

Public-Private Partnership in the Framework of Waste Management into Electrical Energy in Jatibarang Landfill, Semarang City

Azaria Eda Pradana^{1*}, Retno Sunu Astuti², Budi Puspo Priyadi³

¹²³Master of Public Administration, Universitas Diponegoro, Jl. Imam Bardjo, SH, No. 3-5, Semarang, Central Java, Indonesia 50231

*Corresponding author: azariaeda11@gmail.com

ABSTRACT

In recent years, especially in big cities, the waste problem has begun to be addressed through a private-public cooperation scheme that is supported by technological upgrades. The purpose of this research is to analyze the public-private cooperation mechanism that involves processing waste into electrical energy at Jatibarang Landfill, Semarang, and to identify the inhibiting factors using the theory of implementation "5 right" by Riant Nugroho. This research used a qualitative approach with a descriptive type. The analysis technique for obtaining data was through observation, interviews, and documentation. The results of this study indicate that through the Public-Private Partnership (PPP) scheme which is based on the principles of Public-Private Partnership, stakeholders can provide and get benefits at the same time if they can mutually align their visions and implement the scheme according to what has been determined. Also, accuracy in the implementation must be considered to be able to achieve the success of Public-Private Partnership.

INTRODUCTION

Nowadays, the development in many countries is an important thing for the society (Koontz & Thomas, 2018). The development is not only interpreted in terms of economic and social aspects but also in terms of ecological aspects, which is relating to the concern for the value of environmental sustainability. The environment is a crucial capital as natural resources in development, but along with the times that are entirely competing with each other in enlarging profits, making environmental aspects of being ruled out. One impact that arises is the waste issue that faced by almost all countries in the world, including Indonesia. The problem of waste in Indonesia, especially in big cities becomes an actual problem as economic activity, and population growth continues to increase, triggering an increase in the amount of waste generation. Nowadays, Indonesia's waste issue has become an issue that is no longer able to be

Article Info :

Article history :

Received: April 4, 2020
Revised: August 14, 2020
Accepted: September 19, 2020

Keywords:

public-private partnership;
public policy;
waste management

faced by using the old paradigm of relying solely on collection, transportation and disposal (Kurniawan, 2016).

Based on a research by Kardono, stated that the problem of waste management in Indonesia occurs due to several factors that can be seen from the five indicators including (1) the high amount of waste produced; (2) the level of waste management services is still low; (3) limited landfill land; (4) waste management institutions; and (5) cost issues (Mahyudin, 2017). Semarang City, as the Capital of Central Java Province, with a population of 2019 reaching 1.7 million people, was not spared from the waste problem. Based on the data, a graph of the volume of daily garbage entering the Jatibarang landfill is directly proportional to the increase in population as shown below;

Table 1. Population Number and Waste Volume Transported to Landfill Year 2016 - 2019

Year	Population (people)	Increasing (%)	Number	Waste Transported to Landfill (tons/day)
2016	1.638.579			1000
2017	1.658.252	1,21		1200
2018	1.684.578	0,98		1400
2019	1.712.938	1,08		1600

Source: Processed Data By Civil Registration Office of Semarang City and Environmental Service Office of Semarang City 2019

The data above (Table 1) show that the population of Semarang City in the period of 2016 to 2019 has increased. In 2017, the population of Semarang City increased by 19,673 people or 1.21% from 2016. In 2018, the population growth was 16,326 people or 0.98 & from 2018. In 2019, the population of Semarang City had reached 1.7 million with an increase of 18,360 people or 1.08% from the previous year. Every year, the population of Semarang city always experiences an increase, which has an impact on the increasing volume of daily waste in the city of Semarang.

Based on data from the Semarang City Environment Agency, the volume of daily waste transported to the landfill annually also increases. It means, the Government of Semarang City has improved the procurement infrastructure of waste transportation infrastructure in order to cope with the increase in the volume of waste due to an increase in population. However, this waste problem does not meet its end if it continues to flow using a dumping system only.

The Capacity of Jatibarang Landfill can be seen in the following Figure 1:

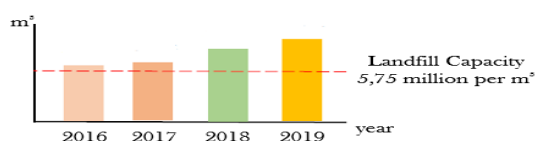


Figure 1. The Capacity of Jatibarang Landfill

Source: The Environmental Agency (DLH) of Semarang City (2019)

Jatibarang Landfill area is 46 hectares with a capacity of 5.75 million/m³ that is being overloaded so that it will not be able to survive until the following years if the government does not improve the function of the landfill (see Figure 1). The addition of 3R TPST (Recycling, Reuse, Reduce) facilities in several sub-districts as well as the procurement of a waste bank has been running but has not been effective enough in dealing with this waste problem. A new paradigm of waste management needs to prioritize the process of reducing and utilizing waste (waste minimization). Waste minimization is an effort to reduce the volume, concentration, toxicity, and hazard level of waste originating from the production process by reducing the source or utilization of waste (Kurniawan, 2016).

Since 2007, Semarang City Government has been doing PPP with PT. Narpati as a private stakeholder in the Jatibarang Landfill, which has the role of processing 350 tons of waste entering the landfill into compost. Yet, in the middle of 2018, a cooperation agreement between Limited Company (PT) Narpati and Semarang City Government have been done. At the beginning of 2017, Semarang became one of the cities appointed by KLHK (Ministry of Environment and Forestry) to receive a grant the Danish Government, that build a landfill gas as the amount of IDR 46 billion in the Jatibarang landfill. Waste management with this landfill gas system will produce methane gas, and then it will be converted again into electrical energy up to 0.8 megawatts that is capable of flowing up to 1000 homes.

Semarang City Government in the context of coping with waste issues is based on the Public-Private Partnership that is regulated in Presidential Regulation Number 38 of 2015 concerning Government Cooperation with Business Entities in the provision of infrastructure, which in this case is waste infrastructure (2015). The overall civil society decides innovation in the case of a development program through the growth of the democratic political system. The development administration is occupied with finding a complex institution, a management system, and the governance process to reach the objective of the development program (Firdaus, 2016). It shows that to overcome the waste problem, Semarang City Government does not work alone but involves the private sector and the community together from upstream to downstream waste processing as a unity of good governance. As the continuity of good governance, the Landfill Gas as The Danish grant project is now already operated by a local-regional owned enterprise called PT. Bumi Pandanaran Sejahtera.

This research focuses on the Public-Private Partnership in the framework of processing waste into electrical energy, where stakeholders are not only profit-oriented but also owning a role in the goal of sustainable waste management in Jatibarang

Landfill. Considering the phenomena and empirical conditions above, the research question in this study is how the mechanism of Public-Private Partnership by Semarang City Government in handling waste issue is. The purpose of this study is to analyze the supporting factors and barriers of Public-Private Partnership in managing waste to be electrical energy in Jatibarang Landfill.

Public-Private Partnership is a result of the long journey from the paradigm in the public administration with the function to serve the community. The government implements policies to meet the needs of these communities. It also relates to management aspects, to carry out public administration activities (Setiawan & Warsa, 2017). Three scopes in the study of public administration are political science and policy analysis, sociology and cultural studies, and organization management and the business which also consists of the Organizational Behavior (OB) and Human Resource (HR) subdivisions. In this case, public administration is not only related to political science and policy analysis but also understanding of group dynamics and informal structures and entrepreneurial approaches for the public interest (Vigoda-Gadot, 2002).

Along with the development of public administration paradigm, all forms of cooperation to create public services have begun to be implemented. Since the 1990s, the paradigm of public administration has developed into a New Public Governance. Governance is a new paradigm in public administration that has a focus on balancing roles, responsibilities, accountability and capabilities at various levels of government with sectors in society, public, private and civil society organizations and citizens. Public-Private Partnership is a phenomenon of New Public Governance (Villanueva, 2015).

The concept of Public-Private Partnership (PPP) is a concept aimed at providing public services to the community. The need for this partnership is because the government has limitations in terms of both human and financial resources and other supporting aspects (Mulyani, 2017). The concept of partnership between the government and the private sector is inevitable as part of solving the problem. Thus, the collaboration in partnership form is considered as a significant step for stakeholders. The change in government to be more open, resulting in a partnership concept involving the private sector in the development program (Murtadho & Rozqin, 2018).

Public-Private Partnerships, loosely defined as cooperative institutional arrangements between public and private sector actors. Some see it as a cooperative institutional arrangement between public and private sector actors. Others see Public-Private Partnership as a new expression in the language of public management, and one intended to include older, established procedures of involvement of private organizations in the delivery of public service (Hodge & Greve, 2007). Public-Private Partnership is a form of partnership among the government, the private sector, and the social community in planning, financing and implementing public policies in the public interest. As Fandel, Giese, & Mohn (2012) explained that:

"Public-Private Partnership (PPP) is understood that government institutions, private companies, foundations and private individuals jointly carry out projects that improve welfare and oriented to the public interest".

Furthermore, Leonhardt explained that Public-Private Partnership is a tool to ensure that multi-actor partnerships have social goals, guarantee and implement common goals, agendas and tasks in terms of community benefits and welfare. Then also able to adhere to and support the agenda and objectives of cooperation in the medium and long term, as well as plans and accordingly apply the conditions and resources needed (e.g. financing) for sustainable results (Setiawan & Warsa, 2017). Public-Private Partnership has three characteristics that must be implemented, namely: (1) there are objectives and benefits of participating organizations (actors) and are compatible with each other; (2) every actor must be able to create synergies; and (3) the identity of each organization remains intact or not co-opted.

Many countries have widely adopted the study of Public-Private Partnership in various sectors of living. Such is the study of the Public-Private Partnership on the provision of higher education in the Asia Pacific region (Lee, 2008). While, studied by (Navarro-Espigares & Martín-Segura, 2011) discussed how PPP could boost regional productivity and investment in the UK (United Kingdom). Furthermore, the PPP concept is used to see how the pattern of partnerships between public and private organizations in early childhood education and care in Norway (Haug, 2014). Besides, the existence of Regional Autonomy enables Local Government to have direct relations with foreign parties, both those that are intergovernmental, as well as cooperation with foreign non-government. Those new actors in international collaboration are Inter-Governmental Organizations (IGO), International Non-Governmental (INGO) and Local Government. It makes the Local Government conduct international cooperation that aims to improve the quality of the Local Government both in various aspects such as economy, education, health, and environment (Octavia, 2017).

As part of public administration, implementation is one of the crucial processes in a policy or program. Van Meter and Van Horn formulate the implementation process as an action directed at achieving the objectives outlined in the policy decision (Wahab, 2012). Further, in understanding what the factors that are driving or inhibiting Public-Private Partnership in the frameworks of waste management into electrical energy in the Jatibarang Landfill are, the authors conducted an analysis based on the basic principles of implementation by Riant Nugroho. Elements that need to be considered in the implementation of public policies are the basic principles of realizing effective policy implementation put forward by Riant Nugroho, namely (1) Policy Accuracy, (2) Accuracy in Implementing, (3) Accuracy in Target, (4) Accuracy in Environment, (5) Process Accuracy (Nugroho, 2014).

Based on the previous research, generally are only using Public-Private-Partnership theory to analyze the problem of research. Based on previous research, generally, the public-private partnership theory to analyze research problems is different from the focus of this research. The study Lutfiyani & Astuti (2020) sees that in the development of Educational Tourism for Rumah Astiri Indonesia to benefit all parties, ideally using (Public-Private-Community Partnership-PPCP). It is a refinement of the Public-Private Partnership model, which only involves the private sector and the state in tourism management that is prone to conflict due to the existence of the community. PPCP which enables the private sector to benefit in the long term with balanced inclusiveness between the producer and consumer chains, the public sector

will benefit from additional resources and investment value and guaranteed participation and ownership of the parties. In contrast, the community will benefit from the acquisition of new skills, knowledge, and technology.

Furthermore, the study [Suhendra \(2017\)](#) concluded that the Public-Private Partnership (PPP) scheme in infrastructure could become the infrastructure for managing the problem of limited infrastructure resources that has been projected by the National Development Planning Agency (Bappenas). [Mulyani \(2017\)](#) found that Public and Private Cooperation in Parking Management at the Tourism Object of the Kyai Langgeng Park, Magelang City is quite effective in increasing parking revenue. However, to be more optimal, further supervision is needed so that cases that are not optimal in the implementation of the parking management partnership between Central Public Hospital (RSUP) Dr Wahidin Sudirohusodo and PT ISS in Makassar City ([Rukmana & Susanti, 2016](#)). Another important aspect is also neutralizing the interests of the pragmatic elite. The Failure Case of the Pekanbaru City Government in a partnership with the private sector caused by anomalous interests of the political elite in interpreting policies ([Yandra & Utami, 2018](#)). The novelty in this reaserch is the autor uses not only PPP principle but also combine with the basic principles of implementation by Riant Nugroho which consists of "Five Right" to analyze what factors play a role as inhibitor of PPP implementation at the Jatibarang Landfill, Semarang City.

METHOD

The researchers used qualitative methods approach, the type of research is based on information from objects or participants on a broad scope, general questions, data collection consisting mostly of words from participants, explain and do the analysis of words and conducting research subjectively ([Creswell, 2010](#)). The researcher observes what is happening in the field, records all practical information carefully, analyze the documents in the field and then writes them down in a detailed research report.

The author uses several ways such as observation, interviews, literature review and documentation as Data collection techniques. Observations were made at the Jatibarang Landfill and the Semarang City Environment Agency by looking at how the PPP process for Landfill Gasworks. The author conducts the interviews with (1) the Head of the Regional Technical Implementation Unit (UPTD) Jatibarang Landfill; (2) the person in charge of the Environment agency part of Public-Private Partnership in Jatibarang Landfill; and (3) several employees of the Landfill Gas section at Jatibarang Landfill. Through the literature study method, researchers collected data obtained by studying the literature that was relevant to the research problem.

In conducting data analysis, the author used qualitative data analysis techniques proposed by Miles and Huberman, namely data reduction, data display, and conclusion drawing/verification (drawing conclusions and verification ([Moleong, 2007](#)). The theory used in this study was the Public-Private Partnership Theory by Leonhardt which mentions four principles of success including transparency and commitment, supervision of the implementation of partnerships, negotiation processes, and equality of roles in partnerships and Implementation Theory by Riant Nugroho to find out what the driving and inhibiting factors in this Public-Private Partnership are.

RESULTS AND DISCUSSION

The author chose Jatibarang Landfill Semarang as the locus of this research because it is one of the eight cities designated by President Joko Widodo in Presidential Regulation No. 18 of 2016 on the Acceleration of Development of Waste-Based Power Plant in DKI Jakarta Province, Tangerang City, Bandung City, Semarang City, Surakarta City, Surabaya City and Makassar City concerning the acceleration of the construction of waste-based power plants (2016). The City of Semarang also became a Pilot Project in the development of Landfill Gas through collaborative governance of grant funds from the Danish Government. This research is viewed from the existing regulations the Presidential Decree Number 38 of 2015, which includes guidelines in the announcement of the construction of Public-Private Partnership in infrastructure development which includes several fields, one of which is the waste facility that will be carried out by the research. The purpose of this Public-Private Partnership is to increase the effectiveness and efficiency in managing waste to renewable energy and to maximize the function of landfill land that is increasingly overloaded.

The synergize of stakeholders held by the government, civil society; and private sectors. Supporting factors that affect the synergy of stakeholders include (1) government support in the form of policies, guidance, direction, facilities and infrastructure; (2) the active role of the community from planning to management; and (3) Involvement of partners (Aditya, 2014). The inhibiting factors in the synergy of stakeholders are as follows: 1) Unclear distribution of roles and responsibilities; 2) There is no transparency and accountability in terms of finance and financing; 3) Communication is one-way in nature so that there is no exchange of information between stakeholders; and 4) Lack of coordination between stakeholders (Rahmawati, 2014).

The principle of cooperation must pay attention to the aspects of fairness, transparency, fair competition, accountability and mutual benefit. The achievement of the partnership must be reviewed by monitoring and evaluating the project implementation. The purpose both parties can focus on the responsibilities stated in the agreement and approved properly (Nahrudin, 2016).

This collaboration helps the Semarang City Government in dealing with the waste problems, but the challenge going forward is the period of use of the Landfill Gas. According to calculations, the operation duration of Landfill Gas can last only up to eight years after the first operation. Thus, the Semarang City Government must also take steps in terms of making the Landfill Gas capable of operating sustainably. In carrying out this collaboration, Semarang City Government must be able to implement the right mechanism in order to make this Landfill Gas sustainable. Governance in proper and efficient waste management is to optimize waste in Jatibarang Landfill. Through the method of waste management with renewable technology, it is expected that the Semarang City Government will be assisted in the procurement of solid waste facilities by improving technology in order to optimize landfill land as a solution to the problems that burden the Jatibarang Landfill.

This research was compiled by the author based on a framework like the following figure:

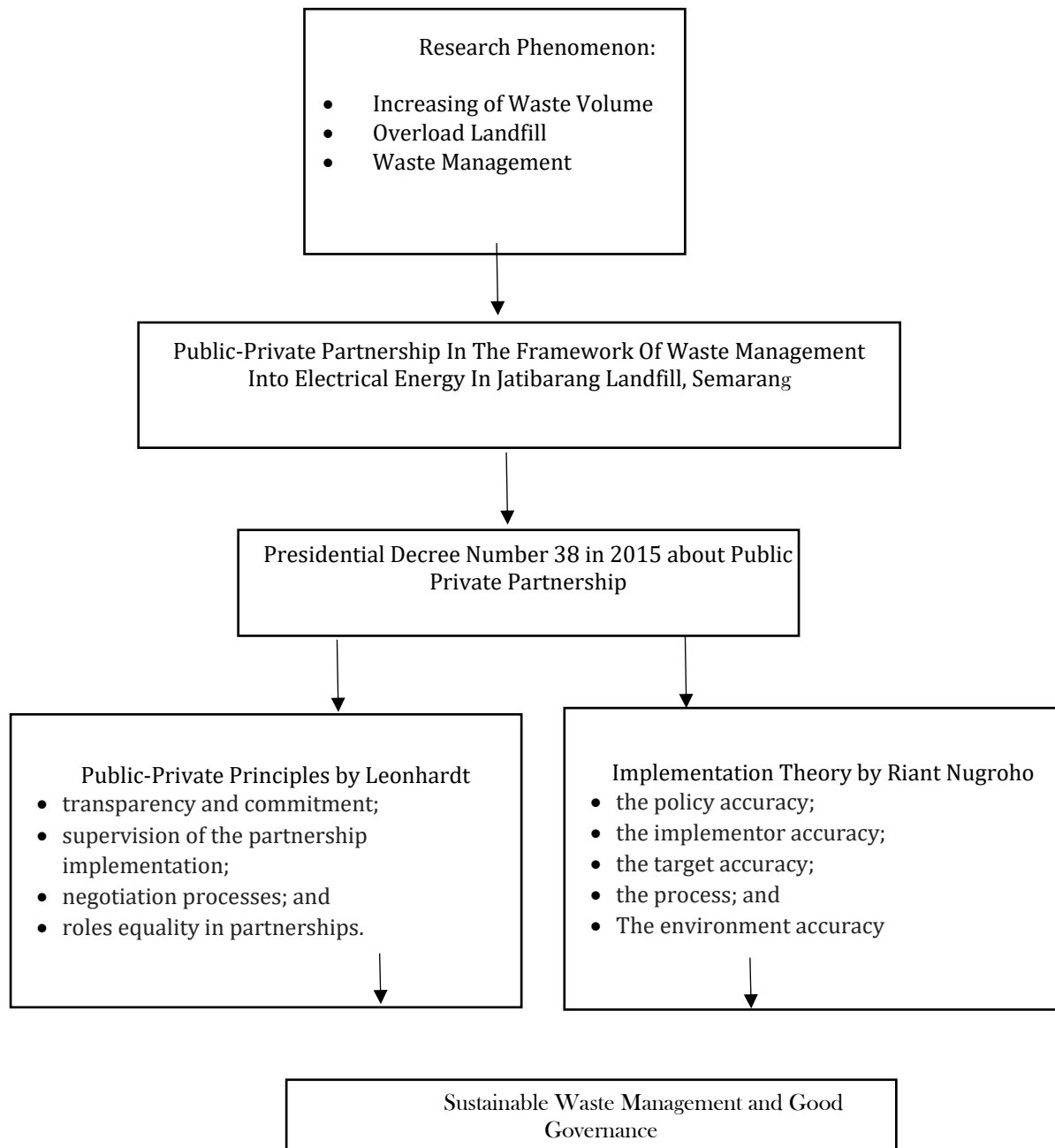


Figure 2. The Research Framework

The figure above (Figure 2) shows the flow of mindset in this study. Public issues can be seen from the phenomena that arise, such as increasing the volume of waste, landfill with a limited capacity, and waste management in the city of Semarang. Based on the phenomenon, this study will discuss the Semarang city Public-Private

Partnership mechanism in processing waste into electrical energy using the four Public-Private Partnership principles by Leonhardt.

Analysis of Public-Private Partnership in the framework of Waste Management into Electrical Energy

Transparency and commitment

Transparency is built on the based on a free flow of information, all government processes, institutions and information need to be accessible to interested parties, and the available information must be sufficient to be understood and monitored. The effort of employees to devote attention, contribute ideas and responsibilities in achieving goals could reflect commitment as a more concrete form of loyalty (Hendratmi, Mulyadi, & Widiastuti, 2017).

This principle explains that guaranteed access and freedom for each party to obtain information related to the administration of government both information about policies, manufacturing processes, and implementation as well as the objectives to be achieved. In the principle of transparency and commitment, a team has been created to make communication happen quickly. The group team are stakeholders, include of The Danish Government, Ministry of Public Works and Public Housing, the Ministry of Communication and Information, the Ministry of Environment and Forestry, and the Ministry of Energy and Mineral Resources, and Semarang City Government. All of the stakeholders were required to prepare monthly report while the Landfill Gas was built to monitor and evaluate the progress. The Danish Government, as the donor of the grant, delivers detailed information related to what will be done at the Jatibarang Landfill. All figures are presented in detail, including risks and projected usage.

The Danish Government continues to communicate until this project has been legally submitted to Ministry of Environment and Forestry and will officially be given to the Semarang Environmental Service Office. Semarang City Government, together with Ministry of Environment and Forestry as the recipient of the grant funds, continue to coordinate and commit to complete the construction of Landfill Gas jointly. The importance of a commitment to adjusting project development is directly proportional to the sustainability of project grant funds. Semarang City Government Public-Private Partnership with State Electricity Company (PT.PLN), as a business entity engaged in the field of electrical energy on the principle of solicitation, is on the initiative of the President.

Supervision

Supervision is an inseparable part of the implementation of cooperation aimed at regulating the implementation of Landfill Gas development by the parties involved. The grant project is overseen by the supervisory committee and the accompanying grant project including the Ministry of Public Works and Public Housing, the Ministry of Communication and Information, the Ministry of Environment and Forestry, and the Ministry of Energy and Mineral Resources. Every stage includes the needs to be monitored so the activities can be implemented by following the specified time. The stages of this PPP of Landfill Gas Project include 1) Project Selection, the process for the Government Contracting Agency (GCA) to identify the projects that will be cooperated;

2) Feasibility Study, covering technical, commercial, and contractual cooperation project designs; 3) Risk review, to identify the various risks as well as things that can minimize risks, 4) Government support, to determine the potential benefits and risks of a collaborated project; and 5) Procurement and implementation, entirely under the authority and responsibility of the Danish Government as the grant donor.

Negotiation Process.

In general, the negotiation process takes place in the Public-Private Partnership in terms of discussion relating to profit-oriented. Nevertheless, the Public-Private Partnership in the framework of managing waste into electricity is a project on the initiative of the president. Thus, all processes and nominal figures have been set by stakeholders who have received a mandate for the awarding of the grant project, Ministry of Environment and Forestry to Semarang Environment Agency.

It is shown as the Public-Private Partnership recipient stakeholders who have been appointed through the principle of solicitation so that the Semarang City Government does not conduct a tender for cooperation. The price offered has also been determined through an agreement from the Ministry of Energy and Mineral Resources which assigns PLN that the price of electricity based on waste energy is at the rate of IDR 1,117/kilowatt-hour meter. Through the agreement, electricity amount to 0.8 Megawatts, can already be utilized to supply PLN main distribution units in Central Java and Yogyakarta. On 4th of October 2019, PT. Bumi Pandanaran Sejahtera as the operator of Landfill Gas Project had taken a Public-Private Partnership with PT. PLN as the state agency related to the results of electrical energy that can be supplied.

Role Equality

The role equality of PPP in managing waste to electricity runs according to what was agreed beforehand. The Danish Government, as the grantor of the grant, has the role in carrying out the project by the nominal and the agreed the period. The supervisory committee consisting of the Ministry of Public Works and Public Housing, the Ministry of Communication and Information, the Ministry of the Environment, and the Ministry of Energy and Mineral Resources has the role in supervising and monitoring the development of the grant project. Semarang City Government as the recipient of the grant not only supervised but also committed to making this project as capital for sustainable waste management in the next few years. PT. Bumi Pandanaran Sejahtera as the regional owned enterprise that already has been chosen by Semarang City Government as the operator of Landfill Gas becomes the third party of Jatibarang Landfill stakeholder and will continue the process of collaboration with PT. PLN. As the private party chosen on the principle of solicitation, PT. PLN plays a role in complying with the mandate as a buyer of electricity from Landfill Gas following the price set.

Driving and Obstacle Factors of Public-Private Partnership Implementation the Policy Accuracy

Based on the research results, this Public-Private Partnership is needed because it sees the suitability of policies made with existing problems. This was strengthened by a statement from Mr Wahyu Heryawan as the Head of UPTD Jatibarang Landfill (interviewed on March 23rd, 2020) which revealed that this cooperation policy was

needed because after all the Jatibarang Landfill could not forever only implement a garbage heap system and leach water treatment into biogas. The function of the Jatibarang Landfill must be improved because it is approaching an overload. The processing of waste into electrical energy, in addition to being able to improve the function of landfill sites. It is also able to provide sustainable benefits to realize sustainable waste management.

The Implementor Accuracy

The Semarang Environment Agency was appointed by the Semarang City Government to have a main duty and function as the technical supervisor in the field which carries out the coordination role of the technical needs in the field as well as field control. Whereas the Ministry of Environment and Forestry is the ministry designated as the stakeholder responsible for the Danish government grant project. PT. Bumi Pandanaran Sejahtera was selected as the regional owned enterprise that operates Landfill Gas based on direct election from the Semarang City Government, and PT. PLN was chosen as a state-owned company that has field relevance for the project to be cooperated, namely processing waste into electricity. Based on the identification results, all executive appointments have been following the fields and tasks assigned to this collaboration.

The Target accuracy

The accuracy of the targets aimed here is divided into two sides, seen from what targets are to be achieved and for whom. The target of the Public-Private Partnership is waste processing into electrical energy, namely the existence of sustainable waste management in Jatibarang Landfill. A statement from Mr Wahyu Heryawan supports this as the Head of the UPTD Jatibarang Landfill (interviewed on March 23rd, 2020) which states that the result of target accuracy on this collaboration project is to increase the function of Jatibarang Landfill due to an increase in the volume of waste and the process of opening new landfills that are long and not easy. Furthermore, any waste processing with high technology methods can be improved to solve the problem of overloaded landfill.

The Process

Stakeholders of PPP should understand the contents, although most of the implementing parties and provisions have been decided from the centre through the solicitation principle. Technically, it can be said that there are no significant obstacles. All instruments have been prepared so that PPP only needs to be supported by a capable and committed implementor so that this PPP can become sustainable waste management. Moreover, implementation of the stages of this PPP is described as 1) Project Selection, Semarang City selected as the grant recipient is based on the need for Garbage Dump (TPA) Jatibarang in managing waste using more modern technology; 2) Feasibility Study & 3) Risk Review, both stages are carried out by the Ministry of Environment and Forestry together with The Danish Government as the donor of the grant; 4) Government support, the support provided is the full authority of the Semarang City Government to choose to operate the Landfill Gas by themselves or

submit it to another business entity; and 5) Procurement and implementation, entirely under the authority and responsibility of The Danish Government.

However, the challenge that will be faced is that the Semarang City Government does not have the authority and opportunity to participate in the Landfill Gas development process. The Semarang City Government cannot observe what resources are needed and what stage of the Landfill Gas development is. In the future, if there is damage, the Semarang City Government must directly contact the Danish Government even though the Landfill Gas has been officially handed over to Environmental Agency of Semarang City.

Environmental Accuracy

Based on the results of the study, the Public-Private Partnership internal environment has been run according to their respective roles and duties. It has proved the interaction and coordination between stakeholders that is always well established in sharing information in a transparent and accountable manner. Transparency and accountability of the grant fund project implementation are manifested in the form of commitment to continue doing the coordination by reporting the real data from stakeholders and the progress of project development.

The external environment, the mass media also has a role in shaping public opinion both positive and negative. As far as this Public-Private Partnership runs, public opinion leads to a positive opinion that has been showed through the news that shows appreciation for the processing of waste into electrical energy in Jatibarang landfill because it proves that the government is aware of the environment (Prihadi, 2019).

CONCLUSION

Theoretically, there is a need for multi-actor involvement in the process of conducting public administration, but on the other hand, this involvement has an impact on a more complicated process of bringing together the interests of the actors involved. The Public-Private Partnership for processing waste into electricity is one of the activities to create sustainable waste management by receiving a Landfill Gas as the 46 billion grant from the Danish Government.

Based on the discussion, the Public-Private Partnership mechanism analysis of processing waste into electrical energy has applied the principles in Public-Private Partnership proposed by Leonhardt. In this case, it can be seen, among other things, that stakeholders hold each other to the principle of transparency and commitment. All information is conveyed among stakeholders through various approaches to provide clarity and minimize communication. Besides, supervision also continues during construction to monitor the completion of work promptly. While in the negotiation process, it has not encountered any obstacles because all agreements are absolutely from the central government and considered not detrimental to the stakeholders.

Analysis of the implementation process to determine the supporting and inhibiting factors shows that the Public-Private Partnership processing waste into electrical energy has fulfilled five precisely principles proposed by Riant Nugroho namely policy accuracy, implementation accuracy, target accuracy, environmental accuracy, and process accuracy. Nevertheless, the results of the author's analysis, the

accuracy of the process will be a limiting factor because, in this Public-Private Partnership, a grant of 46 billion has been accounted for by the Danish Government through the construction of Landfill Gas. The development of the Landfill Gas is fully accommodated by the Danish Government so that the Semarang City Government cannot observe any resources and how the development of the Landfill Gas is.

REFERENCES

- Aditya, B. R. (2014). Sinergitas Stakeholders dalam Pengelolaan Sampah Terpadu untuk Administrasi Publik yang Demokratis dalam Perspektif Teori Governance (studi pada Tempat Pengelolaan Sampah Terpadu Mulyoagung Bersatu Kecamatan Dau Kabupaten Malang). *Jurnal Administrasi Publik*, 2(3), 407-413.
- Creswell, J. W. (2010). *Research Design: Pendekatan Kualitatif, Kuantitatif, dan Mixed*. Yogyakarta: Pustaka Pelajar.
- Environmental Agency (DLH) of Semarang City. (2019). *Jatibarang Landfill Capacity*.
- Fandel, G., Giese, A., & Mohn, B. (2012). Measuring Synergy Effects of A Public Social Private Partnership (PSPP) Project. *International Journal of Production Economics*, 140(2), 815-824. <https://doi.org/10.1016/j.ijpe.2012.03.010>
- Firdaus, F. (2016). Sound Governance in the Development of Mamminasata Metropolitan Areas in South Sulawesi Province. *JKAP (Jurnal Kebijakan dan Administrasi Publik)*, 20(1), 1-22. <https://doi.org/10.22146/jkap.9915>
- Haug, P. (2014). The Public–Private Partnership in ECEC Provision in Norway. *European Early Childhood Education Research Journal*, 22(3), 366-378. <https://doi.org/10.1080/1350293X.2014.912899>
- Hendratmi, H., Mulyadi, J., & Widiastuti, T. (2017). Pengaruh Transparansi dan Komitmen Terhadap Akuntabilitas Pengelolaan Anggaran. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, 3(2), 76-93. <https://doi.org/10.34204/jiafe.v3i2.767>
- Hodge, G. A., & Greve, C. (2007). Public–Private Partnerships: An International Performance Review. *Public Administration Review*, 67(3), 545-558.
- Koontz, T. M., & Thomas, C. W. (2018). Use Of Science in Collaborative Environmental Management: Evidence from Local Watershed Partnerships in the Puget Sound. *Environmental science & policy*, 88, 17-23. <https://doi.org/10.1016/j.envsci.2018.06.007>
- Kurniawan, H. K. (2016). Studi Deskriptif Strategi Public Private Partnership Pengelolaan Sampah di TPA Benowo Kota Surabaya. *Jurnal Kebijakan dan Manajemen Publik*, 4(2), 210-219.
- Lee, M. N. (2008). Restructuring Higher Education: Public–Private Partnership. *Journal of Asian Public Policy*, 1(2), 188-198. <https://doi.org/10.1080/17516230802094494>
- Lutfiyani, Y. N. A., & Astuti, D. W. (2020). Public Private Community Partnership: Potensi Keterlibatan Masyarakat dalam Pengembangan Wisata Edukasi Studi Kasus: Rumah Atsiri Indonesia. *Sinektika: Jurnal Arsitektur*, 15(2), 63-71. <https://doi.org/10.23917/sinektika.v15i2.9859>

- Mahyudin, R. P. (2017). Kajian Permasalahan Pengelolaan Sampah dan Dampak Lingkungan di TPA (Tempat Pemrosesan Akhir). *Jukung (Jurnal Teknik Lingkungan)*, 3(1).
- Moleong, L. J. (2007). *Metodologi Penelitian Kualitatif Edisi Revisi*. Bandung: PT. Remaja Rosda Karya.
- Mulyani, S. (2017). Kerjasama Publik dan Swasta dalam Pengelolaan Parkir di Objek Wisata Taman Kyai Langgeng Kota Magelang. *Journal of Public Administration and Local Governance*, 1(1), 37-45. <http://dx.doi.org/10.31002/jpalg.v1i1.443>
- Murtadho, I., & Rozqin, A. (2018). Public Governance Perspective to Adressing Development Problems in Surabaya City. *Proceedings of the 5th International Conference on Social and Political Sciences (IcoSaPS 2018)*, 241, 109-114. <https://dx.doi.org/10.2991/icosaps-18.2018.26>
- Nahrudin, Z. (2016). Kemitraan Publik-Privat dalam Pengelolaan Sampah di TPA Tamangapa Kota Makassar. *Government: Jurnal Ilmu Pemerintahan*, 9(1), 11-20.
- Navarro-Espigares, J. L., & Martín-Segura, J. A. (2011). Public-Private Partnership and Regional Productivity in the UK. *The Service Industries Journal*, 31(4), 559-580. <https://doi.org/10.1080/02642069.2010.504303>
- Nugroho, R. (2014). *Public Policy: Theory, Management Dynamics, Analysis, Convergence, and Chemical Policy*. Jakarta: PT Elex Media Gramedia.
- Octavia, M. B. (2017). Kerjasama Green Sister City Surabaya dan Kitayushu (Studi Kasus Pengelolaan Sampah) Melalui Super Depo Suterejo. *E-journal Ilmu Hubungan Internasional*, 2.
- Peraturan Presiden Nomor 38 Tahun 2015 Tentang Kerjasama Pemerintah dengan Badan Usaha Dalam Penyediaan Infrastruktur.
- Peraturan Presiden Nomor 18 Tahun 2016 Tentang Percepatan Pembangunan Pembangkit Listrik Berbasis Sampah di Provinsi DKI Jakarta, Kota Tangerang, Kota Bandung, Kota Semarang, Kota Surakarta, Kota Surabaya, dan Kota Makassar
- Prihadi, H. (2019). Kerja Sama dengan Denmark, Pemkot Semarang Mulai Bangun PLTSa Kedua. *detiknews*: <https://news.detik.com/berita/d-4395751/kerja-sama-dengan-denmark-pemkot-semarang-mulai-bangun-pltsa-kedua>.
- Rahmawati, T. (2014). Sinergitas Stakeholders dalam Inovasi Daerah (Studi pada Program Seminggu di Kota Probolinggo (SEMIPRO)). *Jurnal Administrasi Publik*, 2(4), 641-647.
- Rukmana, N. S., & Susanti, G. (2016). Kerjasama Publik dan Swasta dalam Pengelolaan Parkir di Kota Makassar. *JAKPP (Jurnal Analisis Kebijakan & Pelayanan Publik)*, 1(2), 127-135. <https://doi.org/10.31947/jakpp.v1i2.1021>
- Setiawan, T., & Warsa, N. (2017). Public Social Private Partnership (PSPP) dalam Penyediaan Infrastruktur Publik. *Jurnal Borneo Administrator*, 13(3), 203-220. <https://doi.org/10.24258/jba.v13i3.295>
- Suhendra, M. (2017). Penyediaan Infrastruktur dengan Skema Kerjasama Pemerintah dan Badan Usaha (Public-Private Partnership) di Indonesia. *Jurnal Manajemen Keuangan Publik*, 1(1), 41-46. <http://dx.doi.org/10.31092/jmkp.v1i1.97>

- Vigoda-Gadot, E. (2002). *Public Administration: An Interdisciplinary Critical Analysis*. Florida: CRC Press.
- Villanueva, L. F. A. (2015). The New Public Governance? Emerging Perspectives on the Theory and Practice of Public Governance. *Journal of Public Governance and Policy: Latin American Review*, 1(1), 126-134.
- Wahab, S. (2012). *Analisis Kebijakan: Dari Formulasi ke Penyusunan Model Model Implementasi Kebijakan Publik*. Jakarta: PT. Bumi Aksara.
- Yandra, A., & Utami, B. C. (2018). Anomaly Kepentingan Elit dalam Kebijakan Public Privat Partnership (PPP) di Kota Pekanbaru. *Jurnal Niara*, 11(2), 142-149. <https://doi.org/10.31849/ni.v11i2.2134>