as the key factor for the success of VBWFS. It showed in the interview with Jae-kon Shim, Chief of Waste Policy Department, Ministry of Environment in 1990. He said:

The strong will and persistence of administration is necessary since adjustment of conflicting interests is not easy. Therefore, communication is the most important. If you cannot persuade the public, the policy cannot be successful no matter how good and well prepared it is. We spent much time to explain and promote the VBWF System to government officers and the public. A successful policy is like a hot seller. You have to sell the policy to the people by convincing them.¹⁹⁰

The multi-stakeholders involvement from designing, implementation, monitoring and evaluation of the program were a brilliant strategy to tackle NIMBYism. It created a sense of belonging between each stakeholder, so that they felt they had responsibilities to involve actively for guaranteeing the success of the VBWFS. It was not an instant process. It took some years before it institutionalized in the people's behavior and ensured the sustainability. It faced some resistances from the society at the very beginning of the program. Looking at the process of the

¹⁸⁹ Ministry of Strategy and Finance, Republic of Korea, *2011 Modularization of Korea's Development Experience Volume-based Waste Fee System in Korea: Knowledge Sharing Program* (Seoul: GPO, 2012), 87-89

¹⁹⁰ Ibid, 49.

VBWFS, it has four major stages, namely preparation stage, introduction stage, and institutionalization stage. The detail of each process is elaborated as follows:

a. Preparation Stage¹⁹¹

1. Feasibility Study on the VBWFS

a) Research Study on the VBWFS (September 1992-January 1993)

The research had been conducted by The Korean Society of Waste Management. The research output was a policy report including legal amendment, enforcement plan, expected effect, and ripple effect. Researchers worked hand in hand with related agencies on the legal amendment, the National Assembly, public persuasion and promotion, and government employees in the trial and actual enforcement of the VBWFS.

b) Collecting opinions of various people (February 1993-August 1993)

Public hearings and meetings were held to collect public opinion regarding the introduction of VBWFS with each of its stakeholder.

c) Soliciting opinions of related agencies in the VBWFS bag.

2. Pilot Operation

a) Enforcement policy and notice of demonstration plan (November 1993)

The National Waste Disposal Plan institutionalized the enforcement policy of the VBWFS of which trial was starting in 1994. It was invited different reactions from many groups of people. The local government as the manager of VBWFS was interested in policy enforcement method. However, the social environmental groups were more interested in evaluating the said trial and the public-opinion-making process on VBWFS.

¹⁹¹ Ibid, 47-51

b) Trial of VBWFS (April 1-December 31, 1994)

The trial was done gradually, starting from 1-3 regions and had been expanded until 89 regions in 1994. There was pessimism over the beginning of the trial, but in the end the effort showed that waste was successfully reduced by 40% and recyclable materials were increased until 100%.

c) Interim assessment by private sector (August 1994)

The success of VBWFS trial was followed by the forming of private assessment team consisting of the most opposed civic groups. It was launched in April 27, 1994 with 165 monitoring agents. At the beginning, many of them didn't contribute to the monitoring, but they were surprised with the effect of the VBWFS. Later on, they participated more actively and even succeeded to increase their awareness to follow the VBWFS.

d) Workshop of relevant civil servants (June 1994)

A workshop for relevant civil servants was held on June 1994 to introduce to them and train them about VBWFS system.

3. Preparation for Nationwide Implementation

a) Establishment of supplementary guidelines (September 8, 1994)

The establishment of supplementary guideline was done in September 8, 1994, to give more details to the implementation of VBWFS.

b) Assessment and Final Inspection

Joint inspection was done to check the preparation and to resolve problems by the relevant government members and Ministry of Home Affairs on December 20-23, 1994.

c) Public Promotion

Public promotion was done through the combinations of marketing mix from mass media, using famous celebrities as endorsers, public hearings, workshops of the relevant civil servants, seminars, and symposiums.

b. Introduction Stage¹⁹²

1. Nationwide Implementation of VBWFS on January 1, 1995

In January 1, 1995, the VBWFS was applied nationally; it was the first VBWFS in the world. Problems arose because of the limited time preparation for the local governments, and people did not realize that VBWFS is already implemented so that they still continued with their previous behavior to litter waste as much as possible.

2. Nationwide of the 100 Days of VBWFS (April 1995)

The 100 days of VBWFS implementation was marked by organizing the conference on the 100 days of the Volume-based Waste Fee System in April 20, 1995. The conference resulted in a report evaluation of Ministry of Environment that was done by civic groups and experts.

3. Workshop of the Relevant Civil Servants (November 1995)

A workshop for civil servants related to the VBWFS was held to collect opinions, give commendation, also to encourage and motivate them.

c. Institutionalization Stage¹⁹³

1. Analysis on the First Year of the VBWFS (1996)

The first year of the VBWFS showed the decreasing of waste by 27%, and increasing of recyclable materials by 35%. It successfully reduced the amount of waste, increased recyclable materials, also saved KRW 300 billion and 661,157 m² of landfills. It also accepted good reception from International world as being headlined by the Japan media.

¹⁹² Ibid, 53.

¹⁹³ Ibid, 54-60.

a) Positive Assessment

The VBWFS had improved people's awareness of the environment and changed people's mindset to use the eco friendly products.

b) Negative Assessment

The negative assessment came from the decrease in willingness to observe the VBWFS by the private assessment teams, insufficient support of the public sector and inadequate recycling infrastructure.

c) Supplementary Measures of Improvements

The raising awareness of VBWFS was a crucial issue in the first year of the VBWFS implementation. The nationwide assessment was conducted by each VBWFS stakeholder. It was intended to reduce workplace waste, rationalize the waste bag price, and crackdown illegal waste dumping.

2. Analysis on the Second Year of the VBWFS (1997)

The second year of VBWFS implementation successfully lowered the amount of waste generated by 30% and fastened the increasing of discharged recyclable materials. It enabled to save KRW 450 billion and 826,446 m² of landfills. It also reached positive attention and evaluation from many world leaders in the OECD Environmental Performance Evaluation, in Paris, in April 1997.

a) Positive Assessment

The generated municipal waste decreased by 29.4% and discharged recyclable materials increased by 28.5%. The ratio of recycling and incineration increased, while of the reclaimed wastes decreased. The generated waste of each person reached the same level as that of advanced countries.

b) Negative Assessment

A similar problem as in the first year of the implementation occurred.

c) Supplementary Measures and Improvements

The supplementary measures and improvements are directed to prevent illegal waste dumping in vulnerable areas, to measure the proper management for harmful municipal wastes, and to improve the effectiveness of local governments cleaning affairs.

G. The Multi-Stakeholder’s Roles in Seoul’s Waste Management Based on Waste Management Act

Table 4.12 The Multi-Stakeholder’s Roles Based on Waste Management Acts¹⁹⁴

Stakeholders	Roles	Remarks
Government	<ol style="list-style-type: none"> 1. The State shall ascertain the current status of controlled wastes discharged and disposed of and take such measures as may be necessary for properly disposing of such wastes. 2. The State shall support the research and development of technology for waste disposal, provide the Special Metropolitan City Mayor and each Metropolitan City Mayor, Do governor or the Do governor of a Special Self-Governing Province. 	Article 4 Act No. 8789 2007 on Waste Control
	The Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu may commission a person designated by Ordinance of the Ministry of Environment to install or manage the multi-regional waste disposal facilities and charge expenses for disposal of waste	Article 5 and 6 Act No. 8789 2007 on Waste Control
	The Minister of Environment shall prepare a master plan for nationwide	Article 10 Act No. 8789 2007 on

¹⁹⁴ The Korea Legislation Research Institute Republic of Korea. Waste Control Act No. 8789: *Policy Paper 2007* (Seoul: GPO, 2007); The Korea Legislation Research Institute Republic of Korea. The Promotion of Saving and Recycling of Resources Act No. 8957: *Policy Paper 2008* (Seoul: GPO, 2008); summarized by author.

Stakeholders	Roles	Remarks
	waste management once every ten years for proper management of wastes generated throughout the country.	Waste Control
	The Minister of Environment, the Mayor/Do governor, and the head of Si/Gun/Gu shall conduct researches on the current status of wastes in order to secure basic data and information necessary for establishing policies on wastes.	Article 11 Act No. 8789 2007 on Waste Control
	The Minister of Environment shall determine and publicly notify the official testing method for wastes	Article 12 Act No. 8789 2007 on Waste Control
	The Minister of Environment may recommend a local government that intends to determine the service charge rate	Article 14 Act No. 8789 2007 on Waste Control
	Minister of Environment or the relevant Mayor/Do governor can revoke waste business license:	Article 27 Act No. 8789 2007 on Waste Control
	If the Minister of Environment or the relevant Mayor/Do governor may impose a penalty surcharge of the suspension of business	Article 28 Act No. 8789 2007 on Waste Control
	Ministry of Environment determined the standard prescription to install and manage waste disposal and incineration facilities	Article 29 and 31 Act No. 8789 2007 on Waste Control
	Ministry of Environment inspected the waste disposal facility and people who built the facility by an inspection agency	Article 30 Act No. 8789 2007 on Waste Control
	The Minister of Environment shall establish and administer an agency (hereafter referred to as the “electronic information processing center”) to manage the details of waste delivery and receipt transmitted under Article 18 (3) and (4) or Article 24-3 (2), and	Article 45 Act No. 8789 2007 on Waste Control

Stakeholders	Roles	Remarks
	information transmitted under paragraph (3) (hereinafter referred to as “electronic information”).	
	The State may grant local governments subsidies or aid to people who installing waste disposal facilities within the limit of its budget.	Article 56 and 57 Act No. 8789 2007 on Waste Control
	(1) The State shall devise policies to facilitate the recycling of resources.	Article 4 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
	The Minister of Environment shall formulate a basic plan for the recycling of resources	Article 7 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
	(1) The Government may recommend matters necessary for the saving of resources, control of generation of wastes and recycling of wastes to producers and consumers or guide them. (2) The ministers of competent ministries may cooperate with the heads of the relevant central administrative organs in the dissemination of equipment and technology for saving of resources and control of generation of wastes.	Article 8 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
	The government shall devise measures necessary to mitigate the impacts of goods, etc. on the environment	Article 8-2 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
	The Minister of Environment shall establish detailed standards for the quality of packing materials of goods, method of packing and standards for the annual reduction of packing materials made of synthetic resin	Article 9 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
Local Government	The Do governor of a Special Self-Governing Province or the head of	Article 4 Act No. 8789 2007 on

Stakeholders	Roles	Remarks
	<p>Si/Gun/Gu (the head of Gu refers to the head of an autonomous Gu shall ascertain the current state of wastes discharged and disposed of within his/her jurisdiction; install and operate waste disposal facilities so that wastes can be properly disposed of; implement affairs relating to waste management efficiently by improving the methods for collecting, transporting and disposing of wastes and raising the skills and quality of the persons in charge, and shall also make efforts to remind residents and business operators of the importance of protecting environment and to restrain the production of wastes.</p> <p>(2) The Special Metropolitan City Mayor and each Metropolitan City Mayor or Do governor shall provide the heads of Sis/Guns/Gus with technical and financial assistance to help them fulfill their accountabilities and shall also coordinate waste management services within their jurisdiction.</p>	Waste Control
	<p>The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu may order the owner, occupant, or manager of a parcel of land or building to take necessary measures in compliance with the relevant Municipal Ordinance of the competent local government, if the owner, occupant, or manager fails to keep clean the property</p>	Article 8 Act No. 8789 2007 on Waste Control
	<p>The Mayor/Do governor, the head of Si/Gun/Gu shall prepare a basic plan and action plan for proper management of wastes generated from his/her jurisdiction once every ten years</p>	<p>Article 9 Act No. 8789 2007 on Waste Control</p> <p>Article 7 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources</p>
	<p>The Do governor of a Special Self-Governing Province or the head of</p>	Article 14 Act No. 8789 2007 on

Stakeholders	Roles	Remarks
	<p>Si/Gun/Gu shall be responsible for the collection, transportation, and disposal of household wastes discharged within his/her jurisdiction</p> <p>The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu may collect service charges for collection, transportation, and disposal of household waste.</p>	Waste Control
	<p>The Mayor/Do governor or the head of Si/Gun/Gu may enter into agreements with the persons who discharge wastes within his/her jurisdiction or an organization of such persons in order to restrain the production of wastes and properly dispose of such wastes.</p>	Article 16 Act No. 8789 2007 on Waste Control
	<p>Local governments shall assume the duty to devise and implement policies for the facilitation of the recycling of resources</p>	Article 4 Act No. 8957 Year 2008 on the Promotion of Saving and Recycling of Resources
Waste Business Sectors	<p>Engage in the collection, transportation, or disposal of wastes (hereinafter referred to as “waste management business”) and wishes to treat controlled wastes</p>	Article 25 Act No. 8789 2007 on Waste Control
	<p>Anyone who has installed and operates a waste disposal facility shall maintain and manage such facility in compliance with the guidelines for the management</p>	Article 31 Act No. 8789 2007 on Waste Control
<p>Citizens (Business Sector and People)</p> <p>Owners, occupants, and managers of a parcel of land or a building from which household wastes are discharged (hereinafter referred to as “household waste producers”),</p>	<p>Dispose of wastes or reduce the quantity of wastes in a manner that can avoid any harm to conservation of the living environment</p>	Article 15 Act No. 8789 2007 on Waste Control

Stakeholders	Roles	Remarks
“commercial waste producers”)		
	<p>Every citizen shall keep natural and living environments clean and make efforts to reduce and recycle wastes.</p> <p>Every owner, occupant, and manager of a parcel of land or a building shall make efforts to keep the parcel of land or building owned, occupied, or managed by him/her clean, and shall implement general clean-up in accordance with the plan prepared by the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu.</p>	Article 7 Act No. 8789 2007 on Waste Control
	<p>Household waste producers separate the household wastes which they are unable to dispose of themselves from other wastes and store them separately according to the types.</p> <p>Household reduce the production of food waste by submit a plan for reducing the production of such food wastes and a report on the results of disposal of such wastes to the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu</p>	Article 15 Act No. 8789 2007 on Waste Control

H. The Implementation of Multi-Stakeholder’s Roles in Seoul’s Waste Management Based on Stakeholder Analysis

The stakeholder analysis is conducted based on seven steps by Freeman and Mitchel, using the primary data from online news archives related to waste management in Seoul.

1. The Stakeholder Map of The Seoul Waste Management

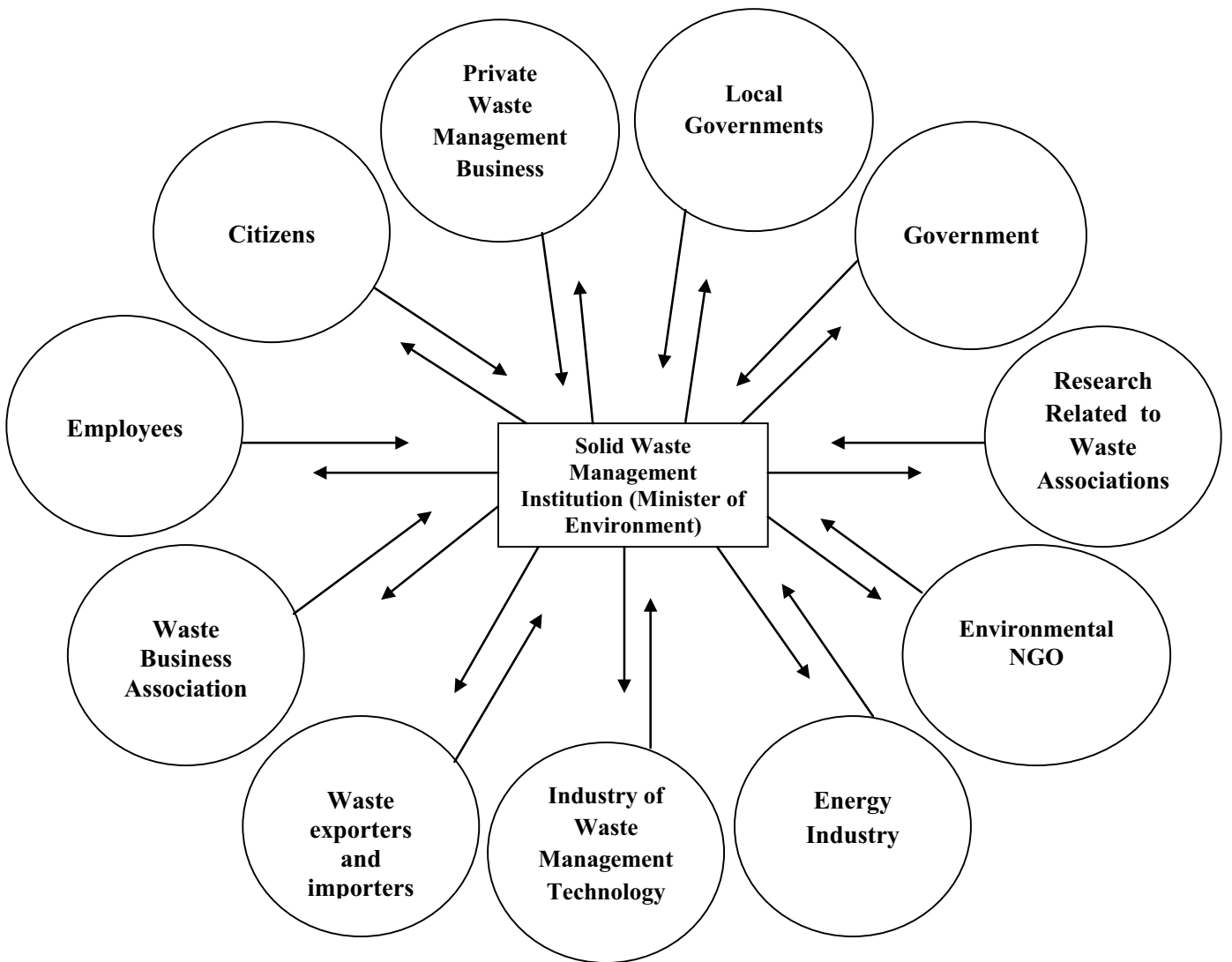


Figure 4.13 Stakeholders Map of The Seoul Solid Waste Management System Institution

2. The Chart of Specific Stakeholders

Government

Ministry of Environment

Ministry of Energy and Resources

Ministry of Home Affairs

Ministry of Health

Ministry of Science and

Technology

Private Waste Business Sectors

Private Waste Disposal Company

Private Waste Recycling Company

Private Waste Treatment Company

Environmental NGO

Local Government

Gu

Dong

Tong

Ban

Citizens

Waste Producers (Household)

Waste Producers (Commercial
Business)

Waste Business Association

Mutual Aid Association for Waste

Management Business

Korea Landfill Association

Figure 4.14 Specific Stakeholders in Seoul Solid Waste Management Institution

3. Identify the Stakes of Stakeholders

Government

To contribute to environmental conservation and the enhancement of people’s quality of life by minimizing the production of waste and properly disposing of generated waste.

Private Waste Sector

Profit oriented

Citizens (commercial)

Keeping their health and environment clean; profit oriented and efficiency

Environmental NGO

Raising public awareness on waste management

Local Government

To contribute to environmental conservation and the enhancement of people’s quality of life by minimizing the production of waste and properly disposing of generated waste.

Citizens (household)

Keeping their health and their environment clean

Waste Business Association

Research and development cooperation between private waste management businesses also aid management

Figure 4.15 “Stakes” of Selected Stakeholders in Seoul Solid Waste Management Institution

The implications of the first three stages lead to the role set identification of each stakeholder which can be combined into the “stakeholder role set”, as seen on the figure 4.16.

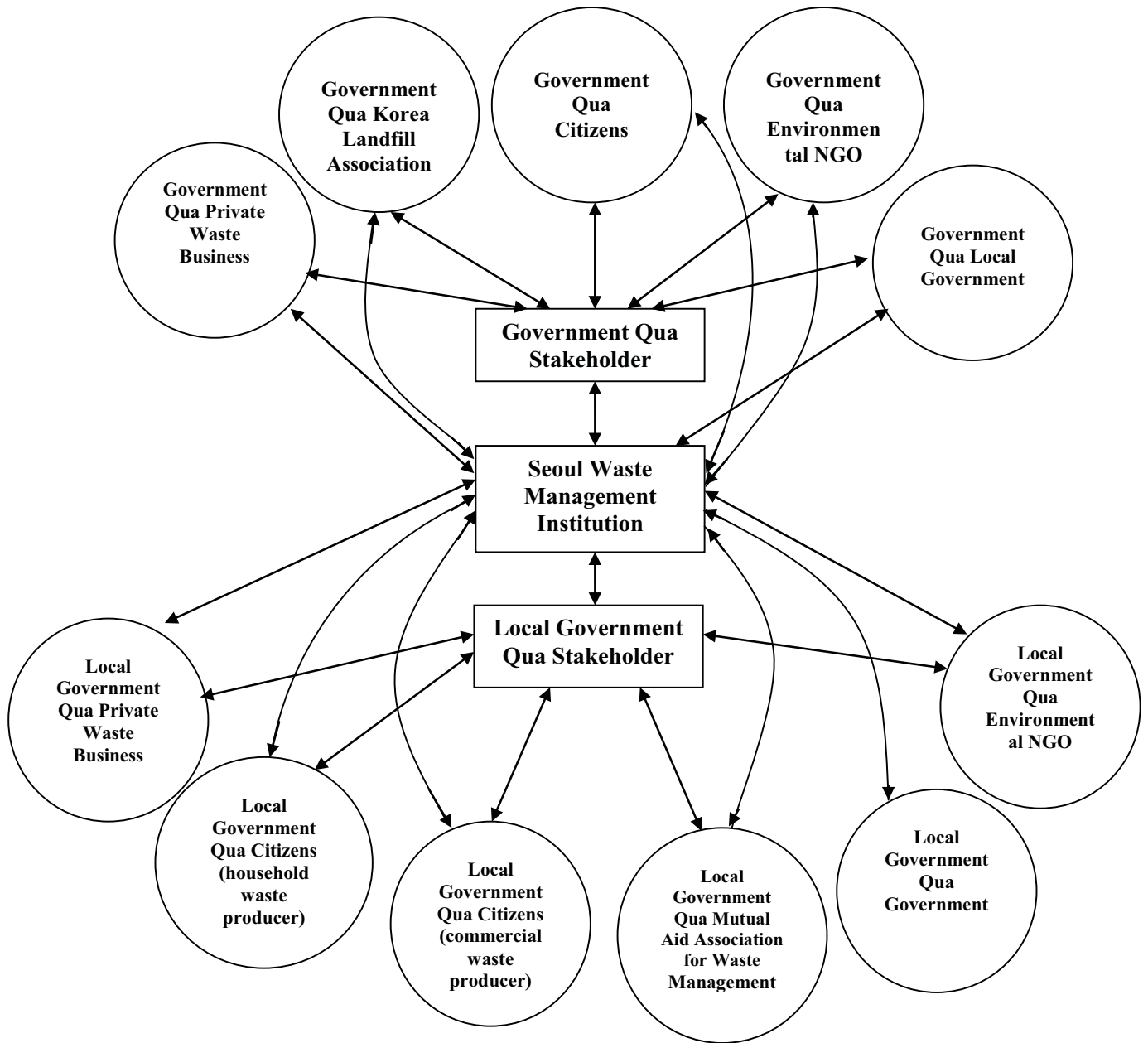


Figure 4.16 Possible Stakeholder Role Set of Seoul Solid Waste Management Institution

4. The Power Versus Stake Grid

The power “real world” versus stake grid can be seen on the Figure 4.17.

Power Stake	Formal or Voting	Economic	Political
Equity	Citizens (Household) Mutual Aid Association for Waste Management Business Korea Landfill Association Resources Recycling Association		
Economic		Citizens (Commercial) Private Waste Disposal Business Private Waste Recycling Business Private Waste Treatment Business	
Influencers	Government Local Government Citizens		Government Local Government Korea Landfill Association Resources Recycling Association

Figure 4.17 Seoul Waste Management System Stakeholder Grids

5. The Process Levels Stakeholder Analysis

Like Jakarta's waste management, to analyze the process levels among the stakeholders in Seoul's waste management can be completed at three phases. The first is portfolio analysis. The activity to select the waste business partner to operate the waste management activity can be examined with portfolio analysis. The private waste business sector that has an urge to join in Seoul's solid waste management can send their portfolio to the government through the Minister of Environment also to the local government administrators, accompanied with the documents as prescribed by Minister of Environment. Afterwards, the government or local governments of Seoul will decide whether the waste business company has a right to hold a license to operate or not. The portfolio analysis has a strong weakness related to the verification of prospective private waste business partner, because usually a company will expose a good track record in order to get the said right. However, Korean government through Minister of Environment seems to have a good anticipation to handle this issue. The waste management that was built by the government is a more centralized structure with a very rigid guideline. This means that private waste business has to follow the rules and standards that are already set by the government.¹⁹⁵ This action can be analyzed through the second analysis tool that is strategic review.

The government established a very rigid guideline, rules and standards that forced every private waste management business to work under government control. These are very good legitimacy and power, owned by the government to protect its internal condition that fit its aim enough. On the other hand, "the blame stakeholder" can easily occur if the private waste management business cannot perform and report its activity as has prescribed by the

¹⁹⁵ The Korea Legislation Research Institute Republic of Korea. Waste Control Act No. 8789: *Policy Paper 2007* (Seoul: GPO, 2007), Article 9, 30, 31, 51.

government. To avoid this situation, the private waste business will then have to run the company more carefully.

The third analysis is environmental scanning. This process shows in every activity that gains any positive development for Seoul's waste management. The foundations of Korea Landfill Association, mutual aid association for waste management business, and Resources Recycling Association are the example of research and development activities in Korea's waste management especially in Seoul.¹⁹⁶ The other example is the coming of innovation from commercial business industry as part of their Corporate Social Responsibility (CSR) activity as did by Conrad Hotel, Seoul. They send the used soaps that usually end up in garbage cans to Soap Cycling Center, an NGO based in Hong Kong, and then recycle them into new soaps. As a part of Hilton Worldwide Initiative, the recycled soaps are later on distributed to help children who are living in unprivileged or disaster-hit regions. Conrad Seoul was reported having donated 411.5 kilograms of soaps since January 2014 to support the project.¹⁹⁷

6. Conducting a Transactional Level

The transactional level is thought of as a very important activity. Seoul's waste management referring to the case of VBWFS in Korea has shown the involvement of every stakeholder in waste management to run a waste management policy. The civic groups such as citizens, environmental NGO and commercial business sector also the private waste management business were involved in designing the VBWFS up to the implementation and evaluation. The government made meetings attended by the stakeholders for asking their contribution, that's why the waste management policy in Korea was more of a joint movement, from raising awareness to waste managing. The movement succeeded to change Korean people's behavior and mindset

¹⁹⁶ The Korea Legislation Research Institute Republic of Korea. Waste Control Act No. 8789: *Policy Paper 2007* (Seoul: GPO, 2007).

¹⁹⁷ Kim Se-jeong, Conrad Recycles Used Soap to Help People in Asia, *The Korea Times*, August 1, 2014, http://koreatimes.co.kr/www/news/culture/2014/07/135_162108.html.

from performing merely the policy enforcement to the awareness to protect the environment. However, the Seoul’s waste management system also brought implication of a failed transactional level between government and citizens. In order to avoid an illegal littering by the municipalities in the public trash cans as the result of the introduction of VWBFS, the Soul Metro Government ordered to reduce the amount of the trash cans in the streets. As the public waste from take away drinking shops such as coffee increases, the street users disposed improperly their waste on the street more often.¹⁹⁸ The Korea Times stated “As of January, approximately 4,476 trash cans were scattered around the city. In 1995, almost 7,600 were in place. In 2007, the number was down to 3,700, but it bounced back to 4.476 in 2014.”¹⁹⁹ As the implication, the smaller number of trash cans successfully reduced the illegal dumping and also showed the failed transaction between the Seoul’s waste management and the citizens who used the Seoul streets who were not accommodated by the policy. This brought strewn garbage to the streets due to the lack of trash cans.

7. Determine the Stakeholder Management Capability

High	Process	<ul style="list-style-type: none"> • Local Government • Mutual Aid Association for Waste Management Business 	<ul style="list-style-type: none"> • Government • Korea Landfill Association • Resources Recycling Association
		Private Waste Business	Citizens
Low		High	Low

Figure 4.18 Stakeholders Management Capability of Seoul Solid Waste Management Instution

¹⁹⁸ Baek Byung-yeul and Kwon Ji-youn “Trash blights Seoul's streets,” *Korea Times*, April 22, 2014, http://www.koreatimes.co.kr/www/news/culture/2014/09/399_155865.html.

¹⁹⁹ Kim Se-jeong , “Seoul Streets to Have 1,500 More Trash Cans”, *Korea Times*, August 1, 2014, http://koreatimes.co.kr/www/news/nation/2014/08/113_162176.html.

8. Analyze the Dynamics of Stakeholders

Dormant	Discretionary Private Waste Management Business Sector	Demanding	Dominant
Dangerous	Dependent Citizens Korea Landfill Association Resources Recycling Association	Definitive Government Local Government Mutual Aid Association for Waste Management Business	Non-stakeholder

Figure 4.19 Stakeholders Typology for Selected Stakeholders of Seoul Solid Waste

Management Institution

From this analysis, Seoul specific waste management stakeholder produced almost the same categories of stakeholder as in the Jakarta counterpart. Private waste is identified as discretionary stakeholder in the low salient class. The citizenship along with the Korea Landfill Association, and Resources Recycling Association are classified as dependant stakeholders of the moderate salient class. The last is Government (central), Local Government, plus the Mutual Aid Association for Waste Management Business, categorized as definitive stakeholder with the three attributes (power, legitimacy, and urgency).

CHAPTER V

RESEARCH CONCLUSION AND RECOMMENDATIONS

The waste management profile in Jakarta is not that different from the waste management profile in Seoul around 20 years ago, when open dumping was still a problem. Even though the waste management in Jakarta now has also already moved to the circular economy like the one in Seoul, but the smoothly step has yet to pass and forces Jakarta to move to the next level, instead of leaving the burden of the previous problems. This is also coupled to the lack of detailed regulations, poor waste management system and law enforcement. This proves that Indonesia, especially Jakarta, did not yet really realize and understand the waste problem so that it cannot prepare and plan the good system and strategy for the city regions. Also, it can be a signal for not being serious in finding the solution to Jakarta's waste problem. The high rate of violation towards the waste management policy is another proof. This is so different from what has been implemented in Seoul, of which processes are done one by one. The Korean government shows the real action to think about the solution for Seoul's waste problems. However, the Seoul government has to maintain carefully the success of its system as well. The recent trend of urban people's lifestyle has to be considered in making a better improvement in the system and it needs some adjustment with recent situation. The ideal plan and strategy have to be dynamic so that a new innovation can be managed to improve the policy and the implementation.

From the research finding of the effectiveness of multi-stakeholder's roles in the implementation of solid waste management policy in Jakarta and Seoul, it is concluded that both cities still have ineffectiveness of multi-stakeholder's roles in the implementation of solid waste management policy in different degrees.

The ineffectiveness in Jakarta is arrived from the policy and its implementation. The policy still lacks detailed rigid guidelines and standards, so it causes the lack of enforcement in the implementation. The dos and donts, the rights and responsibilities that have been set in the policy are still too general so it gives rooms for violation. This ends with the absence of multi-stakeholder's relationship and the presence of communication problem among its stakeholders.

Like Jakarta, Seoul also still has ineffectiveness in maximizing the roles of stakeholders, but only in the policy implementation level. The government overlooks their stakeholders. The garbage problem in the Seoul streets is a proof that the Seoul government does not consider much people in the street and also their lifestyle as one of the stakeholder in Seoul's solid waste management.

The ineffectiveness of stakeholders' roles made the NIMBYism hard to handle even though the Law No. 18 year 2008 already regulated it. Some other regulations were even more specific, such as Government Regulation No. 81 Year 2012. However, there are many cases that prove the challenges in spite of these laws. One example is the protest from the surrounding people who lived near the landfill like in Bantar Gebang case; there were complaints from people who suffered as the result of other people's behaviour who litter waste improperly and so on. This is different from the Korean case where there have been solutions to minimize the NIMBYism. One of the efforts of the Korean Government is the Promotion of Installation of Waste Disposal Facilities and Assistance, etc., to Adjacent Areas Act to curb NIMBY effect in 1995. The most remarkable accomplishment was the good management strategy of the Korean Government to implement the VBWFS. It involved all stakeholders, from design to the implementation and evaluation of the policy. It underlined that communication was the key factor of VBWFS success story.

From those points of view, some research recommendations are addressed to both of the city governments.

Jakarta City Government:

1. Establishing a specific guideline and standard related to the planning and implementation of every waste activity (can be a new policy as well).
2. Founding an independent body that specifically works hand in hand with the society to supervise the implementation of waste management.
3. Involving the waste stakeholders from the very beginning of each policy implementation so it can form a mindset to change people's behavior.
4. Considering making a specific communication strategy to its stakeholder related to NIMBYism issue.
5. Considering the establishment of a new policy to regulate NIMBYism as the result of waste management activity.
6. Strong leadership is totally needed to achieve the aim of the waste management so it will minimize the violation of the law from the government officers as implementors and from any other stakeholders.
7. Volume-based waste fee system is totally recommended to be applied in Indonesia, especially in Jakarta.

Seoul City Government:

1. Considering the recent situation of urban people's lifestyle to improve the waste management policy.
2. Considering the increasing of street waste and the need to find the right solution to tackle it
3. Considering the presence of new stakeholders in Korea's solid waste management such as the street users so the comprehensive waste management system can be established properly.

4. Establishing the new law that regulates the rights and responsibilities of street users related to the waste dump in the street.
5. Considering the adoption of new innovation to handle new waste problems without sacrificing the system that already runs well.

Finally, this research still lacks deeper analysis in the particular case of solid waste management portrait in both cities, because the selected primary data only came from news archives. It results in a very general view of the research finding and lacking of analysis process. The further research with the same topic and analysis tool, but with a different research method, is strongly encouraged to be conducted in order to give different perspectives, such as through a case study with interviews as the source of primary data.

Last but not least, it is expected that this research about the effectiveness of multi-stakeholder's roles in the implementation of solid waste management policy in Jakarta and Seoul becomes a good donation to further improvement in both cities. Furthermore, it is expected that it can be a good scientific material and contribute to the knowledge development.

APPENDIXES

APPENDIX A

Law Number 18 Year 2008 on Waste Management: Policy

UNDANG-UNDANG REPUBLIK INDONESIA

NOMOR 18 TAHUN 2008 TENTANG PENGELOLAAN SAMPAH

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

Menimbang :

- a. bahwa penambahan penduduk dan perubahan pola konsumsi masyarakat menimbulkan bertambahnya volume, jenis, dan karakteristik sampah yang semakin beragam;
- b. bahwa pengelolaan sampah selama ini belum sesuai dengan metode dan teknik pengelolaan sampah yang berwawasan lingkungan sehingga menimbulkan dampak negatif terhadap kesehatan masyarakat dan lingkungan;
- c. bahwa sampah telah menjadi permasalahan nasional sehingga pengelolaannya perlu dilakukan secara komprehensif dan terpadu dari hulu ke hilir agar memberikan manfaat secara ekonomi, sehat bagi masyarakat, dan aman bagi lingkungan, serta dapat mengubah perilaku masyarakat;
- d. bahwa dalam pengelolaan sampah diperlukan kepastian hukum, kejelasan tanggung jawab dan kewenangan Pemerintah, pemerintahan daerah, serta peran masyarakat dan dunia usaha sehingga pengelolaan sampah dapat berjalan secara proporsional, efektif, dan efisien;
- e. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a, huruf b, huruf c, dan huruf d perlu membentuk Undang-Undang tentang Pengelolaan Sampah;

Mengingat : Pasal 5 ayat (1), Pasal 20, Pasal 28H ayat (1), dan Pasal 33 ayat (3) dan ayat (4)

Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;

Dengan Persetujuan Bersama

DEWAN PERWAKILAN RAKYAT REPUBLIK INDONESIA

dan

PRESIDEN REPUBLIK INDONESIA

MEMUTUSKAN:

Menetapkan : UNDANG-UNDANG TENTANG PENGELOLAAN SAMPAH.

BAB I

KETENTUAN UMUM

Bagian Kesatu

Definisi

Pasal 1

Dalam Undang-Undang ini yang dimaksud dengan:

1. Sampah adalah sisa kegiatan sehari-hari manusia dan/atau proses alam yang berbentuk padat.
2. Sampah spesifik adalah sampah yang karena sifat, konsentrasi, dan/atau volumenya memerlukan pengelolaan khusus.
3. Sumber sampah adalah asal timbulan sampah.
4. Penghasil sampah adalah setiap orang dan/atau akibat proses alam yang menghasilkan timbulan sampah.
5. Pengelolaan sampah adalah kegiatan yang sistematis, menyeluruh, dan berkesinambungan yang meliputi pengurangan dan penanganan sampah.
6. Tempat penampungan sementara adalah tempat sebelum sampah diangkut ke tempat daur ulang, pengolahan, dan/atau tempat pengolahan sampah terpadu.
7. Tempat pengolahan sampah terpadu adalah tempat dilaksanakannya kegiatan pengumpulan, pemilahan, penggunaan ulang, daur ulang, pengolahan, dan pemrosesan akhir sampah.

8. Tempat pemrosesan akhir adalah tempat untuk memroses dan mengembalikan sampah ke media lingkungan secara aman bagi manusia dan lingkungan.
9. Kompensasi adalah pemberian imbalan kepada orang yang terkena dampak negatif yang ditimbulkan oleh kegiatan penanganan sampah di tempat pemrosesan akhir sampah.
10. Orang adalah orang perseorangan, kelompok orang, dan/atau badan hukum.
11. Sistem tanggap darurat adalah serangkaian kegiatan yang dilakukan dalam rangka pengendalian yang meliputi pencegahan dan penanggulangan kecelakaan akibat pengelolaan sampah yang tidak benar.
12. Pemerintah pusat yang selanjutnya disebut Pemerintah adalah Presiden Republik Indonesia yang memegang kekuasaan pemerintahan Negara Republik Indonesia sebagaimana dimaksud dalam Undang-Undang Dasar Negara Republik Indonesia Tahun 1945.
13. Pemerintah daerah adalah gubernur, bupati, atau walikota, dan perangkat daerah sebagai unsur penyelenggara pemerintahan daerah.
14. Menteri adalah menteri yang menyelenggarakan urusan pemerintahan di bidang pengelolaan lingkungan hidup dan di bidang pemerintahan lain yang terkait.

Bagian Kedua

Ruang Lingkup

Pasal 2

- (1) Sampah yang dikelola berdasarkan Undang-Undang ini terdiri atas:
 - a. sampah rumah tangga;
 - b. sampah sejenis sampah rumah tangga; dan
 - c. sampah spesifik.
- (2) Sampah rumah tangga sebagaimana dimaksud pada ayat (1) huruf a berasal dari kegiatan sehari-hari dalam rumah tangga, tidak termasuk tinja dan sampah spesifik.

- (3) Sampah sejenis sampah rumah tangga sebagaimana dimaksud pada ayat (1) huruf b berasal dari kawasan komersial, kawasan industri, kawasan khusus, fasilitas sosial, fasilitas umum, dan/atau fasilitas lainnya.
- (4) Sampah spesifik sebagaimana dimaksud pada ayat (1) huruf c meliputi:
- a. sampah yang mengandung bahan berbahaya dan beracun;
 - b. sampah yang mengandung limbah bahan berbahaya dan beracun;
 - c. sampah yang timbul akibat bencana;
 - d. puing bongkaran bangunan;
 - e. sampah yang secara teknologi belum dapat diolah; dan/atau
 - f. sampah yang timbul secara tidak periodik.
- (5) Ketentuan lebih lanjut mengenai jenis sampah spesifik di luar ketentuan sebagaimana dimaksud pada ayat (4) diatur dengan peraturan menteri yang menyelenggarakan urusan pemerintahan di bidang lingkungan hidup.

BAB II

ASAS DAN TUJUAN

Pasal 3

Pengelolaan sampah diselenggarakan berdasarkan asas tanggung jawab, asas berkelanjutan, asas manfaat, asas keadilan, asas kesadaran, asas kebersamaan, asas keselamatan, asas keamanan, dan asas nilai ekonomi.

Pasal 4

Pengelolaan sampah bertujuan untuk meningkatkan kesehatan masyarakat dan kualitas lingkungan serta menjadikan sampah sebagai sumber daya.

BAB III

TUGAS DAN WEWENANG PEMERINTAHAN

Bagian Kesatu

Tugas

Pasal 5

Pemerintah dan pemerintahan daerah bertugas menjamin terselenggaranya pengelolaan sampah yang baik dan berwawasan lingkungan sesuai dengan tujuan sebagaimana dimaksud dalam Undang-Undang ini.

Pasal 6

Tugas Pemerintah dan pemerintahan daerah sebagaimana dimaksud dalam Pasal 5 terdiri atas:

- a. menumbuhkembangkan dan meningkatkan kesadaran masyarakat dalam pengelolaan sampah;
- b. melakukan penelitian, pengembangan teknologi pengurangan, dan penanganan sampah;
- c. memfasilitasi, mengembangkan, dan melaksanakan upaya pengurangan, penanganan, dan pemanfaatan sampah;
- d. melaksanakan pengelolaan sampah dan memfasilitasi penyediaan prasarana dan sarana pengelolaan sampah;
- e. mendorong dan memfasilitasi pengembangan manfaat hasil pengolahan sampah;
- f. memfasilitasi penerapan teknologi spesifik lokal yang berkembang pada masyarakat setempat untuk mengurangi dan menangani sampah; dan
- g. melakukan koordinasi antarlembaga pemerintah, masyarakat, dan dunia usaha agar terdapat keterpaduan dalam pengelolaan sampah.

Bagian Kedua

Wewenang Pemerintah

Pasal 7

Dalam penyelenggaraan pengelolaan sampah, Pemerintah mempunyai kewenangan:

- a. menetapkan kebijakan dan strategi nasional pengelolaan sampah;
- b. menetapkan norma, standar, prosedur, dan kriteria pengelolaan sampah;
- c. memfasilitasi dan mengembangkan kerja sama antardaerah, kemitraan, dan jejaring dalam pengelolaan sampah;
- d. menyelenggarakan koordinasi, pembinaan, dan pengawasan kinerja pemerintah daerah dalam pengelolaan sampah; dan
- e. menetapkan kebijakan penyelesaian perselisihan antardaerah dalam pengelolaan sampah.

Bagian Ketiga

Wewenang Pemerintah Provinsi

Pasal 8

Dalam menyelenggarakan pengelolaan sampah, pemerintahan provinsi mempunyai kewenangan:

- a. menetapkan kebijakan dan strategi dalam pengelolaan sampah sesuai dengan kebijakan Pemerintah;
- b. memfasilitasi kerja sama antardaerah dalam satu provinsi, kemitraan, dan jejaring dalam pengelolaan sampah;
- c. menyelenggarakan koordinasi, pembinaan, dan pengawasan kinerja kabupaten/kota dalam pengelolaan sampah; dan
- d. memfasilitasi penyelesaian perselisihan pengelolaan sampah antarkabupaten/antarkota dalam 1 (satu) provinsi.

Bagian Keempat

Wewenang Pemerintah Kabupaten/Kota

Pasal 9

- (1) Dalam menyelenggarakan pengelolaan sampah, pemerintahan kabupaten/kota mempunyai kewenangan:

- a. menetapkan kebijakan dan strategi pengelolaan sampah berdasarkan kebijakan nasional dan provinsi;
 - b. menyelenggarakan pengelolaan sampah skala kabupaten/kota sesuai dengan norma, standar, prosedur, dan kriteria yang ditetapkan oleh Pemerintah;
 - c. melakukan pembinaan dan pengawasan kinerja pengelolaan sampah yang dilaksanakan oleh pihak lain;
 - d. menetapkan lokasi tempat penampungan sementara, tempat pengolahan sampah terpadu, dan/atau tempat pemrosesan akhir sampah;
 - e. melakukan pemantauan dan evaluasi secara berkala setiap 6 (enam) bulan selama 20 (dua puluh) tahun terhadap tempat pemrosesan akhir sampah dengan sistem pembuangan terbuka
 - f. yang telah ditutup; dan
 - g. menyusun dan menyelenggarakan sistem tanggap darurat pengelolaan sampah sesuai dengan kewenangannya.
- (2) Penetapan lokasi tempat pengolahan sampah terpadu dan tempat pemrosesan akhir sampah sebagaimana dimaksud pada ayat (1) huruf d merupakan bagian dari rencana tata ruang wilayah kabupaten/kota sesuai dengan peraturan perundang-undangan.
- (3) Ketentuan lebih lanjut mengenai pedoman penyusunan sistem tanggap darurat sebagaimana dimaksud pada ayat (1) huruf f diatur dengan peraturan menteri.

Bagian Kelima

Pembagian Kewenangan

Pasal 10

Pembagian kewenangan pemerintahan di bidang pengelolaan sampah dilaksanakan sesuai dengan ketentuan peraturan perundangundangan.

BAB IV
HAK DAN KEWAJIBAN

Bagian Kesatu

Hak

Pasal 11

- (1) Setiap orang berhak:
- a. mendapatkan pelayanan dalam pengelolaan sampah secara baik dan berwawasan lingkungan dari Pemerintah, pemerintah daerah, dan/atau pihak lain yang diberi tanggung jawab untuk
 - b. itu;
 - c. berpartisipasi dalam proses pengambilan keputusan, penyelenggaraan, dan pengawasan di bidang pengelolaan sampah;
 - d. memperoleh informasi yang benar, akurat, dan tepat waktu mengenai penyelenggaraan pengelolaan sampah;
 - e. mendapatkan perlindungan dan kompensasi karena dampak negatif dari kegiatan tempat pemrosesan akhir sampah; dan
 - f. memperoleh pembinaan agar dapat melaksanakan pengelolaan sampah secara baik dan berwawasan lingkungan.
- (2) Ketentuan lebih lanjut mengenai tata cara penggunaan hak sebagaimana dimaksud pada ayat (1) diatur dengan peraturan pemerintah dan peraturan daerah sesuai dengan kewenangannya.

Bagian Kedua

Kewajiban

Pasal 12

- (1) Setiap orang dalam pengelolaan sampah rumah tangga dan sampah sejenis sampah rumah tangga wajib mengurangi dan menangani sampah dengan cara yang berwawasan lingkungan.

(2) Ketentuan lebih lanjut mengenai tata cara pelaksanaan kewajiban pengelolaan sampah rumah tangga dan sampah sejenis sampah rumah tangga sebagaimana dimaksud pada ayat (1) diatur dengan peraturan daerah.

Pasal 13

Pengelola kawasan permukiman, kawasan komersial, kawasan industri, kawasan khusus, fasilitas umum, fasilitas sosial, dan fasilitas lainnya wajib menyediakan fasilitas pemilahan sampah.

Pasal 14

Setiap produsen harus mencantumkan label atau tanda yang berhubungan dengan pengurangan dan penanganan sampah pada kemasan dan/atau produknya.

Pasal 15

Produsen wajib mengelola kemasan dan/atau barang yang diproduksinya yang tidak dapat atau sulit terurai oleh proses alam.

Pasal 16

Ketentuan lebih lanjut mengenai tata cara penyediaan fasilitas pemilahan sampah sebagaimana dimaksud dalam Pasal 13, tata cara pelabelan atau penandaan sebagaimana dimaksud dalam Pasal 14, dan kewajiban produsen sebagaimana dimaksud dalam Pasal 15 diatur dengan peraturan pemerintah.

BAB V

PERIZINAN

Pasal 17

(1) Setiap orang yang melakukan kegiatan usaha pengelolaan sampah wajib memiliki izin dari kepala daerah sesuai dengan kewenangannya.

(2) Izin sebagaimana dimaksud pada ayat (1) diberikan sesuai dengan ketentuan yang ditetapkan Pemerintah.

- (3) Ketentuan lebih lanjut mengenai tata cara memperoleh izin sebagaimana dimaksud pada ayat (1) diatur dengan peraturan daerah sesuai dengan kewenangannya.

Pasal 18

- (1) Keputusan mengenai pemberian izin pengelolaan sampah harus diumumkan kepada masyarakat.
- (2) Ketentuan lebih lanjut mengenai jenis usaha pengelolaan sampah yang mendapatkan izin dan tata cara pengumuman sebagaimana dimaksud pada ayat (1) diatur dengan peraturan daerah.

BAB VI

PENYELENGGARAAN PENGELOLAAN SAMPAH

Bagian Kesatu

Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga

Pasal 19

Pengelolaan sampah rumah tangga dan sampah sejenis sampah rumah tangga terdiri atas:

- a. pengurangan sampah; dan
- b. penanganan sampah.

Paragraf Kesatu

Pengurangan sampah

Pasal 20

- (1) Pengurangan sampah sebagaimana dimaksud dalam Pasal 19 huruf a meliputi kegiatan:
- a. pembatasan timbulan sampah;
 - b. daur ulang sampah; dan/atau
 - c. pemanfaatan kembali sampah.
- (2) Pemerintah dan pemerintah daerah wajib melakukan kegiatan sebagaimana dimaksud pada ayat (1) sebagai berikut:

- a. menetapkan target pengurangan sampah secara bertahap dalam jangka waktu tertentu;
 - b. memfasilitasi penerapan teknologi yang ramah lingkungan;
 - c. memfasilitasi penerapan label produk yang ramah lingkungan;
 - d. memfasilitasi kegiatan mengguna ulang dan mendaur ulang; dan
 - e. memfasilitasi pemasaran produk-produk daur ulang.
- (3) Pelaku usaha dalam melaksanakan kegiatan sebagaimana dimaksud pada ayat (1) menggunakan bahan produksi yang menimbulkan sampah sesedikit mungkin, dapat diguna ulang, dapat didaur ulang, dan/atau mudah diurai oleh proses alam.
- (4) Masyarakat dalam melakukan kegiatan pengurangan sampah sebagaimana dimaksud pada ayat (1) menggunakan bahan yang dapat diguna ulang, didaur ulang, dan/atau mudah diurai oleh proses alam.
- (5) Ketentuan lebih lanjut mengenai pengurangan sampah sebagaimana dimaksud pada ayat (1), ayat (2), ayat (3), dan ayat (4) diatur dengan peraturan pemerintah.

Pasal 21

- (1) Pemerintah memberikan:
- a. insentif kepada setiap orang yang melakukan pengurangan sampah; dan
 - b. disinsentif kepada setiap orang yang tidak melakukan pengurangan sampah.
- (2) Ketentuan lebih lanjut mengenai jenis, bentuk, dan tata cara pemberian insentif dan disinsentif sebagaimana dimaksud pada ayat (1) diatur dengan peraturan pemerintah.

Paragraf Kedua

Penanganan Sampah

Pasal 22

- (1) Kegiatan penanganan sampah sebagaimana dimaksud dalam Pasal 19 huruf b meliputi:

- a. pemilahan dalam bentuk pengelompokan dan pemisahan sampah sesuai dengan jenis, jumlah, dan/atau sifat sampah;
 - b. pengumpulan dalam bentuk pengambilan dan pemindahan sampah dari sumber sampah ke tempat penampungan sementara atau tempat pengolahan sampah terpadu;
 - c. pengangkutan dalam bentuk membawa sampah dari sumber dan/atau dari tempat penampungan sampah sementara atau dari tempat pengolahan sampah terpadu menuju ke tempat pemrosesan akhir;
 - d. pengolahan dalam bentuk mengubah karakteristik, komposisi, dan jumlah sampah; dan/atau
 - e. pemrosesan akhir sampah dalam bentuk pengembalian sampah dan/atau residu hasil pengolahan sebelumnya ke media lingkungan secara aman.
- (2) Ketentuan lebih lanjut mengenai penanganan sampah sebagaimana dimaksud pada ayat (1) diatur dengan atau berdasarkan peraturan pemerintah atau dengan peraturan daerah sesuai dengan kewenangannya.

Bagian Kedua

Pengelolaan Sampah Spesifik

Pasal 23

- (1) Pengelolaan sampah spesifik adalah tanggung jawab Pemerintah.
- (2) Ketentuan lebih lanjut mengenai pengelolaan sampah spesifik sebagaimana dimaksud pada ayat (1) diatur dengan peraturan pemerintah.

BAB VII

PEMBIAYAAN DAN KOMPENSASI

Bagian Kesatu

Pembiayaan

Pasal 24

- (1) Pemerintah dan pemerintah daerah wajib membiayai penyelenggaraan pengelolaan sampah.
- (2) Pembiayaan sebagaimana dimaksud pada ayat (1) bersumber dari anggaran pendapatan dan belanja negara serta anggaran pendapatan dan belanja daerah.
- (3) Ketentuan lebih lanjut mengenai pembiayaan sebagaimana dimaksud pada ayat (1) dan ayat (2) diatur dengan peraturan pemerintah dan/atau peraturan daerah.

Bagian Kedua

Kompensasi

Pasal 25

- (1) Pemerintah dan pemerintah daerah secara sendiri-sendiri atau bersama-sama dapat memberikan kompensasi kepada orang sebagai akibat dampak negatif yang ditimbulkan oleh kegiatan penanganan sampah di tempat pemrosesan akhir sampah.
- (2) Kompensasi sebagaimana dimaksud pada ayat (1) berupa:
 - a. relokasi;
 - b. pemulihan lingkungan;
 - c. biaya kesehatan dan pengobatan; dan/atau
 - d. kompensasi dalam bentuk lain.
- (3) Ketentuan lebih lanjut mengenai dampak negatif dan kompensasi sebagaimana dimaksud pada ayat (1) dan ayat (2) diatur dengan peraturan pemerintah.
- (4) Ketentuan lebih lanjut mengenai pemberian kompensasi oleh pemerintah daerah sebagaimana dimaksud pada ayat (1) diatur dengan peraturan pemerintah dan/atau peraturan daerah.

BAB VIII

KERJA SAMA DAN KEMITRAAN

Bagian Kesatu

Kerja Sama antardaerah

Pasal 26

- (1) Pemerintah daerah dapat melakukan kerja sama antarpemerintah daerah dalam melakukan pengelolaan sampah.
- (2) Kerja sama sebagaimana dimaksud pada ayat (1) dapat diwujudkan dalam bentuk kerja sama dan/atau pembuatan usaha bersama pengelolaan sampah.
- (3) Ketentuan lebih lanjut mengenai pedoman kerja sama dan bentuk usaha bersama antardaerah sebagaimana dimaksud pada ayat (1) diatur dalam peraturan menteri yang menyelenggarakan urusan pemerintahan dalam negeri.

Bagian Kedua

Kemitraan

Pasal 27

- (1) Pemerintah daerah kabupaten/kota secara sendiri-sendiri atau bersama-sama dapat bermitra dengan badan usaha pengelolaan sampah dalam penyelenggaraan pengelolaan sampah.
- (2) Kemitraan sebagaimana dimaksud pada ayat (1) dituangkan dalam bentuk perjanjian antara pemerintah daerah kabupaten/kota dan badan usaha yang bersangkutan.
- (3) Tata cara pelaksanaan kemitraan sebagaimana dimaksud pada ayat (2) dilakukan sesuai dengan peraturan perundang-undangan.

BAB IX

PERAN MASYARAKAT

Pasal 28

- (1) Masyarakat dapat berperan dalam pengelolaan sampah yang diselenggarakan oleh Pemerintah dan/atau pemerintah daerah.
- (2) Peran sebagaimana dimaksud pada ayat (1) dapat dilakukan melalui:

- a. pemberian usul, pertimbangan, dan saran kepada Pemerintah dan/atau pemerintah daerah;
 - b. perumusan kebijakan pengelolaan sampah; dan/atau
 - c. pemberian saran dan pendapat dalam penyelesaian sengketa persampahan.
- (3) Ketentuan lebih lanjut mengenai bentuk dan tata cara peran masyarakat sebagaimana dimaksud pada ayat (1) dan ayat (2) diatur dengan peraturan pemerintah dan/atau peraturan daerah.

BAB X

LARANGAN

Pasal 29

- (1) Setiap orang dilarang:
- a. memasukkan sampah ke dalam wilayah Negara Kesatuan Republik Indonesia;
 - b. mengimpor sampah;
 - c. mencampur sampah dengan limbah berbahaya dan beracun;
 - d. mengelola sampah yang menyebabkan pencemaran dan/atau kerusakan lingkungan;
 - e. membuang sampah tidak pada tempat yang telah ditentukan dan disediakan;
 - f. melakukan penanganan sampah dengan pembuangan terbuka di tempat pemrosesan akhir;
dan/atau
 - g. membakar sampah yang tidak sesuai dengan persyaratan teknis pengelolaan sampah.
- (2) Ketentuan lebih lanjut mengenai larangan sebagaimana dimaksud pada ayat (1) huruf a, huruf c, dan huruf d diatur dengan peraturan pemerintah.
- (3) Ketentuan lebih lanjut mengenai larangan sebagaimana dimaksud pada ayat (1) huruf e, huruf f, dan huruf g diatur dengan peraturan daerah kabupaten/kota.

- (4) Peraturan daerah kabupaten/kota sebagaimana dimaksud pada ayat (3) dapat menetapkan sanksi pidana kurungan atau denda terhadap pelanggaran ketentuan sebagaimana dimaksud pada ayat (1) huruf e, huruf f, dan huruf g.

BAB XI

PENGAWASAN

Pasal 30

- (1) Pengawasan terhadap kebijakan pengelolaan sampah oleh pemerintah daerah dilakukan oleh Pemerintah
- (2) Pengawasan pelaksanaan pengelolaan sampah pada tingkat kabupaten/kota dilakukan oleh gubernur.

Pasal 31

- (1) Pengawasan terhadap pelaksanaan pengelolaan sampah yang dilakukan oleh pengelola sampah dilakukan oleh pemerintah daerah, baik secara sendiri-sendiri maupun secara bersamasama.
- (2) Pengawasan yang dilakukan oleh pemerintah daerah sebagaimana dimaksud pada ayat (1) didasarkan pada norma, standar, prosedur, dan kriteria pengawasan yang diatur oleh Pemerintah.
- (3) Ketentuan lebih lanjut mengenai pengawasan pengelolaan sampah sebagaimana dimaksud pada ayat (1) diatur dengan peraturan daerah.

BAB XII

SANKSI ADMINISTRATIF

Pasal 32

- (1) Bupati/walikota dapat menerapkan sanksi administratif kepada pengelola sampah yang melanggar ketentuan persyaratan yang ditetapkan dalam perizinan.

- (2) Sanksi administratif sebagaimana dimaksud pada ayat (1) dapat berupa:
- a. paksaan pemerintahan;
 - b. uang paksa; dan/atau
 - c. pencabutan izin.
- (3) Ketentuan lebih lanjut mengenai penerapan sanksi administratif sebagaimana dimaksud pada ayat (1) dan ayat (2) diatur dengan peraturan daerah kabupaten/kota.

BAB XIII

PENYELESAIAN SENGKETA

Bagian Kesatu

Umum

Pasal 33

- (1) Sengketa yang dapat timbul dari pengelolaan sampah terdiri atas:
- a. sengketa antara pemerintah daerah dan pengelola sampah; dan
 - b. sengketa antara pengelola sampah dan masyarakat.
- (2) Penyelesaian sengketa sebagaimana dimaksud pada ayat (1) dapat dilakukan melalui penyelesaian di luar pengadilan ataupun melalui pengadilan.
- (3) Penyelesaian sengketa sebagaimana dimaksud pada ayat (1) dan ayat (2) dilaksanakan sesuai dengan peraturan perundangundangan.

Bagian Kedua

Penyelesaian Sengketa di Luar Pengadilan

Pasal 34

- (1) Penyelesaian sengketa di luar pengadilan dilakukan dengan mediasi, negosiasi, arbitrase, atau pilihan lain dari para pihak yang bersengketa.

- (2) Apabila dalam penyelesaian sengketa di luar pengadilan sebagaimana dimaksud pada ayat (1) tidak tercapai kesepakatan, para pihak yang bersengketa dapat mengajukannya ke pengadilan.

Bagian Ketiga

Penyelesaian Sengketa di dalam Pengadilan

Pasal 35

- (1) Penyelesaian sengketa persampahan di dalam pengadilan dilakukan melalui gugatan perbuatan melawan hukum.
- (2) Gugatan perbuatan melawan hukum sebagaimana dimaksud pada ayat (1) mensyaratkan penggugat membuktikan unsurunsur kesalahan, kerugian, dan hubungan sebab akibat antara perbuatan dan kerugian yang ditimbulkan.
- (3) Tuntutan dalam gugatan perbuatan melawan hukum sebagaimana dimaksud pada ayat (2) dapat berwujud ganti kerugian dan/atau tindakan tertentu.

Bagian Keempat

Gugatan Perwakilan Kelompok

Pasal 36

Masyarakat yang dirugikan akibat perbuatan melawan hukum di bidang pengelolaan sampah berhak mengajukan gugatan melalui perwakilan kelompok.

Bagian Kelima

Hak Gugat Organisasi Persampahan

Pasal 37

- (1) Organisasi persampahan berhak mengajukan gugatan untuk kepentingan pengelolaan sampah yang aman bagi kesehatan masyarakat dan lingkungan.

- (2) Hak mengajukan gugatan sebagaimana dimaksud pada ayat (1) terbatas pada tuntutan untuk melakukan tindakan tertentu, kecuali biaya atau pengeluaran riil.
- (3) Organisasi persampahan yang berhak mengajukan gugatan sebagaimana dimaksud pada ayat (1) harus memenuhi persyaratan:
- a. berbentuk badan hukum;
 - b. mempunyai anggaran dasar di bidang pengelolaan sampah; dan
 - c. telah melakukan kegiatan nyata paling sedikit 1 (satu) tahun sesuai dengan anggaran dasarnya.

BAB XIV

PENYIDIKAN

Pasal 38

- (1) Selain Penyidik Pejabat Polisi Negara Republik Indonesia, pejabat pegawai negeri sipil tertentu di lingkungan instansi pemerintah yang lingkup tugas dan tanggung jawabnya di bidang pengelolaan persampahan diberi wewenang khusus sebagai penyidik sebagaimana dimaksud dalam Undang-Undang Hukum Acara Pidana.
- (2) Penyidik pegawai negeri sipil sebagaimana dimaksud pada ayat (1) berwenang:
- a. melakukan pemeriksaan atas kebenaran laporan atau keterangan berkenaan dengan tindak pidana di bidang pengelolaan sampah;
 - b. melakukan pemeriksaan terhadap orang yang diduga melakukan tindak pidana di bidang pengelolaan sampah;
 - c. meminta keterangan dan bahan bukti dari orang berkenaan dengan peristiwa tindak pidana di bidang pengelolaan sampah;
 - d. melakukan pemeriksaan atas pembukuan, catatan, dan dokumen lain berkenaan dengan tindak pidana di bidang pengelolaan sampah;

- e. melakukan pemeriksaan di tempat tertentu yang diduga terdapat bahan bukti, pembukuan, pencatatan, dan dokumen lain serta melakukan penyitaan terhadap bahan dan barang hasil kejahatan yang dapat dijadikan bukti dalam perkara tindak pidana di bidang pengelolaan sampah; dan
 - f. meminta bantuan ahli dalam pelaksanaan tugas penyidikan tindak pidana di bidang pengelolaan sampah.
- (3) Penyidik pejabat pegawai negeri sipil sebagaimana dimaksud pada ayat (1) memberitahukan dimulainya penyidikan dan hasil penyidikannya kepada Penyidik Pejabat Polisi Negara Republik Indonesia.
- (4) Penyidik pejabat pegawai negeri sipil sebagaimana dimaksud pada ayat (1) menyampaikan hasil penyidikan kepada penuntut umum melalui Penyidik Pejabat Polisi Negara Republik Indonesia.

BAB XV

KETENTUAN PIDANA

Pasal 39

- (1) Setiap orang yang secara melawan hukum memasukkan dan/atau mengimpor sampah rumah tangga dan/atau sampah sejenis sampah rumah tangga ke dalam wilayah Negara Kesatuan Republik Indonesia diancam dengan pidana penjara paling singkat 3 (tiga) tahun dan paling lama 9 (sembilan) tahun dan denda paling sedikit Rp100.000.000,00 (seratus juta rupiah) dan paling banyak Rp3.000.000.000,00 (tiga miliar rupiah);
- (2) Setiap orang yang secara melawan hukum memasukkan dan/atau mengimpor sampah spesifik ke wilayah Negara Kesatuan Republik Indonesia diancam dengan pidana penjara paling singkat 4 (empat) tahun dan paling lama 12 (dua belas) tahun dan denda paling sedikit

Rp200.000.000,00 (dua ratus juta rupiah) dan paling banyak Rp5.000.000.000,00 (lima miliar rupiah);

Pasal 40

- (1) Pengelola sampah yang secara melawan hukum dan dengan sengaja melakukan kegiatan pengelolaan sampah dengan tidak memperhatikan norma, standar, prosedur, atau kriteria yang dapat mengakibatkan gangguan kesehatan masyarakat, gangguan keamanan, pencemaran lingkungan, dan/atau kerusakan lingkungan diancam dengan pidana penjara paling singkat 4 (empat) tahun dan paling lama 10 (sepuluh) tahun dan denda paling sedikit Rp100.000.000,00 (seratus juta rupiah) dan paling banyak Rp5.000.000.000,00 (lima miliar rupiah).
- (2) Jika tindak pidana sebagaimana dimaksud pada ayat (1) mengakibatkan orang mati atau luka berat, pengelola sampah diancam dengan pidana penjara paling singkat 5 (lima) tahun dan paling lama 15 (lima belas) tahun dan denda paling sedikit Rp100.000.000 (seratus juta rupiah) dan paling banyak Rp5.000.000.000 (lima miliar rupiah).

Pasal 41

- (1) Pengelola sampah yang karena kealpaannya melakukan kegiatan pengelolaan sampah dengan tidak memperhatikan norma, standar, prosedur, atau kriteria yang dapat mengakibatkan gangguan kesehatan masyarakat, gangguan keamanan, pencemaran lingkungan, dan/atau kerusakan lingkungan diancam dengan pidana penjara paling lama 3 (tiga) tahun dan denda paling banyak Rp100.000.000,00 (seratus juta rupiah).
- (2) Jika tindak pidana sebagaimana dimaksud pada ayat (1) mengakibatkan orang mati atau luka berat, pengelola sampah diancam dengan pidana penjara paling lama 5 (lima) tahun dan denda paling banyak Rp500.000.000,00 (lima ratus juta rupiah).

Pasal 42

- (1) Tindak pidana dianggap sebagai tindak pidana korporasi apabila tindak pidana dimaksud dilakukan dalam rangka mencapai tujuan korporasi dan dilakukan oleh pengurus yang berwenang mengambil keputusan atas nama korporasi atau mewakili korporasi untuk melakukan perbuatan hukum atau memiliki kewenangan guna mengendalikan dan/atau mengawasi korporasi tersebut.
- (2) Jika tindak pidana sebagaimana dimaksud pada ayat (1) dilakukan oleh atau atas nama korporasi dan orang-orang, baik berdasarkan hubungan kerja maupun berdasarkan hubungan lain yang bertindak dalam lingkungan korporasi, tuntutan pidana dan sanksi pidana dijatuhkan kepada mereka yang bertindak sebagai pemimpin atau yang memberi perintah, tanpa mengingat apakah orang dimaksud, baik berdasarkan hubungan kerja maupun hubungan lain, melakukan tindak pidana secara sendiri atau bersama-sama.
- (3) Jika tuntutan dilakukan terhadap korporasi, panggilan untuk menghadap dan penyerahan surat panggilan ditujukan kepada pengurus pada alamat korporasi atau di tempat pengurus melakukan pekerjaan yang tetap.
- (4) Jika tuntutan dilakukan terhadap korporasi yang pada saat penuntutan diwakili oleh bukan pengurus, hakim dapat memerintahkan pengurus agar menghadap sendiri ke pengadilan.

Pasal 43

Tindak pidana sebagaimana dimaksud dalam Pasal 39, Pasal 40, Pasal 41, dan Pasal 42 adalah kejahatan.

BAB XVI

KETENTUAN PERALIHAN

Pasal 44

- (1) Pemerintah daerah harus membuat perencanaan penutupan tempat pemrosesan akhir sampah yang menggunakan system pembuangan terbuka paling lama 1 (satu) tahun terhitung sejak berlakunya Undang-Undang ini.
- (2) Pemerintah daerah harus menutup tempat pemrosesan akhir sampah yang menggunakan sistem pembuangan terbuka paling lama 5 (lima) tahun terhitung sejak berlakunya Undang-Undang ini.

Pasal 45

Pengelola kawasan permukiman, kawasan komersial, kawasan industri, kawasan khusus, fasilitas umum, fasilitas sosial, dan fasilitas lainnya yang belum memiliki fasilitas pemilahan sampah pada saat diundangkannya Undang-Undang ini wajib membangun atau menyediakan fasilitas pemilahan sampah paling lama 1 (satu) tahun.

BAB XVII

KETENTUAN LAIN-LAIN

Pasal 46

Khusus untuk daerah provinsi Daerah Khusus Ibukota Jakarta, ketentuan sebagaimana dimaksud dalam Pasal 9 ayat (1) dan ayat (2), Pasal 27 ayat (1) dan ayat (2), Pasal 29 ayat (3) dan ayat (4), serta Pasal 32 merupakan kewenangan pemerintah daerah provinsi.

BAB XVIII

KETENTUAN PENUTUP

Pasal 47

- (1) Peraturan pemerintah dan peraturan menteri yang diamanatkan Undang-Undang ini diselesaikan paling lambat 1 (satu) tahun terhitung sejak Undang-Undang ini diundangkan.
- (2) Peraturan daerah yang diamanatkan Undang-Undang ini diselesaikan paling lama 3 (tiga) tahun terhitung sejak Undang-Undang ini diundangkan.

Pasal 48

Pada saat berlakunya Undang-Undang ini semua peraturan perundang-undangan yang berkaitan dengan pengelolaan sampah yang telah ada tetap berlaku sepanjang tidak bertentangan dengan ketentuan dalam Undang-Undang ini.

Pasal 49

Undang-Undang ini mulai berlaku pada tanggal diundangkan. Agar setiap orang mengetahuinya, memerintahkan pengundangan Undang-Undang ini dengan penempatannya dalam Lembaran Negara Republik Indonesia.

Disahkan di Jakarta pada tanggal 7 Mei 2008

PRESIDEN REPUBLIK INDONESIA,

DR. H. SUSILO BAMBANG YUDHOYONO

Diundangkan di Jakarta pada tanggal

MENTERI HUKUM DAN HAK ASASI MANUSIA

REPUBLIK INDONESIA,

ttd

ANDI MATTALATTA

LEMBARAN NEGARA REPUBLIK INDONESIA TAHUN 2008 NOMOR

APPENDIX B

Waste Control Act No. 8789 Year 2007

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WASTES CONTROL ACT

Wholly Amended by Act No. 8371, Apr. 11, 2007

Amended by Act No. 8466, May 17, 2007

Act No. 8486, May 25, 2007

Act No. 8613, Aug. 3, 2007

Act No. 8789, Dec. 21, 2007

CHAPTER I GENERAL PROVISIONS

Article 1 (Purpose)

The purpose of this Act is to contribute to environmental conservation and the enhancement of the quality of life for the people by minimizing the production of wastes and properly disposing of wastes generated.

Article 2 (Definitions)

The terms as used in this Act means the following: <Amended by Act No. 8466, May 17, 2007>

1. The term “wastes” means such materials as garbage, burnt refuse, sludge, waste oil, waste acid, waste alkali, and carcasses of animals, which have become no longer useful for human life or business activities;
2. The term “household wastes” means any wastes other than commercial wastes;
3. The term “commercial wastes” means any wastes generated from places of business with discharging facilities installed and managed in accordance with the Clean Air

- Conservation Act, the Water Quality and Ecosystem Conservation Act, or the Noise and Vibration Control Act or any other place of business specified by Presidential Decree;
4. The term “controlled wastes” means the commercial wastes specifically enumerated by Presidential Decree as harmful substances such as waste oil and waste acid, which may contaminate environs, or medical refuse, which may cause harm to human bodies;
 5. The term “medical refuse” means the wastes specifically enumerated by Presidential Decree among the wastes discharged from public health and medical institutions, veterinary clinics, testing and inspection institutions and other similar institutions, which may cause harm to human bodies by infection or otherwise and for which it is deemed necessary to be put under special control for public health and environmental conservation such as parts and extracts of human bodies and carcasses of laboratory animals;
 6. The term “disposal” means both interim disposal, such as incineration, neutralization, fragmentation, and solidification (including recycling under subparagraph 7; the same shall apply hereinafter) and terminal disposal, such as landfill and discharging into the sea;
 7. The term “recycling” means activities of reusing or recycling wastes or making wastes reusable or renewable or recovering energy under subparagraph 1 of Article 2 of the Framework Act on Energy in accordance with the standards established by Ordinance of the Ministry of Environment;
 8. The term “waste disposal facilities” means both interim and terminal waste disposal facilities as specified by Presidential Decree; and
 9. The term “waste minimization facilities” means facilities that serve to minimize production of wastes by reducing the quantity of wastes generated in a manufacturing

process and by recycling wastes within a place of business, as specified by Presidential Decree.

Article 3 (Scope of Application)

(1) This Act shall not apply to any of the following substances: <Amended by Act No. 8466, May 17, 2007; Act No. 8789, Dec. 21, 2007>

1. A radioactive substance under the Atomic Energy Act or a material contaminated by such a substance;
2. A gaseous substance not contained in a container;
3. Wastewater flowing into, or being discharged into public waters from, a facility established for the prevention of water contamination under the Water Quality and Ecosystem Conservation Act;
4. Wastewater or excreta under the Sewerage Act or livestock excreta under the Act on the Management and Use of Livestock Excreta;
5. Sewage under the Sewerage Act;
6. A livestock carcass, a polluted article, an article subject to ban on importation, or an article rejected in a quarantine inspection under Article 22 (2), 23, 33 or 44 of the Act on the Prevention of Contagious Animal Diseases; or
7. Carcass of an aquatic animal, a polluted facility or article, an article subject to ban on importation, and an article rejected in a quarantine inspection, to which the provisions of Articles 17 (2), 18 and 34 (1) and subparagraphs of Article 25 (1) of the Aquatic Animal Disease Control Act apply.

(2) Discharging wastes into the sea under this Act shall be governed by the provisions of the Marine Environment Management Act.

Article 4 (Accountabilities of State and Local Governments)

- (1) The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu (the head of Gu refers to the head of an autonomous Gu; hereinafter the same shall also apply) shall ascertain the current state of wastes discharged and disposed of within his/her jurisdiction, install and operate waste disposal facilities so that wastes can be properly disposed of, implement affairs relating to waste management efficiently by improving the methods for collecting, transporting and disposing of wastes and raising the skills and quality of the persons in charge, and shall also make efforts to remind residents and business operators of the importance of protecting environment and to restrain the production of wastes. <Amended by Act No. 8613, Aug. 3, 2007>
- (2) The Special Metropolitan City Mayor and each Metropolitan City Mayor or Do governor shall provide the heads of Sis/Guns/Gus with technical and financial assistance to help them fulfill their accountabilities under paragraph (1) and shall also coordinate waste management services within their jurisdiction. <Amended by Act No. 8613, Aug. 3, 2007>
- (3) The State shall ascertain the current status of controlled wastes discharged and disposed of and take such measures as may be necessary for properly disposing of such wastes.
- (4) The State shall support the research and development of technology for waste disposal, provide the Special Metropolitan City Mayor and each Metropolitan City Mayor, Do governor or the Do governor of a Special Self-Governing Province (hereinafter referred to as a “Mayor/Do governor”) and the heads of Sis/Guns/Gus with such technical and financial assistance as may be necessary in helping them fulfill their accountabilities under paragraphs (1) and (2), and shall also coordinate waste management services with the Special Metropolitan City, Metropolitan Cities, Dos or Special Self-Governing

Provinces. (hereinafter referred to as the “City/Do”). <Amended by Act No. 8613, Aug. 3, 2007>

Article 5 (Multi-regional Waste Management)

- (1) If the Minister of Environment, the Mayor/Do governor or the head of Si/Gun/Gu deems it necessary to dispose of wastes generated from two or more Cities/Dos or Sis/Guns/Gus with an integrated system for a multiple number of regions, he/she may solely or jointly install and operate multi-regional waste disposal facilities (including public disposal facilities for controlled wastes).
- (2) The Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu may commission a person designated by Ordinance of the Ministry of Environment to install or manage the multi-regional waste disposal facilities under paragraph (1).

Article 6 (Charges for Waste Disposal in Waste Disposal Facilities)

- (1) An institution that has installed and operates a waste disposal facility under Article 4 (1) or 5 (1) may charge expenses for disposal of wastes brought into the facility (hereinafter referred to as the “waste disposal charge”) on the persons who bring wastes into such facility.
- (2) In cases where a waste disposal facility has been installed and is operated jointly by two or more local governments, the waste disposal charge shall be determined by agreement between the local governments.
- (3) The amount of waste disposal charge shall be prescribed by Ordinance of the Ministry of Environment if the State is responsible for collecting it, while it shall be prescribed by Municipal Ordinance if a local government is responsible for collecting it.

Article 7 (Citizens’ Duties)

- (1) Every citizen shall keep natural and living environments clean and make efforts to reduce and recycle wastes.
- (2) Every owner, occupant, and manager of a parcel of land or a building shall make efforts to keep the parcel of land or building owned, occupied, or managed by him/her clean, and shall implement general clean-up in accordance with the plan prepared by the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu. <Amended by Act No. 8613, Aug. 3, 2007>

Article 8 (Prohibition on Dumping Wastes)

- (1) No one may dump wastes in any area other than the places and facilities provided for collection of wastes by the Do governor of a Special Self-Governing Province the head of Si/Gun/Gu or the manager of a facility such as a public park or road. <Amended by Act No. 8613, Aug. 3, 2007>
- (2) No one may bury or incinerate wastes in any area other than the landfill sites licensed or approved under this Act: Provided, That this may not apply to incineration at places under the proviso to Article 14 (1) in accordance with Municipal Ordinance of the relevant Special Self-Governing Province or Si/Gun/Gu. <Amended by Act No. 8613, Aug. 3, 2007>
- (4) The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu may order the owner, occupant, or manager of a parcel of land or building to take necessary measures in compliance with the relevant Municipal Ordinance of the competent local government, if the owner, occupant, or manager fails to keep clean the property under his/her control pursuant to Article 7 (2). <Amended by Act No. 8613, Aug. 3, 2007>

Article 9 (Basic Plans for Waste Management)

- (1) The Mayor/Do governor shall prepare a basic plan for proper management of wastes generated from his/her jurisdiction once every ten years in compliance with the guidelines prescribed by the Minister of Environment, subject to the approval of the Minister of Environment. The foregoing shall also apply to a revision to any matter approved of. In this case, the Minister of Environment shall, whenever he/she approves a basic plan or a revision thereto, consult with the heads of central administrative agencies concerned.
- (2) The head of Si/Gun/Gu shall prepare a basic plan for management of wastes generated from his/her jurisdiction once every ten years and submit it to the Mayor/Do governor.
- (3) The basic plan under paragraphs (1) and (2) shall contain the following details;
 1. Overview of the population, residential patterns, industrial structure and distribution, geographical environment, etc. within his/her jurisdiction;
 2. The quantity of wastes generated by categories and the estimated quantity of wastes in the future;
 3. Current status of and future plan for waste management;
 4. Matters concerning reduction, recycling, and conversion of wastes into resources;
 5. Current status of and future plan for installation of waste disposal facilities;
 6. Matters concerning collection, transportation, and storage of wastes and improvement of equipment and containers for wastes; and
 7. Plan for securing financial sources.

Article 10 (Master Plans for Waste Management)

- (1) The Minister of Environment shall prepare a master plan for nationwide waste management based on the basic plans for waste management under Article 9 (1) and the results of statistical researches on wastes under Article 11 (hereinafter referred to as a

“master plan”) once every ten years for proper management of wastes generated throughout the country.

- (2) The Minister of Environment may review the feasibility of the master plan for revision once every five years after the date on which the master plan is finalized.
- (3) If the master plan is revised under paragraph (2), the Mayor/Do governor shall also revise the basic plan for waste management under Article 9 (1), reflecting the revised details of the master plan in the basic plan, and submit it to the Minister of Environment for approval.
- (4) The master plan shall contain the following details:
 1. Evaluation of the previous master plan;
 2. Circumstances and prospects for waste management;
 3. Basic principles of the master plan;
 4. Policy on waste management by sectors; and
 5. Plan for securing financial sources.

Article 11 (Statistical Research on Wastes)

The Minister of Environment, the Mayor/Do governor, and the head of Si/Gun/Gu shall conduct researches on the current status of wastes generated and disposed of, the distribution of wastes generated by kinds and by areas, and trends of changes in wastes, as prescribed by Ordinance of the Ministry of Environment, in order to secure basic data and information necessary for establishing policies on wastes.

Article 12 (Official Waste Testing Method)

The Minister of Environment shall determine and publicly notify the official testing method for wastes in order to ensure accuracy and uniformity in the analyses of the nature and state of wastes, the leaching of contaminants therefrom, etc. for basic data required for examining

the seriousness of hazards caused by wastes and determining waste disposal methods.

<Under the provisions of Article 3 of the addenda of Act No. 8371, April 11, 2007, the amended provisions of the Article is valid until October 4, 2007>

CHAPTER II DISCHARGE AND MANAGEMENT OF WASTES

Article 13 (Standards of Waste Management)

Any one who intends to collect, transport, keep in storage, or dispose of wastes shall comply with the standards and methods prescribed by Presidential Decree.

Article 14 (Disposal of Household Wastes)

- (1) The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu shall be responsible for the collection, transportation, and disposal of household wastes discharged within his/her jurisdiction: Provided, That a specific area designated by the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu, as prescribed by Ordinance of the Ministry of Environment, shall be excluded from the area under his/her jurisdiction for the purposes of this paragraph. <Amended by Act No. 8613, Aug. 3, 2007>
- (2) The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu may commission a person specified by Presidential Decree to vicariously implement the collection, transportation, or disposal of under paragraph (1) as prescribed by Municipal Ordinance of the competent local government. <Amended by Act No. 8613, Aug. 3, 2007>
- (3) The Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu may collect service charges for collection, transportation, and disposal of household wastes as prescribed by Municipal Ordinance of the competent local government. <Amended by Act No. 8613, Aug. 3, 2007>

- (4) The Minister of Environment may recommend a local government that intends to determine the service charge rate under paragraph (3) to apply a differential rate to the wastes discharged in proportion to the quantity of wastes in collecting such charge.

Article 15 (Cooperation in Disposal of Household Wastes Discharged)

- (1) Owners, occupants, and managers of a parcel of land or a building from which household wastes are discharged (hereinafter referred to as “household waste producers”) shall either dispose of such wastes themselves in a manner that can avoid any harm to conservation of the living environment or reduce the quantity of wastes, as prescribed by Municipal Ordinance of the competent Special Self-Governing Province or Si/Gun/Gu. <Amended by Act No. 8613, Aug. 3, 2007>
- (2) Household waste producers shall separate the household wastes which they are unable to dispose of themselves, under paragraph (1), from other wastes and shall store them separately according to the types, nature and state as prescribed by Municipal Ordinance of the competent Special Self-Governing Province or Si/Gun/Gu. <Amended by Act No. 8613, Aug. 3, 2007>
- (3) A household waste producer who discharges the food wastes specified by Ordinance of the Ministry of Environment (including wastes of agricultural, marine, and livestock products; hereinafter the same shall also apply) shall submit a plan for reducing the production of such food wastes and a report on the results of disposal of such wastes to the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu, make and keep records of the quantity of wastes generated, the results of disposal, etc., and comply with the rules prescribed by Municipal Ordinance of the competent Special Self-Governing Province or Si/Gun/Gu to reduce the production of food wastes. <Amended by Act No. 8613, Aug. 3, 2007>

Article 16 (Implementation of Agreements)

- (1) The Mayor/Do governor or the head of Si/Gun/Gu may enter into agreements with the persons who discharge wastes within his/her jurisdiction or an organization of such persons in order to restrain the production of wastes and properly dispose of such wastes.
- (2) Necessary matters concerning the objectives of the agreement under paragraph (1) and the method of and procedure for performance of such agreements shall be prescribed by Municipal Ordinance of the competent local government.
- (3) The Mayor/Do governor or the head of Si/Gun/Gu may provide a person who enters into agreements with the competent local government under paragraph (1) with such support as may be necessary for performing such agreements.

Article 17 (Duties of Commercial Waste Producers)

- (1) Businesses that discharge wastes from places of business (hereinafter referred to as “commercial waste producers”) shall comply with the following provisions:
 1. All wastes generated from each place of business shall be properly disposed of;
 2. The production of commercial wastes shall be minimized by installing waste minimization in a manufacturing process, developing technology, recycling wastes, and in any other way; and
 3. A commercial waste producer who intends to commission someone to provide him/her with the services of collection, transportation, and disposal of wastes under Article 18 (1) shall ascertain as to whether the commissioned person has the capability to provide the services of collection, transportation, and disposal of such wastes in compliance with the standards under Article 13 before such commissioning: Provided, That the foregoing shall not apply in cases where a person who has installed and operates waste disposal facilities under Article 4 or 5 is commissioned to provide such services.

(2) The commercial waste producers specified by Ordinance of the Ministry of Environment shall submit to the Do governor of a Special Self-Governing Province or the head of Si/Gun/Gu a report on the types and quantity of commercial wastes generated as prescribed by Ordinance of the Ministry of Environment. The foregoing shall also apply to a change in any reported matter specified by Ordinance of the Ministry of Environment.

<Amended by Act No. 8613, Aug. 3, 2007>

(3) A business that discharges controlled wastes prescribed by Ordinance of the Ministry of Environment shall submit each of the following documents to the Minister of Environment and attain his/her verification before processing such wastes under Article 18 (1): Provided, That in cases where persons prescribed by Ordinance of the Ministry of Environment, such as mechanics under subparagraph of Article 2 of the Automobile Management Act, collect and transport controlled wastes together with other persons, their representative shall submit such documents to the Minister of Environment and obtain his/her verification: <Newly Inserted by Act No. 8613, Aug. 3, 2007>

1. Waste disposal plans;
2. Waste analysis reports made by a waste analysis agency prescribed by Ordinance of the Ministry of Environment; and
3. If the disposal of controlled wastes is commissioned, documents attesting the acceptance of commission from a person who is commissioned with such affairs.

(4) If persons who have attained verification under paragraph (3) wishes to change such matters, they shall submit documents concerning changed matters from among the documents pursuant to subparagraphs of paragraph (3) to the Minister of Environment and attain his/her verification on changes. <Newly Inserted by Act No. 8613, Aug. 3, 2007>

- (5) The commercial waste producers whose type and size of business meets or exceeds those prescribed by Presidential Decree shall comply with the guidelines publicly notified by the Minister of Environment and the heads of central administrative agencies concerned jointly in accordance with the basic policy and procedure prescribed by Ordinance of the Ministry of Environment in order to restrain the production of commercial wastes under paragraph (1) 2.
- (6) If a commercial waste producer transfers his/her business to another person or dies, or a corporation discharging commercial wastes is merged into another corporation, the transferee or successor, or the corporation surviving the merger or the corporation newly established as a consequence of the merger shall succeed to the rights and obligations relating to such commercial wastes. <Amended by Act No. 8613, Aug. 3, 2007>
- (7) A person who has acquired the whole or a part of the place of business of business that discharges commercial wastes, by a compulsory sale under the Civil Execution Act, the realization of properties under the Debtor Rehabilitation and Bankruptcy Act, the sale of seized properties under the National Tax Collection Act, the Customs Act or the Local Tax Act or other procedures corresponding thereto, shall appropriately dispose of wastes left at the place of business. <Newly Inserted by Act No. 8613, Aug. 3, 2007>

Article 18 (Disposal of Commercial Wastes)

- (1) Every commercial waste producer shall either dispose of wastes generated from his/her place of business by him/herself or commission the disposal of such wastes to a person who has a license for a waste management business under Article 25 (3), a person who engages in recycling of wastes discharged by other people under Article 46, a person who has installed and operates a waste disposal facility under Article 4 or 5, or a person who

has completed the registration of a business of discharging wastes into the sea under Article 70 (1) 1 of the Marine Environment Management Act.

- (2) No commercial waste producer who intends to commission a business operator under Article 25 to dispose of commercial wastes may attempt to commission him/her to perform such disposal at any price lower than the minimum price publicly notified by the Minister of Environment for waste disposal pursuant to Article 24.
- (3) A person who discharges, transports or disposes of any commercial wastes specified by Ordinance of the Ministry of Environment shall transmit matters concerning the delivery and receipt of wastes into the electronic information processing program under Article 45 (2), as prescribed by the Ordinance of the Ministry of Environment, whenever he/she has discharged, transported or disposed of wastes: Provided, That in cases of medical wastes, such matters shall be transmitted into the electronic information processing program under Article 45 (2), as prescribed by the Ordinance of the Ministry of Environment, by means of radio frequency. <Amended by Act No. 8613, Aug. 3, 2007>
- (4) The head of an electronic information processing center under Article 45 shall make information on delivery and receipt of wastes transmitted under paragraph (3) available to, and printable by a person who has discharged, collected and transported, or disposed of such wastes, and the procedures of discharging, transporting and processing of such waste searchable and verifiable by the competent head of Si/Gun/Gu, Mayor/Do governor of the district, where a person who has discharged, collected and transported, or disposed of such wastes belong, or by the Minister of Environment. <Amended by Act No. 8613, Aug. 3, 2007>
- (5) Two or more commercial waste producers as specified by Ordinance of the Ministry of Environment may collectively collect, transport or dispose of wastes generated from their

places of business, as prescribed by Ordinance of the Ministry of Environment. In this case, such commercial waste producers may establish a joint operating organization, appoint one of them as the representative of such joint operating organization, and jointly install and operate waste disposal facilities.

(6) Deleted. <by Act No. 8613, Aug. 3, 2007>

CHAPTER III Deleted. <by Act No. 8613, Aug. 3, 2007>

Article 19 (Obligations of Commercial Waste Disposal Business)

- (1) A person who transports commercial wastes specified by Ordinance of the Ministry of Environment shall always carry each of the following documents with him/her while transporting, and show them to the competent public officials upon request:
1. One copy of each document specified by Ordinance of the Ministry of Environment among the documents under Article 17 (3) and (4); and
 2. Print out of matters concerning the delivery and receipt of wastes transmitted under Article 18 (3) (in cases of medical wastes, a radio frequency sensor prescribed by Ordinance of the Ministry of Environment).
- (2) If a person who is commissioned to dispose of wastes is unable to dispose of commercial wastes specified by Ordinance of the Ministry of Environment due to suspension, temporary shutdown, permanent closure of his/her business, prohibition from use of waste disposal facilities, etc., he/she shall inform the waste producers who have commissioned him/her to dispose of such wastes of the fact, without delay, as prescribed by Ordinance of the Ministry of Environment. [This Article Wholly Amended by Act No. 8613, Aug. 3, 2007] Articles 20 through 23 Deleted. <by Act No. 8613, Aug. 3, 2007>
- Article 24 (Pricing for Disposal of Commercial Wastes) The Minister of Environment may, if deemed necessary for properly disposing of wastes, determine and publicly notify

the minimum and maximum prices for disposal of such wastes as specified by Ordinance of the Ministry of Environment, considering the cost for such disposal.

Article 24-2 (Report on Waste Import or Export)

- (1) A person who intends to import or export waste specified and publicly announced by the Minister of Environment shall, as prescribed by Ordinance of the Ministry of Environment, report it to the Minister of Environment along with documents stating matters prescribed by Ordinance of the Ministry of Environment, such as the types and quantity of wastes, plans for disposal, etc.
- (2) In order to change major matters prescribed by Ordinance of the Ministry of Environment, among matters reported under paragraph (1), a report of change shall be filed. [This Article Newly Inserted by Act No. 8613, Aug. 3, 2007]

Article 24-3 (Disposal of Imported Waste)

- (1) A person who have filed an import report under Article 24-2 (1), or a person who has obtained permission for import under the Act on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal shall dispose of such imported wastes (hereafter referred to as “imported wastes”) by himself/herself or commission the disposal of such waste to a person falling any of the following subparagraphs:
 1. A person who has set up and operates facilities under Article 4 or 5;
 2. A person who has obtained a license for waste management business under Article 25 (3); and
 3. A person who has reported on waste recycling under Article 46 (1).
- (2) A person who has filed an import report under Article 24-2 (1), or who transports and disposes of such imported wastes shall transmit matters concerning the delivery and receipt of wastes into the electronic information processing program under Article 45 (2),

as prescribed by the Ordinance of the Ministry of Environment, whenever he/she has imported, discharged, transported or disposed of such wastes.

- (3) A person who transports wastes imported under Article 24-2 (1) shall always carry documents of import report under Article 24-2 (1) and prints-out of matters concerning the delivery and receipt of wastes under paragraph (2) with him/her whenever he/she transports such wastes, and show them to the competent public officials upon request.
- (4) A person who transports, stores, or disposes of imported wastes shall transport, store, or dispose of them in accordance with standards and methods of commercial wastes among those standards and methods of waste disposal pursuant to Article 13.
- (5) No imported wastes may be exported as the same state or condition as they were imported. [This Article Newly Inserted by Act No. 8613, Aug. 3, 2007]

CHAPTER IV WASTE MANAGEMENT BUSINESSES

Article 25 (Waste Management Businesses)

- (1) Any person who intends to engage in the collection, transportation, or disposal of wastes (hereinafter referred to as “waste management business”) and wishes to treat controlled wastes shall submit a waste management plan to the Minister of Environment, while such person who wishes to handle any wastes other than controlled wastes shall submit such plan to the Mayor/Do governor, as prescribed by Ordinance of the Ministry of Environment. The foregoing shall also apply to any amendment to any important matter specified by Ordinance of the Ministry of Environment.
- (2) The Minister of Environment or the relevant Mayor/Do governor shall examine a waste management plan submitted under paragraph (1) pursuant to each of the following matters, and notify a person who has submitted such plan the acceptability thereof:
<Amended by Act No. 8613, Aug. 3, 2007>

1. Whether a person who has submitted such plan (including an officer, in cases of a corporation) falls under reasons for disqualification under Article 26;
 2. Whether the location of waste disposal facilities violates other Acts;
 3. Whether facilities, equipment or technical capability according to a waste management plan meets criteria for permission under paragraph (3); and
 4. Impact on environment around neighborhood, such as reservoirs, resulting from the building and operation of waste disposal facilities.
- (3) A person who has received a notice of acceptability pursuant to paragraph (2) shall, within two years (six months, in cases of waste collecting or transporting business; three years, in cases of a waste disposal business that requires incinerators and landfill facilities) from the date of receipt of such notification, prepare such facilities, equipment, and technical capability in conformity with the standards prescribed by Ordinance of the Ministry of Environment and shall thereby obtain a license for each business type from the Mayor/Do governor: Provided, That a person who intends to engage in a waste management business for handling controlled wastes shall obtain a license from the Minister of Environment. <Amended by Act No. 8613, Aug. 3, 2007>
- (4) The Minister of Environment or the relevant Mayor/Do governor may extend a period of application for permission within the extent of one year, depending on applications, for persons who have failed to file application forms within the period referred to in paragraph (3) due to a natural disaster or other unavoidable circumstances. <Newly Inserted by Act No. 8613, Aug. 3, 2007>
- (5) The types and scope of waste management business shall be classified as follows:
<Amended by Act No. 8613, Aug. 3, 2007>

1. Waste collection and transportation business: A business collecting wastes and transporting it to a disposal facility;
 2. Interim waste disposal business: a business specializing in interim disposal such as incineration, physical, chemical or biological treatments, or other methods approved and publicly announced by the Minister of Environment as safe ways of interim treatment of waste (excluding the recycling of household wastes) with facilities for interim treatment of wastes;
 3. Terminal waste disposal business: a business specializing in final disposal of wastes such as landfills (excluding discharging into the sea) with facilities for final disposal of wastes; and
 4. General waste management business: a business performing interim disposal and terminal disposal of wastes with facilities for waste disposal.
- (6) Any person who has a license for a waste management business under any provision of paragraph (5) 2 through 4 may directly collect and transport wastes for disposal without a license for a waste collection and transportation business under subparagraph 1 of the said paragraph. <Amended by Act No. 8613, Aug. 3, 2007>
- (7) The Minister of Environment or Mayor/Do governor may, when he/she grants a license under paragraph (3), add such necessary conditions as prescribed by Presidential Decree: Provided, That he/she may add a condition that restricts the business territory to a license for a business collecting and transporting household wastes.
- (8) Any person to whom a license for a waste management business under paragraph (3) has been granted (hereinafter referred to as a “licensed waste management business operator”) shall neither allow another person to collect, transport or dispose of wastes under his/her name or trade name nor lend the license to another person.

- (9) No waste management business operator shall accept commissioned waste management at a price higher or lower than the maximum or minimum price fixed under Article 24 for waste disposal, nor store wastes in excess of the quantity and period of time prescribed by Ordinance of the Ministry of Environment, but shall comply with the rules prescribed by Ordinance of the Ministry of Environment.
- (10) Any person who intends to engage in a business collecting, transporting, or disposing of medical refuse shall install and operate such facilities, equipment, and place of business as required for collecting, transporting, or disposing of such wastes separately from other wastes.
- (11) Whenever a person holding a license under paragraph (3) wishes to amend any important matter of the license as specified by Ordinance of the Ministry of Environment, he/she shall obtain permission for such amendment. Such person shall also file a report on amendment if the amendment involves any matter other than an important matter specified by Ordinance of the Ministry of Environment.
- (12) If a person who wishes to dispose of both controlled wastes and any wastes other than controlled wastes together in the same disposal facility falls under any of the following subparagraphs in relation to the controlled wastes, such person shall be deemed to have obtained a notice of acceptability, a licence, or an amended license from the Mayor/Do governor or have completed a report on amendment to the Mayor/Do governor in relation to such non-controlled wastes: <Amended by Act No. 8613, Aug. 3, 2007>
1. Where he/she has been notified by the Minister of Environment that his/her waste management plan is acceptable under paragraph (2);
 2. Where he/she holds a license for waste management business granted by the Minister of Environment pursuant to paragraph (3); or

3. Where he/she holds an amended license for waste management business granted by the Minister of Environment or has completed a report on amendment to the Minister of Environment pursuant to paragraph (11).

(13) Any person who seeks entitlement to the legal fiction of a notice of acceptability, a license, an amended license, or a report on amendment from or to the Mayor/Do governor under paragraph (12) in connection with any wastes other than controlled wastes, shall submit relevant documents prescribed by Ordinance of the Ministry of Environment simultaneously at the time when he/she submits a waste management plan or files an application for a license, an amended license, or a report on amendment to or with the Minister of Environment. <Amended by Act No. 8613, Aug. 3, 2007>

(14) The Minister of Environment shall, upon receiving the relevant documents under paragraph (13), hear the opinion of the competent Mayor/Do governor, while he/she shall, upon dispatching a notice of acceptability, granting a license or an amended license, or receiving a report on amendment, inform the competent Mayor/Do governor of the contents thereof. <Amended by Act No. 8613, Aug. 3, 2007>

Article 26 (Reasons for Disqualification)

A person shall not be granted a licence for a waste management business, if such person falls under any of the following subparagraphs:

1. A minor, or an incompetent, or quasi-incompetent person;
2. A person who has been declared bankrupt, but not yet reinstated;
3. A person in whose case two years have not yet passed since an execution of imprisonment was completely fulfilled, or finally and conclusively exempted;
4. A person who was sentenced to a suspended sentence of imprisonment or heavier punishment and is still under the period of suspension;

5. A person in whose case two years have not yet elapsed since his/her license for a waste management business was revoked; or
6. A corporation where an officer who falls under any provision of subparagraphs 1 through 4 is employed.

Article 27 (Revocation of License)

- (1) If a waste management business operator falls under any of the following subparagraphs, the Minister of Environment or the relevant Mayor/Do governor shall revoke his/her license:
 1. His/her license has been obtained by false or other fraudulent means;
 2. He/she falls under any reason for disqualification pursuant to subparagraphs 1 through 4 or 6 of Article 26: Provided, That this may not apply to cases where an officer of a corporation falling under subparagraph 6 of Article 26 is replaced by another person within two months;
 3. He/she has failed to take measures under Article 40 (1);
 4. He/she has failed to conform to a renewal order under Article 40 (8); and
 5. He/she has operated business while the business is suspended.
- (2) If a waste management business operator falls under any of the following subparagraphs, the Minister of Environment or the relevant Mayor/Do governor may revoke its license or order suspension of the whole or a part of business, specifying a period within six months:
 1. He/she has disposed of, buried or incinerated commercial wastes in violation of Article 8 (1) or (2);
 2. He/she has failed to conform to standards or methods of collection, transport, storage, or processing in violation of Article 13;

3. He/she has failed to transmit matters concerning the delivery and receipt of waste into the electronic information processing program, in violation of Article 18 (3);
4. He/she has failed to carry the relevant documents with him/her while transporting wastes or show them to the competent public officials upon request, in violation of Article 19 (1);
5. He/she has conducted business that exceeds the extent of types or details of business under Article 25 (5);
6. He/she has violated conditions under Article 25 (7);
7. He/she has allowed other persons to use his/her name or title of business and collect, transport, or dispose of wastes, or borrowed his/her license to other persons, in violation of Article 25 (8);
8. He/she has stored waste or violated rules, in violation of Article 25 (9);
9. He/she has failed to set up and operate separate facilities, equipment or the place of business to collect, transport, or dispose of waste, in violation of Article 25 (10);
10. He/she has changed matters that require permission or report without obtaining permission for changes or filing a report on changes under Article 25 (11);
11. He/she has failed to undergo inspection in violation of Article 30 (1) or (2), or has operated waste disposal facilities without obtaining the decision of acceptability in violation of paragraph (3) of Article (30);
12. He/she has operated waste disposal facilities, not meeting standards for its maintenance under Article 31 (1);
13. He/she has failed to conform to orders of correction or suspension of use under Article 31 (4);
14. He/she has failed to conform to orders of closedown under Article 31 (5);

15. He/she has failed to conform to orders of measure or inspection under Article 31 (6);
16. He/she has failed to report on the succession of rights or obligations under Article 33 (2);
17. He/she failed to record and keep books, in violation of Article 36 (1);
18. He/she has failed to conform to orders of measures for waste disposal under Article 48;
19. He/she has failed to reserve in advance performance guarantee bond for follow-up management under Article 52 (1); and
20. He/she has failed to open business within one year from the date of permission obtained, or has such business closed for one year or more consecutively without justifiable grounds. [This Article Wholly Amended by Act No. 8613, Aug. 3, 2007]

Article 28 (Disposition of Penalty Surcharge)

- (1) If the Minister of Environment or the relevant Mayor/Do governor intends to suspend a waste management business under Article 27, but he/she finds that the suspension of business falls under any of the following subparagraphs, he/she may impose a penalty surcharge not exceeding one hundred million won in lieu of the suspension of business, as prescribed by Presidential Decree: <Amended by Act No. 8613, Aug. 3, 2007>
 1. Where the suspension of business prevents a customer of the business from commissioning waste disposal to the business, resulting in wastes left stored in the customer's place of business, so that the customer's business is anticipated to suffer enormous impediment;
 2. Where hazards occurs, or anticipated to occur, to the health of residents due to environmental pollution resulting from wastes stored by the relevant waste management business, or wastes left stored by a customer of the business; and
 3. Where the business is deemed necessary to be sustained due to natural disasters or other inevitable circumstances.

- (2) The amount of penalty surcharge that shall be imposed under paragraph (1) according to types and degree of offense and other necessary matters shall be prescribed by Presidential Decree.
- (3) If an offender fails to pay the penalty surcharge under paragraph (1), the Minister of Environment shall collect such penalty surcharge in accordance with the practices of disposition on default of national taxes, while the Mayor/Do governor shall collect such penalty surcharge in accordance with the practices of disposition on default of local taxes.
- (4) The penalty surcharges collected pursuant to paragraphs (1) and (3) shall be spent by each collecting authority, but shall be used for such purposes as prescribed by Presidential Decree, including extension of multi-regional waste disposal facilities.

Article 29 (Installation of Waste Disposal Facilities)

- (1) Waste disposal facilities shall be installed in conformity with the standards prescribed by Ordinance of the Ministry of Environment, but any waste incineration facility shall not be installed or operated, unless it conforms to the size prescribed by Ordinance of the Ministry of Environment.
- (2) If any person other than those who hold, or have applied for, a licence for a waste management business under Article 25 (3), wishes to install any waste disposal facility, he/she shall obtain approval from the Minister of Environment: Provided, That the foregoing shall not apply in cases where it is intended to install a waste disposal facility under subparagraph 1, while a person who intends to install a waste disposal facility under subparagraph 2 shall file a report thereon with the Minister of Environment:
 1. A waste disposal facility installed and operated by a school, a research institution, or other person specified by Ordinance of the Ministry of Environment for the purposes of testing and research as prescribed by Ordinance of the Ministry of Environment; or

2. A waste disposal facility in a size prescribed by Ordinance of the Ministry of Environment.
- (3) A person who intends to amend any of such important matters as specified by Ordinance of the Ministry of Environment among the matters approved or reported under paragraph (2) shall obtain approval for such amendment or submit a report on such amendment, as the case may be.
- (4) A person who installs a waste disposal facility shall, when he/she intends to start operating the facility after the completion of the installation works, submit a report thereon to the head of the competent administrative agency depending upon which of the following facilities is involved:
 1. For a waste disposal facility installed by a waste management business operator: The administrative agency responsible for licensing under Article 25 (3); or
 2. For any waste disposal facility other than those under subparagraph 1: The administrative agency responsible for approval or reporting under Article 29 (2).

Article 30 (Inspection of Waste Disposal Facilities)

- (1) A person who has completed the installation of a waste disposal facility specified by Ordinance of the Ministry of Environment shall have it inspected by an inspection agency designated by Ordinance of the Ministry of Environment. The foregoing shall also apply in cases where an approval for, or a report on, amendment has been obtained or filed pursuant to Article 29 (3) and the inspection is required by Ordinance of the Ministry of Environment.
- (2) A person who has installed and operates a waste disposal facility under paragraph (1) shall have it inspected by an inspection agency under paragraph (1) at a regular interval prescribed by Ordinance of the Ministry of Environment. In this case, a waste disposal

facility shall be deemed to have successfully passed a periodic inspection if it has undergone a technical examination under Article 13 of the Development of and Support for Environmental Technology Act within the period of time set for such inspection.

- (3) No one may use any waste disposal facility that has failed to pass an inspection under paragraph (1) or (2): Provided, That the foregoing shall not apply in cases where such a facility is operated for the purposes of inspection.
- (4) The procedures and standards for the inspection under paragraphs (1) and (2), the guidelines for the management of inspection institutions, and other necessary matters shall be prescribed by Ordinance of the Ministry of Environment.

Article 31 (Management of Waste Disposal Facilities)

- (1) Any one who has installed and operates a waste disposal facility shall maintain and manage such facility in compliance with the guidelines for the management as prescribed by Ordinance of the Ministry of Environment.
- (2) Any one who has installed and operates a waste disposal facility specified by Presidential Decree shall take measurements of pollutants discharged from the waste disposal facility or arrange for a measuring institution specified by Ordinance of the Ministry of Environment to take such measurements, and shall submit a report on the results thereof to the Minister of Environment.
- (3) Any one who has installed and operate a waste disposal facility specified by Presidential Decree shall examine the impact that the installation and operation of such waste disposal facility has on its surroundings every three years, and shall submit a report on the results thereof to the Minister of Environment.
- (4) If a waste disposal facility fails to meet the standards for installation under Article 29 (1) or the standards for management under paragraph (1) of this Article in its installation,

maintenance or management, the Minister of Environment may order the person who has installed and operates the facility to take measures for improving the facility within a period of time prescribed by Ordinance of the Ministry of Environment or suspend the operation of such facility.

- (5) If a person to whom an order to improve or suspend the operation has been issued pursuant to paragraph (4) fails to perform as ordered or if it is found that such person is unable to perform as ordered, the Minister of Environment may order him/her to close down the facility permanently. <Amended by Act No. 8613, Aug. 3, 2007>
- (6) If a person who has installed and operates a waste disposal facility fails to perform his/her duty to measure pollutants in accordance with paragraph (2) or fails to examine its impact on surroundings in accordance with paragraph (3), the Minister of Environment may order the person to take such measurement of pollutants or to examine such impact within a period of time prescribed by Ordinance of the Ministry of Environment.
<Amended by Act No. 8613, Aug. 3, 2007>
- (7) The pollutants that shall be measured in accordance with paragraph (2), the cycle of such measurements, the reporting on the results thereof, and other necessary matters shall be prescribed by Ordinance of the Ministry of Environment.
- (8) The method and scope of assessments made under paragraph (3), the report on the results thereof, and other necessary matters shall be prescribed by Ordinance of the Ministry of Environment.
- (9) The Minister of Environment shall disclose the results of measurements taken under paragraph (2) and the results of assessments made under paragraph (3) to the public as prescribed by the Act on Disclosure of Information by Public Agencies.

Article 32 (Legal Fiction of License and Reporting under Other Statutes)

(1) In cases where a person who intends to install a waste disposal facility has obtained approval under Article 29 (2) or has filed a report thereunder, where he/she installs a waste disposal facility under subparagraph 1 of the said paragraph, or where he/she has obtained a license for a waste management business under Article 25 (3), he/she shall be deemed to have obtained permission or have completed the report set forth in the following subparagraphs in connection with the waste disposal facility involved:

<Amended by Act No. 8466, May 17, 2007>

1. Permission for or reporting on the installation of discharging facilities under Article 10 (1) and (2) of the Clean Air Conservation Act;
2. Permission for or reporting on the installation of discharging facilities under Article 33 (1) and (2) of the Water Quality and Ecosystem Conservation Act; and
3. Permission for or reporting on the installation of discharging facilities under Article 8 (1) and (2) of the Noise and Vibration Control Act.

(2) In cases where a person who installs a waste disposal facility has filed the report under Article 29 (4), he/she shall be deemed to have completed the following reports:

<Amended by Act No. 8466, May 17, 2007>

1. A report on the commencement of the operation of discharging facilities under Article 14 of the Clean Air Conservation Act;
2. A report on the commencement of the operation of discharging facilities under Article 37 of the Water Quality and Ecosystem Conservation Act; and
3. A report on the commencement of the operation of discharging facilities under Article 13 of the Noise and Vibration Control Act.

(3) The Minister of Environment or the Mayor/Do governor shall, whenever he/she intends to grant approval for the installation of a waste disposal facility or a license for a waste

disposal business, consult with the heads of the administrative agencies concerned, if such facility or business involves any of the matters set forth in paragraph (1) or (2).

- (4) The Minister of Environment shall determine standards for processing fictitious licenses or reports under paragraph (1) or (2) and publicly announce them. <Newly Inserted by Act No. 8613, Aug. 3, 2007>

Article 33 (Succession to Rights and Obligations)

- (1) In cases where a person who holds a license for a waste management business under Article 25 or who has obtained approval for the installation of a waste disposal facility or has filed a report thereon under Article 29 transfers the waste management business or the waste disposal facility to another person, where such person dies, or where the corporation has been merged with another corporation if such person is a corporation, the transferee, successor, or the corporation surviving the merger or newly established as a consequence of the merger shall succeed to the rights and obligations under such licence, approval, or report.
- (2) A person who has succeeded to the rights and obligations under paragraph (1) shall report the fact to the Minister of Environment or the Mayor/Do governor as prescribed by Ordinance of the Ministry of Environment.

CHAPTER V GUIDANCE FOR AND SUPERVISION OVER

WASTE MANAGEMENT BUSINESS

OPERATORS

Article 34 (Technical Manager)

- (1) A person who has installed and manages a waste disposal facility specified by Presidential Decree shall employ a technical manager who shall take charge of technical affairs relating to the maintenance and management of such facility (including cases

where the person him/herself holds a qualification as technical manager and takes charge of such technical management) or shall make a contract on technical management services with a person specified by Presidential Decree as capable of taking charge of technical management.

- (2) Necessary matters concerning the qualifications as technical managers, contracts on technical management services, etc. under paragraph (1) shall be prescribed by Ordinance of the Ministry of Environment.

Article 35 (Training Courses for Persons in Charge of Waste Disposal)

- (1) Technical personnel who engage in a waste management business, technical managers of a waste disposal facility, and other persons in charge of waste management specified by Presidential Decree shall take training courses provided by an educational institution designated by Ordinance of the Ministry of Environment.
- (2) An employer of a person who is obligated to take the training courses under paragraph (1) shall provide the person with an opportunity to take the courses.
- (3) Every employer of a person who is obligated to take the training courses under paragraph (1) shall bear the expenses for such training courses under the provisions of the said paragraph.

Article 36 (Keeping and Retention of Account Books)

- (1) Any one who falls under any of the following subparagraphs shall keep account books prescribed by Presidential Decree to keep records of the details of collected, transported, and disposed wastes (which refer to the quantity of wastes generated, the status of recycled wastes, the performance of disposal, etc., in cases where the person falls under subparagraphs 1 and 3, or refer to the quantity of products, containers, or such generated, imported, and sold and the quantity retrieved and disposed of in cases where the person

falls under subparagraph 7), and shall retain the records for three years from the date of the last entry: Provided, That this may not apply to cases where the electronic information processing program under Article 45 (2) is used. <Amended by Act No. 8613, Aug. 3, 2007>

1. A person who is obligated to file a report under Article 17 (2); 1-2. A person who is obligated to attain verification under Article 17 (3);
2. The representative of a joint operating organization responsible for jointly collecting, transporting, and disposing of commercial wastes under Article 18 (5);
3. A person who has filed an import report under Article 24-2 (1);
4. A waste management business operator;
5. A person who has installed and operates a waste disposal facility;
6. A person who has completed a report under Article 46 (1); or
7. A manufacturer or an importer under Article 47 (2).

(2) Deleted. <by Act No. 8613, Aug. 3, 2007>

Article 37 (Reporting on Shutdown or Closure of Business)

A waste management business operator or a person who has completed a report under Article 46 (1) shall, when he/she temporarily shuts down, permanently closes down, or resumes his/her business, file a report on such fact with the competent administrative agency for the related licensing or reporting as prescribed by Ordinance of the Ministry of Environment.

Article 38 (Submission of Reports)

- (1) A person who falls under any of the following subparagraphs shall submit an annual report on the wastes generated, disposed of, and recycled to the head of the competent administrative agency for the related licensing, approval, reporting, or verification by no

later than the end of February of the following year, as prescribed by Ordinance of the Ministry of Environment: <Amended by Act No. 8613, Aug. 3, 2007>

1. A person who has installed and operates a waste disposal facility under Article 4 or 5;
 2. A person who has filed a report as a commercial waste producer under Article 17 (2);
 3. A person who has obtained the verification under Article 17 (3); 3-2. A person who has filed an import or export report under Article 24-2 (1);
 4. A waste management business operator; or
 5. A person who has filed a report on recycling of wastes under Article 46 (1).
- (2) The Minister of Environment may order a person who is obligated to submit a report under paragraph (1) 3 to submit it within a given period of time, if the person fails to submit it within a prescribed period of time.
- (3) A person who is obligated to submit a report under paragraph (1) 3 may demand, by no later than January 15 of each year in writing, the person to whom he/she has commissioned to collect, transport or dispose of commercial wastes to furnish him/her with such data and information as may be necessary for preparing the report under paragraph (1), and the person so commissioned shall, upon receiving such demand, furnish him/her with such data and information in writing by no later than January 31 of the year.

Article 39 (Reporting and Inspection)

- (1) The Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu may require the persons concerned to submit such report or data as prescribed by Ordinance of the Ministry of Environment within the extent necessary for the enforcement of this Act, and may also assign public officials in charge to enter an office or a place of business of such persons to inspect the documents, facilities, equipment, or such therein.

- (2) Public officials who enter an office or a place of business for the purpose of the inspection under paragraph (1) shall carry with them an identification card indicating their authority and generate it to the persons concerned.

Article 40 (Disposal of Abandoned Wastes by Waste Management Business Operators)

- (1) Waste management business operators specializing in commercial wastes and the persons who have filed a report on recycling of wastes shall take any of the following actions after each of them obtains a license under Article 25 (3) or completes a report under Article 46 (1) but before the commencement of the business to prevent wastes from being abandoned:
1. To pay a certain amount of contribution to the mutual aid association for waste management business under Article 43;
 2. To carry an insurance policy covering the waste management business; or
 3. Deleted. <by Act No. 8613, Aug. 3, 2007>
- (2) If a waste management business operator or a person who has filed a report on recycling of wastes under paragraph (1) suspends the operation of his/her business (excluding cases where the business is temporarily shut down or becomes subject to a disposition of business suspension) for longer than the period of time prescribed by Presidential Decree, the Minister of Environment or the Mayor/Do governor may order the waster management business operator or the person who has filed a report on recycling of wastes to dispose of the wastes in his/her possession within a given period of time.
- (3) If a person fails to comply with an order issued to him/her pursuant to paragraph (2) or Article 48 (2), the Minister of Environment or Mayor/Do governor may take any of the following countermeasures in connection with the disposal of the wastes in his/her

possession (hereinafter referred to as “abandoned wastes”): <Amended by Act No. 8613, Aug. 3, 2007>

1. If he/she has paid a certain amount of contribution under paragraph (1) 1: To issue the mutual aid association for waste management business under Article 41 to dispose of the abandoned wastes;
2. If he/she carries an insurance policy under paragraph (1) 2: To dispose of the abandoned wastes and then demand the insurer to pay the insurance proceeds; or
3. Deleted. <Amended by Act No. 8613, Aug. 3, 2007>
- (4) The effective term of the insurance policy, the time of purchasing such insurance policy, the guidelines for computation of insured amounts under paragraph (1) 2, and other necessary matters shall be prescribed by Presidential Decree. <Amended by Act No. 8613, Aug. 3, 2007>
- (5) and (6) Deleted. <by Act No. 8613, Aug. 3, 2007>
- (7) A person who has taken an action under paragraph (1) 2 shall, if he/she falls under any of the following subparagraphs, renew the insurance policy under subparagraph 2 of the said paragraph (hereinafter referred to as the “performance guarantee insurance”), as prescribed by Presidential Decree: <Amended by Act No. 8613, Aug. 3, 2007>
 1. When the effective term of the performance guarantee insurance expires; or
 2. When it is necessary to change insured amount of coverage of the performance guarantee insurance because the type of wastes subject to waste management as licensed under Article 25 (3) or the unit price for such waste management is changed or the quantity of wastes in his/her possession exceeds that under paragraph (8) of the said Article.
- (8) If any person who is obligated to renew the performance guarantee insurance policy under paragraph (7) fails to perform his/her obligation, the Minister of Environment or

the Mayor/Do governor may order the person to renew the performance guarantee insurance policy. <Amended by Act No. 8613, Aug. 3, 2007>

- (9) Any person who has purchased the performance guarantee insurance policy or has renewed it in accordance with paragraph (7) or (8) shall submit the original set of the insurance policy certifying the insurance to the Minister of Environment or the Mayor/Do governor, as prescribed by Presidential Decree.
- (10) Any person who intends to substitute any of the actions under subparagraphs of paragraph (1) for any other action under any of the said subparagraphs shall notify the Minister of Environment or the Mayor/ Do governor of his/her substituting action immediately after he/she takes such action.
- (11) The Minister of Environment or the Mayor/Do governor shall, when he/she orders the mutual aid association for waste management business to dispose of abandoned wastes pursuant to paragraph (3)¹, gives such an order to perform it to the extent prescribed by Presidential Decree in regard to the quantity of wastes subject to such disposal and the period of time for such disposal.

Article 41 (Establishment of Mutual Aid Association for Waste Management Business)

- (1) Waste management business operators specializing in disposal of commercial wastes and the persons who has filed a report on recycling of wastes may establish a mutual aid association for the waste management business (hereinafter referred to the “Association”) in order to guarantee the performance of disposal of abandoned wastes.
- (2) The Association shall be a legal entity.
- (3) The Association shall be duly formed upon the completion of the registration of its establishment with the registry office having jurisdiction over its principal place of business.

Article 42 (Business of Association)

The Association shall carry on the mutual aid business for disposing of wastes abandoned by its members.

Article 43 (Contributions)

- (1) Each member of the Association shall pay such contribution as is required for the mutual aid business under Article 42 to the Association.
- (2) The guidelines for computing the contribution under paragraph (1), the procedure for the payment of such contribution, and other necessary matters shall be stipulated by the Association's articles of association.

Article 44 (Application Mutatis Mutandis of Civil Act)

Except as provided for otherwise in this Act, the provisions governing incorporated associations under the Civil Act shall apply mutatis mutandis to the Association.

CHAPTER VI SUPPLEMENTARY PROVISIONS

Article 45 (Electronic Processing of Waste Delivery and Receipt)

- (1) The Minister of Environment shall establish and administer an agency (hereafter referred to as the "electronic information processing center") to manage the details of waste delivery and receipt transmitted under Article 18 (3) and (4) or Article 24-3 (2), and information transmitted under paragraph (3) (hereinafter referred to as "electronic information"). <Amended by Act No. 8613, Aug. 3, 2007>
- (2) The head of electronic information processing center shall establish and operate an electronic information processing program (hereinafter referred to as the "electronic information processing program") to efficiently process electronic information. In this case, the whole or part of costs necessary for electronic information processing may be collected from users of such program. <Amended by Act No. 8613, Aug. 3, 2007>

- (3) When a commercial waste producer has transmitted the detail of duties prescribed by Presidential Decree using the electronic information processing program as prescribed by Ordinance of the Ministry of Environment, such duties are deemed performed.
<Amended by Act No. 8613, Aug. 3, 2007>
- (4) The head of the electronic data processing center shall retain processed records for three years form the date of transmission. <Newly Inserted by Act No. 8613, Aug. 3, 2007>
- (5) The Minister of Environment, the Mayor/Do governor, or the person who has transmitted an electronically processed record relating to affairs under paragraph (3) may demand the head of the electronic data processing center in writing to furnish him/her with the data relevant to the electronically processed records concerned, and the head of the electronic data processing center shall, in turn upon receiving such demand, furnish such data within the period of time prescribed by Ordinance of the Ministry of Environment.
<Amended by Act No. 8613, Aug. 3, 2007>

Article 46 (Reporting on Waste Recycling)

- (1) Any person, who engages in recycling of commercial wastes discharged by others and falls under any of the following subparagraphs, shall file a report with the Mayor/Do governor, as prescribed by Ordinance of the Ministry of Environment: <Amended by Act No. 8486, May 25, 2007; Act No. 8613, Aug. 3, 2007>
1. A manufacturer of a product approved pursuant to Article 15 of the Industrial Standardization Act;
 2. A manufacturer of a fertilizer subject to the official standards under Article 4 of the Fertilizer Control Act or any by-product fertilizer controlled under the said Article;
 3. A manufacturer of animal feeds with its ingredients registered under Article 11 of the Control of Livestock and Fish Feed Act;

4. A manufacturer of a recycled product under subparagraph 5 of Article 2 of the Act on the Promotion of Saving and Recycling of Resources, as specified by Ordinance of the Ministry of Environment;
 5. A person who engages in the recycling of commercial wastes specified by Ordinance of the Ministry of Environment;
 6. A person who engages in the recycling of commercial wastes specified by Ordinance of the Ministry of Environment for purposes of use and by methods prescribed by Ordinance of the Ministry of Environment;
 7. A person who collects and transports commercial wastes specified by Ordinance of the Ministry of Environment among the commercial wastes as referred in subparagraph 5; and
 8. A person who engages in recycling of wastes as the methods approved and publicly announced as safe by the Minister of Environment.
- (2) Where a person falling any subparagraph of paragraph (1) (except for cases of subparagraph 7) intends to file a report under paragraph (1), he/she shall have storage and recycling facilities specified by the Ordinance of the Ministry of Environment. <Newly Inserted by Act No. 8613, Aug. 3, 2007>
- (3) A person who has filed a report under paragraph (1) shall, if he intends to revise any of the matters specified by Ordinance of the Ministry of Environment, file a report on such revision with the Mayor/Do governor.
- (4) A person who falls under paragraph (1) 5 shall be deemed to have filed a report under paragraph (1), if the person falls within the category of persons specified by Ordinance of the Ministry of Environment.

- (5) A person who has filed a report on recycling under paragraph (1) (including those who are deemed to have filed a report under paragraph (4)) may directly collect and transport such wastes for recycling without a license for a waste collection and transportation business under Article 25 (3). <Amended by Act No. 8613, Aug. 3, 2007>
- (6) A person who has filed a report under paragraph (1) shall conform to rules prescribed by Ordinance of the Ministry of Environment, such as the recycling of usage or ways as reported. <Newly Inserted by Act No. 8613, Aug. 3, 2007>
- (7) The relevant Mayor/Do governor may order to closedown recycling facilities, to suspend the whole or part of recycling business, specifying a period within six months, or to prohibit the recycling of waste which is subject to report, in cases where persons who have filed a report under paragraph (1) falls under any of the following subparagraphs:
<Newly Inserted by Act No. 8613, Aug. 3, 2007>
1. Where they have failed to conform to rules pursuant to paragraph (6);
 2. Where they have failed to conform to standards for and methods of collection, transport, storage or disposal of waste under Article 13; and
 3. Where they have failed to take measures under Article 40 (1).
- (8) No person on whom the disposition of closedown of recycling facilities has been taken may file a report on recycling business again within one year from the date such disposition has been taken. <Newly Inserted by Act No. 8613, Aug. 3, 2007>

Article 46-2 (Penalty Surcharges)

- (1) Where a person who has filed a report under Article 46 (1), falls under any subparagraph of Article 46 (7) so the relevant Mayor/Do governor shall order a waste recycling business to be suspended, and the relevant Mayor/Do governor deems that the suspension of such recycling business falls under any of the following subparagraphs, the relevant

Mayor/Do governor may impose a penalty surcharge of not more than 50 million won, in lieu of the suspension of such recycling business, as prescribed by Presidential Decree:

1. The suspension of a waste recycling business concerned prevents a customer from commissioning waste disposal to the recycling business, resulting that wastes are left stored in the customer's place of business, so the customer's business activities are anticipated to be enormously impeded;
 2. Where hazards occurs, or anticipated to occur, to the health of residents due to environmental pollution resulting from wastes stored by the relevant waste management business, or wastes left stored by a customer of the business; and
 3. Where the business is deemed necessary to be sustained due to natural disasters or other inevitable circumstances.
- (2) The amount of penalty surcharge, depending on the types and degree of violation, subject to the imposition of a penalty surcharge under paragraph (1), and other necessary matters shall be prescribed by Presidential Decree.
- (3) If a penalty surcharge under paragraph (1) is not paid, it shall be collected by referring to the practices of dispositions on default of national (local) taxes.
- (4) Penalty surcharges collected under paragraph (1) and (3) shall become the revenue of the relevant City/Do, however shall be used only for uses prescribe by Presidential Decree, such as the expansion of waste disposal facilities for broader areas. [This Article Newly Inserted by Act No. 8613, Aug. 3, 2007]

Article 47 (Measures for Retrieving Wastes)

- (1) Every business operator shall, whenever he/she manufactures, processes, imports, or sells products, ensure that the wastes generated from such manufacturing, processing,

importing, or selling including materials, containers, and products themselves are easily retrieved and disposed of.

- (2) In cases where any material, container, or product under paragraph (1) contains any substance specified by Ordinance of the Ministry of Environment among the air pollutants, water contaminants, and toxic substances under Article 2 of the Clean Air Conservation Act, Article 2 of the Water Quality and Ecosystem Conservation Act, and Article 2 of the Toxic Chemicals Control Act, or where wastes are generated from any material, container, or product manufactured, processed, or sold in a large quantity, the business operator involved shall retrieve and dispose of such material, container, or product in accordance with methods publicly notified by Ordinance of the Ministry of Environment for retrieving and disposing of such wastes. In this case, the Minister of Environment shall, when he/she intends to issue such a public notice, consult in advance with the heads of central administrative agencies concerned. <Amended by Act No. 8466, May 17, 2007>
- (3) If a business operator fails to retrieve and dispose of wastes in accordance with methods publicly notified pursuant to paragraph (2), the Minister of Environment may recommend him/her to take actions necessary for retrieving and disposing of them within a given period of time.
- (4) If a person fails to perform his/her obligation as recommended pursuant to paragraph (3), the Minister of Environment may order him/her to take actions required for retrieving and disposing of the wastes properly.

Article 48 (Order to Take Actions for Disposing of Wastes)

- (1) If it is discovered that the method by which wastes have been collected, transported, stored, or disposed of by any of the following persons does not conform to the standards

under Article 13, the Minister of Environment, the Mayor/Do governor or the head of Si/Gun/Gu may order the person to change the method of collecting, transporting, keeping in storage, or disposing of such wastes or to take any other necessary actions within a given period of time:

1. The person who has collected, transported, kept in storage, or disposed of such wastes;
 2. The person who commissioned another person to implement waste disposal without the ascertainment under Article 17 (1) 3; and
 3. The owner of the land in which such wastes have been dumped or buried, in cases where the landowner him/herself has disposed of such wastes in his/her own land or has allowed another person to use his/her own land.
- (2) If a person who had taken action under any subparagraph of Article 40 (1) has abandoned wastes and some abandoned wastes still remain without being disposed of properly even after an order has been issued, under paragraph (2) of the said Article, to a person engaging in waste disposal business or has reported recycling business to dispose of wastes, the Minister of Environment or the relevant Mayor/Do governor may order the person who has acquired the place of business discharging such abandoned wastes under Article 33 or the person who has acquired the place of business from a waste management business operator or the person who engaging the reported waste cycling business through an auction under the Civil Execution Act, the realization under the Debtor Rehabilitation and Bankruptcy Act, or the sale of property seized under the National Tax Collection Act, the Customs Act, or the Local Tax Act, or any other similar proceedings to dispose of the abandoned wastes in question within a given period of time.
- <Amended by Act No. 8613, Aug. 3, 2007>

(3) The Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu shall, when he/she intends to issue an order to take actions under paragraph (1) or (2), notify the person to whom the order is to be issued of the grounds for such order, and shall give him/her an opportunity to provide a justification or provide evidence favorable to him/her: Provided, That the foregoing shall not apply in cases where such order is urgently required for the conservation of the living environment.

Article 49 (Vicarious Execution)

In cases where a person to whom an order has been issued to take actions under Article 48 (1) or (2) fails to perform his/her obligation as ordered, the Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu may take such actions vicariously in accordance with the Administrative Vicarious Execution Act and collect the expenses for such actions from the person to whom such order was issued.

Article 50 (Follow-up Management of Waste Disposal Facilities)

- (1) If a person who has installed a waste disposal facility with approval for the installation under Article 29 (2) (including the persons who hold a license for a waste management business under Articles 25) intends to discontinue the operation of such facility installed by him/her or close down such facility, he/she shall file a report on his/her intention with the Minister of Environment as prescribed by Ordinance of the Ministry of Environment.
- (2) A person who had filed a report under paragraph (1) and discontinued the operation of a landfill facility for wastes specified by Presidential Decree or closed down such facility shall implement follow-up management such as installation and operation of facilities for the treatment of seeping water as prescribed by Ordinance of the Ministry of Environment in order to prevent such facility from causing hazards to the health or property of residents or its surrounding environment.

- (3) (3) If the person who is obligated to implement follow-up management under paragraph (2) fails to perform his/her obligations properly, the Minister of Environment may order the person to take corrective measures within a given period of time, as prescribed by Ordinance of the Ministry of Environment.
- (4) (4) If the person to whom an order has been issued pursuant to paragraph (3) fails to take any corrective measure within the given period of time, the Minister of Environment may assign a person designated by Presidential Decree to vicariously take the corrective measures and may spend the performance guarantee bond for follow-up management, the performance guarantee insurance money, or the advance reserve for the follow-up management guarantee bond paid under Article 51 or 52 (hereinafter referred to as the “performance guarantee bond for follow-up management or similar”) for the expenses required for such vicarious execution. In this case, the Minister of Environment may collect the difference from the person to whom such an order has been issued, if the expenses exceed the amount of the performance guarantee bond for follow-up management or similar.

Article 51 (Performance Guarantee Bond for Follow-up Management of Waste Disposal Facilities)

- (1) If it is found that a landfill facility for wastes subject to follow-up management under Article 50 (2) may result in a serious hazard to the health or property of residents or surrounding environment due to seepage of water, etc. after the discontinuation of its operation or closedown of the facility, the Minister of Environment may require the person who installed such facility to deposit the full amount or a part of necessary follow-up management expenses with an agency engaging in follow-up management for waste disposal facilities under Article 50 (4), as prescribed by Presidential Decree, in order to

secure the guarantee for the performance of follow-up management: Provided, That in cases falling under any of the following subparagraphs, the person may be exempted from obligation to deposit necessary follow-up management expenses or may be allowed to substitute such insurance or reserve for the deposit of all or a part of follow-up management expenses, as prescribed by Presidential Decree: (2) <Amended by Act No. 8613, Aug. 3, 2007>

1. If the person carries an insurance policy that guarantees the performance of follow-up management;
 2. If the person has accumulated a reserve for expenses necessary for follow-up management under Article 52; and
 3. If there is any other ground specified by Presidential Decree.
- (2) The expenses that a person who installed a waste landfill facility under paragraph (1) shall deposit (hereinafter referred to as “performance guarantee bond for follow-up management”) shall be calculated in accordance with the guidelines prescribed by Presidential Decree, and the time and procedure for the payment of such expenses and other necessary matters shall be prescribed by Presidential Decree.
- (3) The performance guarantee bond for follow-up management under paragraph (2) shall be collected in accordance with the practices of disposition on default of national taxes, if it has not been paid on or before the time limit.
- (4) If a person who installed a waste landfill facility has completely or partially performed his/her obligations for follow-up management, which he/she is obligated to perform each year, an agency engaging in follow-up management under paragraph (1) shall refund a portion of the performance guarantee bond for follow-up management, equivalent to the amount calculated according to the guidelines prescribed by Presidential Decree in

proportion to the amount of his/her performance. <Amended by Act No. 8613, Aug. 3, 2007>

Article 52 (Advance Reserve for Performance Guarantee Bond for Follow-up Management)

- (1) The Minister of Environment may require, as prescribed by Presidential Decree, a person who has installed a landfill facility for wastes specified by Presidential Decree to deposit, in advance, a part of the expenses required for follow-up management subsequent to the discontinuation of operation or closedown of the facility. <Amended by Act No. 8613, Aug. 3, 2007>
- (2) If the amount of the advance reserve deposited by a person who has installed a facility under paragraph (1) exceeds the performance guarantee bond for follow-up management under Article 51 (1), an agency engaging in follow up management under paragraph (1) shall refund the difference, as prescribed by Presidential Decree. <Amended by Act No. 8613, Aug. 3, 2007>

Article 53 (Purposes of Use of Performance Guarantee Bond for Follow-up Management)

The performance guarantee bond for follow-up management and the advance reserve under Articles 51 and 52 shall be used for the following purposes:

1. Refunding the performance guarantee bond for follow-up management and the advance reserve for follow-up management of a landfill facility;
2. Vicariously executing the follow-up management of a landfill facility; and
3. For other purposes of use prescribed by Presidential Decree.

Article 54 (Restriction on Use of Land Subsequent to Discontinuance of Operation or Closedown)

If it is found that a landfill facility for the wastes subject to follow-up management under Article 50 (2) is likely to cause a serious hazard to the health or property of residents or its

surrounding environment because seeping water leaks therefrom, embankments are washed away, or any other event occurs subsequently after the operation of the facility is discontinued or it is closed down, the Minister of Environment may place a restriction on the purpose of use of the land in which the facility is situated, as prescribed by Presidential Decree, by requiring the person who holds the ownership of, or any interest other than the ownership in, the land to use the land only for the purpose of installing a park, growing trees, developing grasslands, or installing sports facilities during the period of time prescribed by Presidential Decree.

Article 55 (Adjustment of Waste Management Businesses)

The Minister of Environment or the Mayor/Do governor may, whenever he/she coordinates waste management businesses with local governments pursuant to Article 4 (2) or (4), demand them to use a certain waste disposal facility, including a waste landfill facility in common, if necessary to do so, and may also demand them to prepare supportive measures necessary for conservation and improvement of the living environment of the area in which such facility is situated. In this case, the local government concerned shall comply with such demands, unless there is any extraordinary circumstance otherwise.

Article 56 (State Subsidies)

The State may grant local governments subsidies for the whole or part of the expenses required for installing waste disposal facilities within the limit of its budget.

Article 57 (Aid for Expenses Required for Installation of Waste Disposal Facilities)

The State or the heads of local governments may, if deemed necessary, grant financial aid to a person who intends to install a waste disposal facility.

Article 58 (Reporting on Performance of Waste Management)

- (1) The Mayors/Do governors shall report the performance of waste management carried out within their jurisdictions during the preceding year to the Minister of Environment by no later than March 31 as prescribed by Ordinance of the Ministry of Environment.
- (2) The Minister of Environment may require the Mayors/Do governors or the heads of Sis/Guns/Gus to report the performance of guidance and control conducted in relation to the affairs of waste management within the extent required for the enforcement of this Act.

Article 58-2 (Korea Landfill Association)

- (1) Persons who establish and administer waste disposal facilities, waste management businesses, waste-related organizations, and other persons engaging in affairs related to wastes may establish the Korea Landfill Association (hereafter referred to as the “Association”), upon approval by the Minister of Environment, in order to facilitate the development of waste-related fields, such as research, technology development, the wide use of information, etc.
- (2) The Association shall be established as a legal entity.
- (3) The duties, organization and administration of the Association, and other necessary matters shall be prescribed by Presidential Decree, within the extent necessary for achieving its purpose.
- (4) Provisions concerning a corporate juristic person in the Civil Act shall apply muntatis muntandis to matters regarding the Association, if not provided for in this Act. [This Article Newly Inserted by Act No. 8613, Aug. 3, 2007]

Article 59 (License Fees)

A person who wishes to obtain a license or have his/her facility inspected under Articles 25 (3) and 30 (1) or (2) shall pay the fee as prescribed by Ordinance of the Ministry of Environment.

Article 60 (Criteria for Administrative Dispositions)

The criteria for administrative dispositions made against violations of this Act and the orders issued under this Act shall be prescribed by Ordinance of the Ministry of Environment.

Article 61 (Hearing)

The Minister of Environment or the Mayor/Do governor shall, whenever he/she intends to make any of the following dispositions, hold a hearing:

1. To revoke a license under Article 27; or
2. To issue an order to close down a waste disposal facility under Article 31 (5).

Article 62 (Delegation of Authority or Commissioning of Business Affairs)

- (1) Part of the authority vested in the Minister of Environment under this Act may be delegated to the Mayor/Do governor or the head of each regional environmental office, as prescribed by Presidential Decree.
- (2) The State or the head of a local government may, if deemed necessary for the efficient management and operation of a waste disposal facility or similar installed under this Act, commission a person capable of managing and operating it to implement such management and operation, as prescribed by Ordinance of the Ministry of Environment (Municipal Ordinance of the relevant local government in cases where the head of the local government commissions such management and operation).

CHAPTER VII PENAL PROVISIONS

Article 63 (Penal Provisions)

A person who has dumped or buried commercial wastes in violation of Article 8 (1) or (2) shall be punished by imprisonment for seven years or less or by a fine not exceeding fifty million won. In this case, a person may be punished by both imprisonment and a fine concurrently.

Article 64 (Penal Provisions)

A person who falls under any of the following subparagraphs shall be punished by imprisonment for five years or less or by a fine not exceeding thirty million won:

1. A person who has operated a waste management business without a license under Article 25 (3);
2. A person who has obtained a license for a waste management business under Article 25 (3) by fraudulent or other unlawful means; or
3. A person who has not complied with an order of closure under Article 31 (5).

Article 65 (Penal Provisions)

A person who falls under any of the following subparagraphs shall be punished by imprisonment for three 3 years or less or by a fine not exceeding twenty won: Provided, That a person may be punished by both imprisonment and a fine concurrently if the person falls under subparagraph 1 or 2: <Amended by Act No. 8613, Aug. 3, 2007>

1. A person who has buried wastes in violation of Article 13 or Article 24-3 (4);
2. A person who has disposed of commercial wastes or imported wastes, in violation of Article 18 (1) or Article 24-3 (1);
3. A person who has exported imported wastes as the same state or condition as they were imported, in violation of Article 24-3 (5);
4. A person who has altered an item contained in a license for a waste management business without an amended license under Article 25 (11);

5. A person who has continued his/her business during the business suspension period under Article 27;
6. A person who has installed a waste disposal facility without approval in violation of Article 29 (2);
7. A person who has operated a waste disposal facility without an inspection or a confirmation on conformity in violation of any provision of Article 30 (1) through (3);
8. A person who has failed to comply with an order of improvement under Article 31 (4) or who has violated an order to suspend the operation;
9. A person who has failed to comply with an order to take an action under Article 47 (4);
10. A person who has not complied with an order to take action under Article 48 (1) or (2); or
11. A person who has failed to comply with an order of correction under Article 50 (3).

Article 66 (Penal Provisions)

A person who falls under any of the following subparagraphs shall be punished by imprisonment for two years or less or by a fine not exceeding ten million won: <Amended by Act No. 8613, Aug 3, 2007>

1. A person who has contaminated the surrounding environment by collecting, transporting, keeping in storing, or disposing of wastes in violation of Article 13 (excluding a violation of subparagraph 1 of Article 65) or Article 24-3 (4);
2. A person who has failed to file a report or who has filed a false report in violation of Article 17 (2), 24-2 (1) or 46 (1);
3. Deleted; <by Act No. 8613, Aug 3, 2007>
4. A person who has not obtain verification or verification on changes under Article 17 (3) or (4), who has discharged, transported, or disposed of controlled waste in a manner different from that certified;

5. A person who has failed to transmit information on the delivery and receipt of wastes to the electronic information processing center under Article 18 (3) or Article 24-3 (2), failed to transmit it pursuant to the ways as prescribed by Ordinance of the Ministry of Environment, or has transmitted false data to the center;
6. A person who has carried out his/her business in deviation from the type and scope of business under Article 25 (5);
7. A person who has breached a condition under Article 25 (7);
8. A person who has allowed another person to use his/her name or trade name in collection, transportation, or disposal of wastes or who has lent his/her license to other person in violation of Article 25 (8);
9. A person who has stored wastes in violation of Article 25 (9);
10. A person who has installed or operated a waste incineration facility, although it is prohibited from being installed, in violation of Article 29 (1);
11. A person who has installed a waste disposal facility without filing a report in violation of Article 29 (2);
12. A person who has amended any item approved without approval for such amendment in violation of Article 29 (3);
13. A person who has maintained and managed a waste disposal facility in a manner that does not conform to the guidelines for the management under Article 31 (1) and has consequently contaminated the surrounding environment;
14. A person who has failed to comply with an order to take a measurement or make an assessment under Article 31 (6);
15. A person who has failed to comply with an order to submit a report under Article 38 (2);
and

16. A person who have continued to operate his/her recycling business while the business is suspended under Article 46 (7).

Article 67 (Joint Penal Provisions)

- (1) If the representative, or an agent, an employee or any other worker of a legal entity commits an offense under any provision of Articles 63 through 66 in connection with the business of the legal entity, not only shall such offender be punished accordingly, but the legal entity shall also be punished by a fine under the relevant Article.
- (2) If an agent, an employee, or any other servant of a private individual commits an offense under any provision of Articles 63 through 66 in connection with the business of the private individual, not only shall such offender be punished accordingly, but the private individual shall also be punished by a fine under the relevant Article.

Article 68 (Fine for Negligence)

- (1) A person who falls under any of the following subparagraphs shall be punished by a fine for negligence not exceeding ten million won: (2) <Amended by Act No. 8613, Aug. 3, 2007>
 1. A person who has collected, transported, kept in storage or disposed of wastes in violation of Article 13 (excluding a person who falls under subparagraph 1 of Article 65 or subparagraph 1 of Article 66) or Article 24-3 (4);
 2. A person who has charged any price higher than the maximum price or any price lower than the minimum price prescribed for waste management, in violation of Article 25 (9) in carrying out commissioned waste management;
 3. A person who has failed to comply with the rules under Article 25 (9);
 4. A person who has maintained or managed a waste disposal facility in a manner that does not conform to the guidelines for such management in violation of any provision of

Article 31(1) through (3) or who has filed to take a measure or make an assessment of the pollutants or impacts on the surrounding area (excluding a person who falls under subparagraph 14 of Article 66);

5. A person who has failed to appoint a technical manager or has failed to make a contract for technical management services in violation of Article 34 (1);
6. A person who falls under Article 38 (1) 3 but has failed to submit a report under Article 38 (1) within a prescribed time limit or has prepared and submitted a false report; 6-2. A person who has failed to take an action pursuant to Article 40 (1), or failed to conform to an order of disposal of wastes under paragraph (2) of the same Article;
7. A person who has failed to comply with an order to take action in violation of Article 40 (3) 1; and
8. A person who has failed to comply with an order of renewal under Article 40 (8).

(2) A person who falls under any of the following subparagraphs shall be punished by a fine for negligence not exceeding three million won: <Amended by Act No. 8613, Aug. 3, 2007>

1. A person who has commissioned someone to provide him/her with a service without ascertainment under Article 17 (1) 3;
2. A person who has failed to perform his/her obligations to comply with the guidelines publicly notified pursuant to Article 17 (5);
3. A person who has commissioned someone to implement waste management at a price lower than the price prescribed for waste management in violation of Article 18 (2);
4. A person who has failed to transmit information on the delivery and receipt of wastes to the electronic information processing center under Article 18 (3) or Article 24-3 (2) on time, or has transmitted false information to the center.;

5. A person who has made an amendment to any reported item without filing a report on such amendment in accordance with Article 17 (2), 24-2 (2), 25 (11), or 46 (3);
 6. A person who has failed to carry documents, etc. with him/her or failed to generate it in violation of Article 19 (1) or 24-3 (3);
 7. A person who has failed to issue a notice in violation of Article 19 (2);
 8. Deleted; <by Act No. 8613, Aug. 3, 2007>
 9. A person who has failed to file a report in violation of Article 37;
 10. A person who has failed to renew the performance guarantee insurance policy under Article 40 (7); and
 11. A person who has failed to conform to rules under Article 46 (6).
- (3) A person who falls under any of the following subparagraphs shall be punished by a fine for negligence not exceeding one million won: <Amended by Act No. 8613, Aug. 3, 2007>
1. A person who has dumped, buried or incinerated household wastes in violation of Article 8 (1) or (2);
 2. A person who has failed to comply with an order to take measures in violation of Article 8 (3);
 3. A person who has violated Article 15 (1) or (2);
 4. Deleted; <by Act No. 8613, Aug. 3, 2007>
 5. A person who has commenced the operation of a facility without filing a report under Article 29 (4);
 6. A person who has failed to take training courses or did not provide an opportunity to take training courses in violation of Article 35 (1) or (2);

7. A person who has failed to keep or preserve account books under Article 36 (1) or who has made a false entry therein;
 8. A person who has failed to submit a report under Article 38 (1) within a prescribed time limit or who has prepared and submitted a false report (excluding any person under paragraph (1) 6);
 9. A person who has failed to submit such materials as may be necessary for preparing a report under Article 38 (3) within a prescribed time limit or who has prepared and submitted a false report;
 10. A person who has failed to file a report under Article 39 (1) or who has filed a false report;
 11. A person who has rejected, interfered with, or evaded an access or inspection under Article 39 (1);
 12. A person who has failed to submit the original set of an insurance policy under Article 40 (9);
 13. A person who has failed to notify of changes under Article 40 (10); or
 14. A person who has failed to file a report under Article 50 (1).
- (4) The fine for negligence under paragraphs (1) through (3) shall be imposed and collected by the Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu, as the case may be, prescribed by Presidential Decree.
- (5) A person who has is dissatisfied with the disposition of a fine for negligence under paragraph (4) may file an objection with the Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu within thirty days from the date on which he/she is notified of the disposition.

(6) The Minister of Environment, the Mayor/Do governor, or the head of Si/Gun/Gu shall, upon receiving an objection under paragraph (5) from a person subject to the disposition of a fine for negligence, under paragraph (4) notify the competent court of the objection without delay, and the court shall, submit the case to trial pursuant to the Non-Contentious Case Litigation Procedure Act.

(7) If neither an objection is filed nor the fine for negligence is paid within the period under paragraph (5), such fine for negligence shall be collected in accordance with the practices of the disposition on default of national or local taxes.

ADDENDA

Article 1 (Enforcement Date)

This Act shall enter into force on the date of its promulgation: Provided, That the amended provisions of Article 3 (1) 4 above and Article 9 (40) of Addenda shall enter into force on September 28, 2007; the amended provisions of subparagraphs 4 and 5 of Article 2 and Article 25 (9) above on January 4, 2008; the amended provisions of Articles 3 (2) and 18 (1) above and Article 9 (42) of Addenda on January 20, 2008; and the amended provision of Article 9 (29) of Addenda on January 27, 2008, respectively.

Article 2 (Transitional Measure concerning Enforcement Date)

The former provisions of subparagraphs 4 and 5 of Article 2 and Articles 3 (1) 4 and (2), 25 (1), and 26 (9) shall remain effective until the amended provisions of subparagraph 4 and 5 of Article 2 and Articles 3 (1) 4 and (2), 18 (1), and 25 (9) enter into force pursuant to the proviso to Article 1 of Addenda.

Article 3 (Effective Period)

The amended provisions of Article 12 shall remain effective until October 4, 2007.

Article 4 (Transitional Measure concerning Reporting on Recycling of Industrial Wastes)

Any person who has filed a report on recycling of industrial wastes in accordance with the former provisions enforceable as of September 9, 1991, which corresponds to the enforcement date of the Amendment (Act No. 4363) to the Wastes Control Act, shall be deemed to have filed a report on recycling under this Act.

Article 5 (Transitional Measure concerning Reporting by Waste Producers who Discharge Ordinary Wastes in Large Quantities or Specific Wastes)

Any persons who has filed a report as a waste producer who discharges ordinary wastes in large quantities or specific wastes in accordance with the former provisions enforceable as of February 5, 1996, which corresponds to the enforcement date of the Amendment (Act No. 4970) to the Wastes Control Act, shall be deemed to have filed a report as a commercial waste producer under this Act.

Article 6 (Transitional Measures concerning License for Waste Management Business)

(1) Any person who holds a licence for waste recycling business under the former provisions enforceable as of August 9, 1999, which corresponds to the enforcement date of the Amendment (Act No. 5865) to the Wastes Control Act, shall be deemed to have obtained the license for the interim waste treatment business under the amended provisions of Article 25 (3) herein.

(2) Any person who files a report on recycling of wastes under the former provisions enforceable as of August 9, 1999, which corresponds to the enforcement date of the Amendment (Act No. 5865) to the Wastes Control Act, shall be deemed to have filed a report on recycling of wastes under the amended provision of Article 46 herein.

Article 7 (General Transitional Measure concerning Dispositions)

The acts performed by or against an administrative agency under the former provisions enforceable at the time when this Act enters into force shall be deemed as those performed by or against the administrative agency under this Act.

Article 8 (Transitional Measure concerning Penal Provisions and Fines for Negligence)

The acts performed before the enforcement of this Act shall be governed by the former provisions in applying penal provisions or provisions concerning fines for negligence.

Article 9 Omitted.

Article 10 (Relations with Other Acts)

A citation of the former Wastes Control Act or any provision thereof by any other statute enforceable at the time when this Act enters into force shall be deemed to be a citation of this Act or a corresponding provision here of in lieu of the former provision, if such a corresponding provision exists herein.

ADDENDA <Act No. 8466, May 17, 2007>

Article 1 (Enforcement Date)

This Act shall enter into force six month after the date of its promulgation.

Articles 2 through 5 Omitted.

ADDENDA <Act No. 8486, May 25, 2007>

Article 1 (Enforcement Date)

This Act shall enter into force one year after the date of its promulgation.

Articles 2 through 10 Omitted.

ADDENDA <Act No. 8613, Aug. 3, 2007>

(1) (Enforcement Date) This Act shall enter into force one year after the date of its promulgation.

(2) (Transitional Measures concerning Transmission of Delivery and Receipt of Waste to Electronic Information Processing Program) Where a waste delivery note or a simplified waste delivery note is issued under the previous provisions and the delivery and receipt thereof is pending at the time when this Act enters into force, the transmission of information to the electronic information processing program is deemed made under the amended provisions of Article 18 (3).

(3) (Transitional Measures concerning Penal Provisions) The previous provisions shall apply to application of penal provisions to acts conducted before this Act enters into force.

ADDENDA <Act No. 8789, Dec 21, 2007>

Article 1 (Enforcement Date)

This Act shall enter into force one year after the date of its promulgation.

Articles 2 through 5 Omitted.

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