


## An Implementation Of Environmental Law In Medan City Related To Waste Management System

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Article Info	ABSTRACT
<p><b>Keywords:</b> Environmental Law Implementation, Waste Management, Environmental Policy</p>	<p>This study examines the implementation of environmental law in Medan City in relation to waste management. Medan, as one of the largest cities in Indonesia, faces significant challenges in managing waste due to rapid population growth and urbanization. The purpose of this study is to analyse the effectiveness of environmental law regulations governing waste management in Medan and to identify factors that support and hinder the implementation of these policies. The research employs a qualitative approach, collecting data through interviews, observations, and document reviews related to waste management policies. The findings reveal that although regulations exist to govern waste management in Medan, their implementation faces various obstacles, including low public awareness, limited waste management facilities, and insufficient law enforcement by authorities. The study concludes that collaboration among the government, community, and private sector is crucial to optimizing sustainable waste management. Increased public awareness about environmental regulations and the provision of adequate infrastructure are essential to ensure that waste management is effective and environmentally friendly.</p>
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### INTRODUCTION

Environmental pollution is our common problem that is increasingly important to solve, because it concerns our safety, health, and the continuity of our lives. Anyone can play a role in solving this environmental pollution problem, including us. Starting from the smallest environment, ourselves, to the wider environment. The problem of environmental pollution that must be resolved together immediately, especially the problem of waste

Waste is a problem faced by almost all countries and the world. Indonesia is one of the countries that has a waste problem because the population in Indonesia is ranked 4th in the world. In line with the increasing population and all its activities, the amount of waste produced continues to increase over time and its types are increasingly diverse so that humans in their lives cannot be separated from waste. The problem of waste is a very important environmental problem, and is the responsibility of all people, the entire Indonesian nation.

In Medan City itself, which is the core city in North Sumatra, the volume of waste produced by residents is 5,710 m<sup>3</sup> / day (Cleanliness Service, 2014). The waste production that can be transported by the Medan City Cleanliness Service is only 68%, while 32% has not been transported. The main problem of the waste sector in Medan City is the large number of illegal dumping. Sadoko (1993), stated that waste management efforts better city waste based on waste management efforts as early as possible, as close as possible to the source and as much as possible to re-use waste. Based on data from the Medan City Sanitation Sub-dept. (2014), the existence of uncollected waste is caused by the lack of transportation fleets. The lack of transportation fleets is caused by: First, the volume of Medan City waste from year to year shows a high increase with population growth and the presence of new industries. According to the Medan City Sanitation Sub-dept., to manage 2,000 tons of waste/day, it only has 112 units (83 units of Yellow Trucks, Typer and 19 units of Anrol type containers) with inadequate conditions. Second, the negative effects of waste accumulation. Third, transportation that has not been running well. Fourth, the lack of Temporary Waste Disposal Sites (TPSS) resulting in waste in several locations in Medan City. Fifth, the law (UU) on waste management in 2008.

### **Literature Review**

#### **Environmental Law**

The environment is a combination of physical conditions including the state of natural resources such as land, water, solar energy, minerals, and flora and fauna that grow on land and in the sea, with institutions that include human creation as decisions on how to use the physical environment. The environment can also be interpreted into everything that is around humans and affects the development of human life.

The general definition of the environment is everything that is around humans and influences the development of human life. Environmental law (Environmental Law) is a set of legal norms that regulate environmental management to ensure sustainability and develop environmental capabilities.

According to Law No. 23 of 1997, the environment is a unity of space with all objects, power, conditions and living creatures, including humans and their behavior, which influence the continuity of life and the welfare of humans and other living creatures. Environmental pollution is based on changes in environmental conditions due to economic and technological developments.

These changes in conditions certainly exceed the threshold of ecosystem tolerance so that increasing the amount of pollutants in the environment. Factors that cause environmental pollution include increasing population and uncontrolled natural exploitation activities, as well as industrialization that is not managed properly. In addition, environmental pollution can actually also be caused by natural processes themselves.

#### **Definition of Waste**

Waste is basically a material that is discarded or thrown away from a source of human activity or natural processes that has no economic value, and can even have a negative economic value because in its handling, either to dispose of or clean it, it requires quite a large cost.<sup>10</sup> Waste is a material that has no value or is worthless for ordinary or primary purpos-

es in the manufacture or use of damaged or defective goods in manufacturing or excess or rejected material or waste (Gunawan, 2007).<sup>11</sup> According to Slamet (2002), waste is anything that is no longer desired by the owner and is solid.<sup>12</sup> Meanwhile, in the Academic Manuscript of the Draft Law on Waste, it is stated that waste is the remains of a business and/or activity in solid or semi-solid form in the form of organic or inorganic substances that can be decomposed or cannot be decomposed which are considered no longer useful and are discarded into the environment. Based on these definitions, waste can be distinguished based on its biological and chemical properties, making it easier to manage as follows:

- a. Decomposable waste (garbage), requires fast management. The gases produced from waste decomposition are in the form of methane gas which is toxic to the body.
- b. Non-decomposable waste (refuse), consisting of plastic, metal, glass, rubber and other waste.
- c. Waste in the form of dust/ash from the combustion of fuel or waste.
- d. Waste that is hazardous to health, namely B3 waste, is waste that due to its nature, quantity, concentration or due to its chemical, physical and microbiological properties can significantly increase mortality and morbidity or cause irreversible diseases or serious illnesses that recover (do not reverse) or are reversible (reversible) or have the potential to cause harm now or in the future to health or the environment if not processed, stored or disposed of properly

Seen from its form, waste can be in the form of solids, liquids or gases, while waste is only in the form of solids or semi-solids. Unlike garbage, waste requires special management so as not to pollute the environment. In this sense, feces are not included in the category of garbage, but waste. So the difference between garbage and waste can be seen from its form, level of pollution and management method.

Increasing the amount of pollutants in the environment. Factors that cause environmental pollution include increasing population and uncontrolled natural exploitation activities, as well as industrialization that is not managed properly. In addition, environmental pollution can actually also be caused by natural processes themselves. The factors that cause environmental pollution in detail are as follows.

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1. Results of human activities
  - a. Household waste
  - b. Agricultural waste -> use of pesticides
  - c. Use of radioactive substances as irradiators -> hospital importance for the field of radiography
  - d. Use of motor vehicles
  - e. Mining production

- f. Industrial production
2. Natural change processes generally occur as a result of natural disasters such as volcanic and tectonic activity, as well as celestial elements.
3. Implementation of Environmental Law in Medan City Regarding Waste Management Law No. 18/2008 on Waste Management regulates the responsibilities of the central, provincial and city governments in Indonesia.

#### **Waste Management System.**

In general, the theory of waste management in Indonesia has been stated in the Indonesian National Standard, which is a standard set by the Indonesian Standards Agency which applies nationally, in waste management issuing its standards, the increase in population in an area will automatically reduce the carrying capacity of infrastructure in an area. The same analogy, population growth will also be directly related to the amount of waste generated in residential or urban areas. The quantity and distribution of waste facilities greatly affect the effectiveness of waste management. Waste management patterns in many areas in Indonesia are still divided into 2 (two) management groups, namely management carried out by the community from generation, storage, transportation, and final disposal or destruction or to the Temporary Shelter (TPS) and management carried out by the government which serves waste transportation from TPS to TPA. Integrated waste management by the government or private parties appointed by the government in general has not been widely implemented, except in several large cities in Indonesia. Budget constraints in fulfilling waste facilities are the main reason for the government and the low private interest in handling the waste business (Sumantri, 2010).

Waste management is an arrangement related to the control of waste generation, storage, collection, transfer and transportation, processing and disposal of waste in a manner that refers to the best principles of public health, economics, engineering, conservation, aesthetics and other environmental considerations and also responsive to mass behavior. Waste management has very basic objectives which include improving environmental and public health, protecting natural resources (water), protecting socio-economic facilities and supporting strategic sectors (Rahardyan and Widagdo 2005).

The urban waste management system is basically seen as components of subsystems that support each other to achieve the goal of a clean, healthy and orderly city (Syafrudin and Priyambada 2001). These components include:

- a. Operational technical subsystem
- b. Organization and management subsystem
- c. Legal and regulatory subsystem
- d. Financing subsystem
- e. Community participation subsystem

The government in waste management requires legal certainty, clarity of responsibility and authority of regional governments, as well as the role of the community and the business world so that waste management can run proportionally, effectively, and efficiently.

## METHOD

This a study uses a qualitative descriptive research method, the type of descriptive research generally does not require a hypothesis so that in the research steps there is no need to formulate a hypothesis, it is called a qualitative research method because qualitative research is carried out in a natural setting and the data collected is generally qualitative. Qualitative research methods are more based on phenomenological philosophy that prioritizes appreciation. Qualitative research methods seek to understand and interpret the meaning of an event of human behavioral interaction in a particular situation according to the researcher's perspective. Semi-structured interviews were conducted with key stakeholders, including government officials responsible for waste management, community leaders, and representatives from the private sector involved in waste management services.

This interview aims an understand the perspectives, challenges, and effectiveness of existing environmental regulations from the perspective of the parties involved. Direct observations were conducted in several areas in Medan City to assess waste management practices and community compliance with applicable regulations, such as proper waste sorting and disposal. These observations include observations at waste collection points, final disposal sites, and waste management facilities. Relevant documents, including local environmental regulations, waste management policies, and city government reports on waste management, were analyzed to understand the legal framework, policy initiatives, and obstacles faced in the implementation of waste management laws.

Data from interviews, observations, and document analysis were organized and coded to identify key themes. The analysis focused on evaluating factors that support or hinder environmental law enforcement, the level of public awareness and participation, and the role of local governments and private entities in sustainable waste management. Through this approach, the study is expected to provide a comprehensive understanding of the conditions of environmental law implementation in waste management in Medan City and provide insights for future improvements.

## RESULT

### Waste Management Law

Normatively, there are already regulations governing waste management, namely in Law. No. 18 of 2008 concerning Waste Management. Waste management referred to here is a systematic, comprehensive, and continuous activity that includes waste reduction and handling. In this law, the following are defined:

1. Waste is the remains of daily human activities and/or natural processes in solid form.
2. Specific waste is waste that due to its nature, concentration, and/or volume requires special management.
3. The source of waste is the origin of waste generation.
4. Waste producers are every person and/or the result of natural processes that produce waste.
5. Waste management is a systematic, comprehensive, and continuous activity that includes waste reduction and handling.

6. The final processing site is a place to process and return waste to the environmental media safely for humans and the environment.

In addition, this law mentions the duties and obligations of local governments in waste management. The implication is that national and provincial policies in waste management can then be formulated specifically by local governments as a form of waste reduction and handling. Therefore, it can be concluded that the government has a role in waste management in the aspect of waste management itself.

From the data of Medan City Cleaning and Parks Service, the problems faced arise at every stage of solid waste management such as storage, collection, transfer, transportation and processing where these problems tend to increase at the end point, namely landfill (Meidiana & Gamse, 2010).<sup>29</sup> There are many factors that influence this low service with the existing waste management law being inadequate, causing waste management to be inefficient in Indonesia. This law does not specifically regulate solid waste management. Many cities face landfill problems due to limited land availability and open dumping sites are not equipped with sanitation systems, such as cover soil.

Training programs for capacity building in municipal waste management have been organized by the Ministry of Environment and the Ministry of Housing and Infrastructure, efforts to improve indicators must 100 start by seeing existing conditions as challenges and using this potential to develop them. Leaf waste is processed into compost, while plastic and paper waste are not processed.

#### **Waste Management in Medan City)**

Containerization is a way to temporarily store waste at its source, both individual and communal. There are several purposes for this containerization, namely to facilitate collection and transportation, overcome the emergence of bad odors and avoid attention from animals, avoid rainwater and avoid mixing waste. Currently in Medan City settlements, the method of waste storage used is an individual pattern and is limited to commercial activities while domestic activities have not been containerized. These individual containers are placed in front of houses, buildings and shophouses along the road and the shape of the containers used varies. Each cost provides 1 unit of container made of woven bamboo baskets, used drums, paint waste containers and special trash containers made of permanent walls. These containers are not closed and left open, if there are leftover food, animals often enter so that the trash is scattered around the container, reducing the aesthetic value of the city. The non-standard waste disposal containers for example for some shops, the size of the container is too small so that this container cannot be used properly, for example, cardboard waste is relatively large in size so that it cannot fit into the container. The placement of the containers is along the main road where there are many shops/shophouses which are sources of waste generation.

Traditional markets generally use communal containers, made of permanent walls, but because of the large volume of waste produced every day, the communal containers cannot accommodate the existing waste. Sometimes the waste containers are no longer suitable for use, resulting in waste being piled up in front of the market without using these containers, reducing the aesthetics of the environment and can have an impact on health.

Garbage collection is carried out from each source of generation on protocol roads using a Tripper Truck or known as a direct individual pattern, while for roads that cannot be passed by Tripper Trucks in residential areas, it is carried out using garbage carts or garbage pedicabs. This activity is carried out twice a day, namely morning and afternoon. The process of collecting and transporting garbage in Medan City uses two methods, namely:

- a. The first method is, from the source of generation (household waste) it is collected and transported by garbage carts/rickshaws to the TPS that has been provided, after which it is transported using an Armroll truck to the TPA.
- b. The second way is, from the source of generation (household waste, shops, construction waste, markets) transported using Tripper trucks directly to the TPA. c) Final Disposal Site (TPA)

Waste Functionally, Medan City has 2 (two), namely TPA Terjun located in Medan Marelan District with an area of approximately 14 Ha and TPA Namo Bintang located in Pancur Batu District, Deli Serdang with an area of 25 Ha. However, operationally, only TPA Terjun is operating, which accommodates all waste from 21 districts in Medan City. The activities of TPA Terjun waste have been operated using an open system since the beginning.

Waste management at the location has not been optimally supported by adequate heavy equipment so that for processing and destroying waste, waste production has increased from time to time, which is estimated that in the next few years, the Terjun TPA will not be able to accommodate the increasing volume of waste considering that the technology and equipment currently used are not yet optimal.

Waste sorting is done after the waste arrives at the final disposal site. The waste that is sorted is in the form of plastic from mineral water bottles and used aluminum cans or waste that has economic value and can be sold quickly. The number of scavengers who utilize waste at the final disposal site is relatively small. These scavengers are indigenous people who live around the final disposal site.

Scavenging is not a main job but only a side job to increase income. In addition to sorting at the final disposal site, sorting is also carried out at the source of the waste but is limited to aluminum waste from used beverage cans, used plastic mineral water drinks, jerry cans and used cooking oil bottles (waste that has economic value) but not sorting between organic, inorganic and B3 waste.<sup>25</sup>For used aluminum cans of beverages, most of them are collected only during certain seasons, especially during Eid al-Fitr, Eid al-Adha or other major celebrations. The cans are sold to collectors of used goods as recycling materials. Glass bottles made from used soy sauce or used beverages and used 5-liter cooking oil jerry cans are reused by the community for beverage containers, honey containers and containers for household kerosene or diesel fuel as fuel for generator engines. However, this reuse is relatively very small.

#### **Inhibiting Factors in Waste Management in Medan City.**

Waste management in Medan city through the 3R program. Reduce or waste reduction is an effort to reduce waste generation in the source environment and can even be done before the waste is produced. Reuse means reusing materials so that they do not become waste (without going through a processing process). Recycle means recycling a material

that is no longer useful (waste) into another material after going through a processing process. which is integrated in the formation of the Waste Bank is still not running optimally. This is caused by several inhibiting factors.<sup>27</sup>The inhibiting factors in waste management through the integrated 3R program through the establishment of a Waste Bank in Medan City are as follows:

1. Lack of Socialization Related to the Waste Bank Program Socialization related to the Waste Bank program is very important to do, in order to obtain optimal results in the implementation of the program. Socialization related to the Waste Bank program aims to enable the public to understand everything about the Waste Bank itself, starting from the function of the Waste Bank to the mechanism for implementing the Waste Bank. In addition, with the socialization, it is hoped that an agreement will be created regarding the Waste Bank in Medan City. Currently, the 3R program integrated through the establishment of the Waste Bank in Medan City has not shown optimal results and there are still many people in Medan City who do not know or understand about the Waste Bank in Medan City. This is of course caused by the lack of socialization related to the implementation of the Waste Bank.<sup>28</sup>
2. Lack of Budget in Supporting the Waste Bank Program Budget support provided by the Medan City Government is an important point in implementing the integrated 3R program through the Waste Bank in Medan City. With adequate budget support, a government policy program is expected to run optimally as well as the Waste Bank program in Medan City.
3. Lack of Technical Training Related to Waste Banks Technical training aims to provide detailed explanations to the community regarding the procedures for implementing Waste Banks. This meeting is held in a small scope, namely at the RT/RW level. Technical training is usually attended by at least 50% of local RT/RW residents. Technical training related to Waste Banks is also very important in the implementation of Waste Banks.
4. Inadequate Facilities and Infrastructure for Waste Banks In order for waste management in Medan City which is implemented through the establishment of Waste Banks and the 3R program to run well, good supporting facilities and infrastructure are needed. The suggestions and supporting infrastructure for the program include Waste Bank buildings, tools for weighing waste, waste transportation services, waste containers, stationery for administrative needs of the Waste Bank, waste collection services and also tools for breaking down plastic waste into plastic pellets, where waste in the form of plastic pellets is 3 times more expensive than whole plastic waste.
5. Lack of Participation from the Target of the Waste Bank Program. Currently, the participation of the Medan City community in making the Waste Bank program a success is considered still lacking, so that the target of achieving the Waste Bank program and 3R activities, namely for sustainable environmental management and developing the people's economy by utilizing waste into something of economic value has not been achieved optimally. Therefore, in the future, it is hoped that the



participation of the Medan City community can increase, so that the Waste Bank program in Medan City can achieve optimal results.

### **Waste Management in Medan**

From the data from the Medan City Cleaning and Parks Service, the problems faced arise at every stage of solid waste management such as storage, collection, transfer, transportation and processing, where these problems tend to increase at the final point, namely landfill. There are many factors that influence this low service with the existing waste management law being inadequate, causing inefficient waste management in Indonesia. This law does not specifically regulate solid waste management. Many cities face landfill problems due to limited land availability and open dumping sites are not equipped with sanitation systems, such as cover soil.

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Preservation comes from the word "lestari" which means to remain as it was, unchanged, and eternal. Then it gets the addition of pe and the suffix an, becoming preservation which means the process, method, act of preserving, protection from destruction and damage, preservation, conservation, management of natural resources that guarantee their wise use and ensure the continuity of their supply while maintaining and improving the quality of their value and diversity.

Meanwhile, the environment means; the unity of space with all objects, forces, conditions and living creatures, including humans and their behavior that affect the life and welfare of humans and other living creatures, the environment outside an organism consisting of living organisms such as plants, animals and humans.

The environment is not only physical such as land, air, water, weather and so on, but can also be in the form of a chemical environment or a social environment. The social environment includes, among others, all factors or conditions in society that can cause sociological influences or changes, for example; economic, political and socio-cultural. The efforts to preserve the environment include:

1. Critical Land Rehabilitation
  - a. Critical land rehabilitation is carried out by means of land management and cultivation, irrigation systems, planting patterns, pest and weed control, water pollution and so on. For areas prone to erosion, especially in riverbanks, mountain slopes, it is carried out by planting with terracing, strengthening plants and planting patterns from open land to contour model land.
  - b. Rehabilitation of forest land due to shifting cultivation patterns is carried out by providing direction on the disadvantages of shifting cultivation to farmers. Ordering forest areas, socializing regulations, prohibitions and sanctions, to the entire community, including entrepreneurs.

who have logging rights and traditional communities living near the forest.<sup>34</sup>

## 2. Prevent Water Pollution

- a. Protecting water systems by rehabilitating protected forests, preventing forest damage, expanding forests, preventing erosion for areas with high rainfall, soil preservation. Protecting rivers from pollution from household and industrial waste. Creating rainwater infiltration for densely populated areas.
- b. Monitoring the waste disposal system into the sea, the fishing system with poison and the protection of marine coral. For example along the north coast of Java, around Krakatoa, the Malacca Strait, the Mentawai Islands.<sup>35</sup>

## 3. Prevent Air Pollution

- a. Especially industrial areas and large cities in Java, Sumatra and Kalimantan have been monitored for pollution levels from factories and motor vehicles.
- b. In Jakarta in 2005, a ban on smoking in public places was implemented, violators were subject to very severe sanctions, namely a fine of up to IDR 50 million or imprisonment of up to six months.
- c. Likewise, motor vehicles that emit a lot of smoke are also prohibited in certain places in urban areas. This is all done so that our environment is not further damaged.

## CONCLUSION

According to Law No. 23 of 1997, the environment is a unity of space with all objects, power, conditions and living creatures, including humans and their behavior, which influence the continuity of life and the welfare of humans and other living creatures. Environmental pollution is based on changes in environmental conditions due to economic and technological developments. These changes in conditions certainly exceed the threshold of ecosystem tolerance, thereby increasing the amount of pollutants in the environment. The implementation of environmental law in the city of Medan is quite good, as can be seen from the Regional Regulation issued by the Medan city government as follows: Law No. 18/2008 concerning Waste Management regulates the responsibilities of the central, provincial and city governments in Indonesia.

## REFERENCES

- Arikunto, Suharsimi, 2008, *Prosedur Penelitian Suatu Pendekatan Praktek*, Rineka Cipta, Jakarta.
- Andjar Pachta, 2008, *Hukum Koperasi Indonesia: Pemahaman, Regulasi, Pendirian dan Modal Usaha*, Prenada Media Group, Jakarta.
- Baswir, Revrison, 2009, *Koperasi Indonesia*, Fakultas Ekonomi UGM, Yogyakarta.
- Buyung Nasution Adnan, 2008, *Instrumen Pokok Hak Asasi Manusia*, Yayasan Obor Indonesia, Jakarta.
- Ekawarma, 2010, *Menajemen Badan Usaha Dan Koperasi*, Gang Perasada Press, Jakarta.

- H.S, Salim, 2008, *Hukum Kontrak*, Sinar Grafika, Jakarta.
- Hatta, Mohammad, 2010, *Membangun Koperasi dan Koperasi Membangun*, PT. Inti Idayu Press, Jakarta.
- Huda Nurul, 2010, *Lembagan Keuangan Islam (Tinjauan Teoritis dan Praktis)*, Kencana Prenada Media Group, Jakarta.
- Irmayanti Hasan, 2011, *Manajemen Operasional Persepektif Integrative*, UINMALIKI PRESS, Malang.
- Kartasapoetra G, 2010, *Praktek Pengelolahan Koperasi*, PT. Rineka Cipta, Jakarta.
- Moch. Chindir ali dkk, 2010, *Pengertian-pengertian elementer perjanjian hukum perdata*, Mandar maju, Semarang.
- Miru, Ahmadi, 2011, *Hukum Kontrak & Perancangan Kontrak*, Raja Grafindo Persada, Jakarta, Edisi ke-1, Cet. 4.
- Miru, Ahmadi, 2011, *Hukum Kontrak & Perancangan Kontrak*, Raja Grafindo Persada, Jakarta, Edisi ke-1, Cet. 4.
- Meliala, Djaja S, 2012, *Hukum Perikatan dalam Prespektif BW*, Nuansa Aulia, Bandung.
- Mertokusumo, Sudikno, 2009, *Hukum Acara Perdata Indonesia*, Liberty, Yogyakarta.
- Muljono Djoko, 2012, *Buku Pintar Strategi Bisnis Koperasi Simpan Pinjam*, Andi Offset, Yogyakarta.
- Miftha Toha, 2008, *Pembinaan Organisasi: Proses Diagnose dan Intervensi*, Raja Grafindo Persada, Jakarta.
- Nur dan Seokanto, 2017, *Koperasi Indonesia*, Gramedia, Jakarta
- Pachta, Andjar, (dkk), 2010, *Hukum Koperasi Indonesia: Pemahaman, Regulasi, Pendirian dan Modal Usaha*, Prenada Media Group, jakarta.
- Rudianto, 2010, *Akuntansi Koperasi edisi Kedua*, Erlangga, Jakarta.
- Rahardja Hadhikusuma, Sutantya, 2009, *Hukum Koperasi Indonesia*, Rajagrafindo Persada, Jakarata.
- Rimawati Riris, 2010, *Penelitian Jurnal, Dampak Pembinaan Dan Terhadap Peningkatan Kinerja Usaha Kecil Dan Menengah*, Reineka Cipta, Jakarta.
- Subekti, 2008, *Pokok-pokok Hukum Perdata*, P.T. Intermasa, Jakarta.
- Setiawan, I Ketut Okta, 2010, *Hukum perikatan*, Sinar Grafika, Jakarta.
- Sugiyono, Metode 2009, *Penelitian Pendidikan Pendidikan Kuantitatif, Kualitatif, dan R & D*, Alfabeta, Bandung.
- Soemitro, Ronny Hamitijo, 2010, *Metode Penelitian Hukum dan Jurumetri*, Ghalia Indonesia: Jakarta.
- Sunggono, Bambang, 2013, *Metode Penelitian Hukum*, PT. Rajagrafindo Persad, Jakarta.
- Sugiyono, 2009, *Statistika untuk Penelitian*, Alfabeta, Bandung Cet. 9.