# EFFECTIVENESS OF IMPLEMENTATION OF HOUSEHOLD WASTE MANAGEMENT POLICY IN NORTH JAKARTA

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## Abstract

Waste is something that cannot be avoided in a problem in an area. The increase in population in a city causes waste to increase according to people's consumption. The waste that often arises is household waste, where according to data from the National Waste Management Information System, 60% of waste is generated from households. This research aims to find out to what extent a policy on Household Waste Management in North Jakarta produces results in terms of institutional role, interpretation of a policy, implementation of the policy, and impact of the policy. The policies created can analyze and examine the role of the institution, the interpretation of the policy, its implementation, and its impact on society. This policy only exists in DKI Jakarta to regulate the amount of waste generated when it is known that the Bantar Gebang TPST is already at overload capacity. Therefore, the author conducted research using qualitative methods with several informants in North Jakarta. The informants used by the authors are residents in the North Jakarta area, 22 Operators and Regulators or policymakers, with 3 people working in the Government who are responsible for waste management. This qualitative method of research uses Nvivo software in data processing to obtain results that follow the purpose of writing. Based on Nvivo's results on data processing, it was found that institutional factors and policy interpretation would have an impact on the performance of implementing programs related to regulatory socialization. In the socialization of regulations, it was found that there were inconsistencies in the socialization and a lack of clarity regarding policy implementation.

**Keywords:** Implementation, Household Waste Management, Public Policy

## INTRODUCTION

The presence of a city will always be closely related to the land development process, both within the city itself and in its surroundings. Apart from that, land has a close relationship with humans and the environment. Therefore, optimal city development and expansion can be achieved if the amount of land available in a city is balanced with the population density accommodated in the city, thereby preventing environmental problems (Wahyuni et al, 2024). Urban difficulties often arise as a result of ongoing development and rapid economic growth alongside population growth. Improvements in living conditions usually lead to increased individual consumption of commodities, which in turn leads to the production of household waste.

Letcher & Valerro (2019) emphasize that economic progress is usually accompanied by an increase in the amount of waste. According to SIPSN, the waste reduction target of 27% set by the Head of the DKI Jakarta Provincial Environmental Service has not been achieved even though the amount of waste is increasing. Based on DKI Jakarta Provincial Governor Regulation Number 142 of 2019 which mandates the use of environmentally friendly shopping bags in shopping centers, retail stores, and markets, there is still a lack of public knowledge regarding effective waste management. However, the increase in waste volume is not matched by the efforts required by the central and regional governments to build waste management infrastructure in the regions, such as the construction of processing facilities known as Waste Power Plants or ITF Intermediate Treatment Facilities in Sunter, Jakarta North. India is ranked fifth in producing the most waste globally, after the Philippines, India, Malaysia, and China. Based on data from the Ministry of Environment and Forestry's National Waste Management Information System (SIPSN) in 2021, the total waste produced from industrial and residential activities is 29 million tons per year, with a decline rate of 17.01% each year. Based on SIPSN data for 2022, the total amount of food waste produced was the largest at 40.05%. Followed by wood/leaf/twig waste which is one of the causes of the large amount of green vegetation that Indonesia has as a coastal and archipelagic country. Waste production in DKI Jakarta reaches 3 million tons per year or the equivalent of 8,444 tons per day. The Head of the DKI Jakarta Provincial Environmental Service estimates that

the amount of waste produced in 2023 will be around 3.14 million tons, and has the potential to increase to 3.17 million tons in 2024.

DKI Jakarta consists of five administrative cities and one district, namely North Jakarta, East Jakarta, South Jakarta, West Jakarta, Central Jakarta and Seribu Islands Regency. The Special Capital Region of Jakarta (DKI Jakarta) is a province located in the northwestern part of the island of Java. Based on the Indonesian population census, DKI Jakarta is ranked the sixth most populous province with a population of 10,562,088 people. This province is also the smallest province in terms of land area, covering only 664.01 square kilometers. DKI Jakarta consists of one administrative district and five administrative cities. Everyone in this province lives in urban areas. DKI Jakarta is a special administrative region that functions as the country's capital and operates as an independent province. The region has exclusive administrative divisions specific to this province only. Administrative divisions within provinces consist of administrative districts and administrative cities, not districts and cities. The Administrative City of East Jakarta has the largest population among all administrative districts/cities, namely 2,843,816 people or 27.94% of the total population of DKI Jakarta. North Jakarta is a municipality located in the northern region of the Special Capital Region of Jakarta, Indonesia. The North Jakarta Administrative Mayor's Office is located in Tanjung Priok District. The formation of North Jakarta began with the implementation of Government Regulation Number 25 of 1978. The population of North Jakarta in 2020 was 1,843,537 people.

The increasing population and community involvement will cause many problems in this area. The problem that arises in this domain is the waste challenge. Waste refers to commodities or waste that no longer have economic value. Waste is a configuration that includes social, economic, and spatial aspects. The bad impacts of waste include the potential for negative impacts on the health of local communities because certain types of waste can cause disease. (2) Improper waste management can reduce the attractiveness or aesthetic appeal of an area. (3) Garbage can cause atmospheric pollution and emit a strong odor. (4) Waste that is not disposed of properly can create a risk of flooding during the rainy season because waste that is not disposed of can clog waterways.

Several efforts have been made to address waste management, although these efforts often encounter obstacles. One of the quite large costs is waste management which includes collection, transportation, and disposal activities at the Bantar Gebang TPST. The costs increase as the population of DKI Jakarta increases. As the population increases, the amount of waste produced also increases. Therefore, waste management efficiency must be improved. The large enough budget to support this program is also one of the main factors in society, both government institutions, in looking at the function of the infrastructure and facilities that have been budgeted and distributed to the community in reducing waste generation in DKI Jakarta, especially in North Jakarta. Seeing this, the researcher wants to study the implementation of policies issued by the government in waste management, so the writer is interested in studying it by taking the title: "Effectiveness of Implementing Household Waste Management in North Jakarta". The author is interested in the extent to which this rule has been implemented according to its objectives so that it can see the positive or negative impact on the results of the rule's formation. This rule only exists in DKI Jakarta and has not been implemented in other areas because from what the author knows, the Bantar Gebang TPST will already be at maximum capacity in the next few years. As a solution, the local government is making these regulations and involving residents in managing waste at the source.

## RESEARCH METHOD

This research uses a qualitative methodology which requires setting boundaries determined by the research problem. The problem in qualitative research is called focus. Focused thinking includes developing context, inquiry, and problem. This means focusing on determining the scope of the problem and research limitations. Choosing a research focus is an important stage in qualitative research. Qualitative research does not begin without any foundation or problem, whether the problem arises from the researcher's personal experience or observation of knowledge gained through scientific research. This research aims to overcome waste management problems in North Jakarta by establishing strategies and policies. This report will specifically focus on the organization, interpretation, implementation, and impact of these policies.

The research was conducted in North Jakarta, specifically at the North Jakarta Administrative City Environmental Service. The location selection was based on its proximity to the workplace and was approved by the DKI Jakarta Provincial Environmental Service which determined that it was suitable for sorting the RWs. The researcher aims to examine the effectiveness of DKI Jakarta Governor Regulation Number 77 concerning Waste Management in the Rukun Warga area with a focus on the pilot RW in Tanjung Priok District.

**Data Source**

Data is a crucial factor that supports and even becomes the main support for research. Words and actions are primary data sources in qualitative research. The remaining information consists of additional data, including documents and other related materials. Arikunto (2006) defines the data source as the origin of the data, but Sugiyono (2007) states that data collection can utilize primary and secondary sources when considering data sources. Therefore, the data used to answer this research question was obtained from various sources, both primary and secondary data.

**a. Primary Data**

Primary data refers to information collected directly from the public or informants, usually through interviews or direct observations carried out by the author. This type of data is considered more subjective because it is influenced by personal perception. The author utilized primary data obtained through interviews with informants selected as samples for this research. Primary data refers to information obtained through structured interviews and written notes collected during field studies. Structured interviews involve the initial preparation of an instrument in the form of a list of questions that serve as a guide during the interview.

**b. Secondary Data**

Secondary data refers to information obtained from official sources, such as official documents, and is used to complement primary data in research. Official data functions as a complement to original data. The data includes various sources, such as theoretical books, scientific articles, reports, archives, and various legal regulations. These sources investigate various variables, particularly focusing on the effectiveness of implementing household waste management policies in North Jakarta.

The data collection approach in this research involves direct interaction with sources who act as the main source of primary data. Additionally, researchers may obtain data from sources that are not easily accessible to them, such as documents, which serve as secondary data sources. Researchers can approach data collection through interview, observation, and documentation methods.

## RESULTS AND DISCUSSION

In this sub-chapter, we will outline the description of the informants and the general results of interview activities from each informant to the analysis of the results of NVIVO data processing.

### Coding Analysis

The following is an aggregate coding hierarchy to see which nodes are the most dominant (or have the highest number of coding activities) of all informants, as follows:

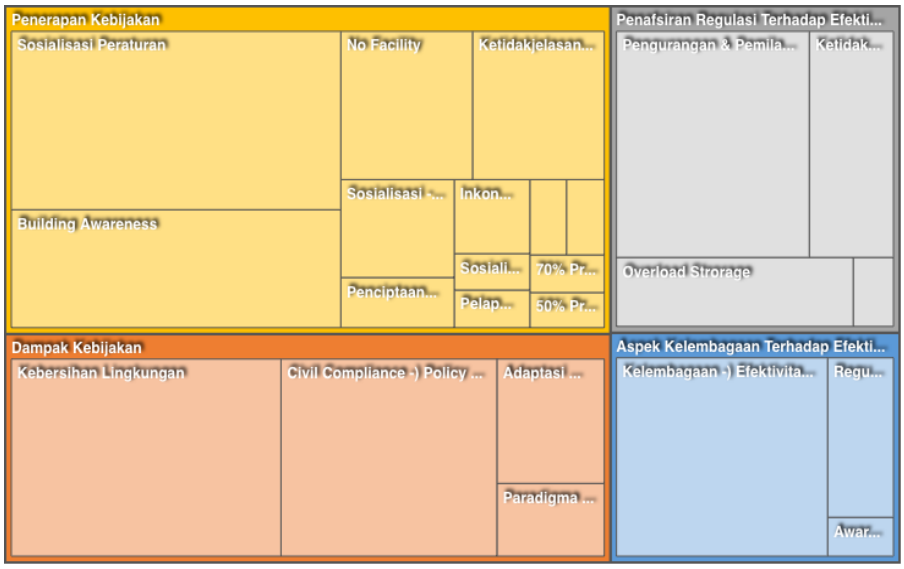


**Figure 1.**
**Aggregate Hierarchy**
Source: Processed data (2023)

From the picture above, it can be seen that the node system is divided into 4 (three) which refer to the formulation or research objectives that have been developed previously, namely: (i). To study and analyze the Role of Institutions/Organizations on the Effectiveness of Implementing Household Waste Management Policies in North Jakarta; (ii). To study and analyze the Interpretation of Regional Regulation Policies on the Effectiveness of

Implementation of Household Waste Management Policies in North Jakarta; (iii). To study and analyze Policy Implementation on the Effectiveness of Household Waste Management Policy Implementation in North Jakarta; and (iv). To study and analyze the impact of policies on the effectiveness of implementing household waste management policies in North Jakarta. The way to present the hierarchy starts from: (i). Identifying in aggregate which nodes have the highest hierarchy; (ii). Identify the nodes with the highest reference on system node 1; (iii). Identify the nodes with the highest reference in system node 2; (iii). Identify the nodes with the highest reference in system node 3; and (iv). Identify the nodes with the highest reference in the node 4 system.

In aggregate, there are at least several nodes with the highest hierarchical level, namely (the rest can be seen in Figure 4.3 and the magnitude can be seen in the coding nodes attachment). The following is a table that describes the aggregate number of references (including sub-nodes, if any) from each node, as follows:

**Table 1.**
**Aggregate Hierarchy Nodes Reference**

| No. | Nodes | Ref. | Files Coded | Max. Value | Share |
|---|---|---|---|---|---|
| 1 | Socialization of Regulations | 21 | 21 | 25 | 84% |
| 2 | Environmental Hygiene | 20 | 20 | 25 | 80% |
| 3 | Institutional > Implementation Effectiveness | 16 | 16 | 25 | 64% |
| 4 | Waste Reduction & Sorting | 16 | 16 | 25 | 64% |
| 5 | Civil Compliance > Policy Effectiveness | 15 | 16 | 25 | 64% |
| 6 | Building Awareness | 14 | 14 | 25 | 56% |
| 7 | Incomprehension of Rules | 7 | 7 | 25 | 28% |
| 8 | Ambiguity of Socialization Information | 7 | 7 | 25 | 28% |
| 9 | No. Facilities | 7 | 7 | 25 | 28% |
| 10 | Storage Overload | 6 | 6 | 25 | 24% |
| 11 | Behavioral Adaptation | 5 | 5 | 25 | 20% |
| 12 | Socialization > Literacy | 4 | 4 | 25 | 16% |
| 13 | Regulation Dispute | 4 | 4 | 25 | 16% |
| 14 | Paradigm > Policy Effectiveness | 3 | 3 | 25 | 12% |
| 15 | Program Inconsistencies | 2 | 2 | 25 | 8% |
| 16 | Creation of BPS | 2 | 2 | 25 | 8% |

Source: Processed data (2023)

These results show that the 16 nodes above have the largest contribution to the overall hierarchy, both in terms of number of references and data sources (transcripts). This indicates that overall (2 categories of informants), both implicitly and explicitly, they discussed the socialization of regulations. This context includes several answers to questions that touch on socialization issues. For the most part, regulators RW Chairs/BPS RW Chairs and some residents in each sub-district confirmed that socialization had been carried out regarding the waste management in question.

Meanwhile, several informants gave don't know or neutral answers to questions related to socialization. Several statements are indirectly related to the socialization aspect so they are coded into the nodes in question. The "Regulatory Socialization" nodes have a total of 21 references or contribute around 84%. In addition, the nodes “Institutional > Implementation Effectiveness”, “Waste Reduction & Sorting”, and “Civil Compliance” respectively, have the highest source value (16) with a total contribution of 64%. The node "Institutional > Implementation Effectiveness" refers to the agreeing statements of informants, especially regulators and the Head of BPS RW, that the organizational aspects and Pergub 77 in question are considered to have an impact on the effectiveness of waste management implementation. As for other nodes, they have a similar interpretation.

Next, the following will show the hierarchy of System Nodes 1 (Institutional Role in Implementation Effectiveness), as follows:


**Figure 2.**
**Nodes System Hierarchy 1**
Source: Processed data (2023)

From Figure 2, it can be seen that in System Nodes 1, "Institutional > Implementation Effectiveness" is the node with the highest number of references, namely 16. These results mean that the majority (64%) of informants agree regarding the impact of organizational/institutional aspects even Gubernatorial Regulation 77 which has benefits on the effectiveness of implementing waste management in North Jakarta. However, there were still several informants who considered that the role of institutions and Gubernatorial Regulations did not affect the effectiveness of implementation. The following is an example of the quote in question:

*"In our opinion, it's useless, bro, because we also have a difficult population, there's no one who wants to move, plus there's no place, bro, see for yourself, the settlements are dense like this near the market. "With BPS, most of the inorganic waste is sorted like plastic waste."*

(Chairman of BPS RW 001 Papanggo Village, Tanjung Priok District)

*"I don't understand, bro, regarding waste management in this RW"*

(Residents of RW 01 Koja Village, Koja District)

There is also a "Regulation Dispute" node, this refers, in part, to the inconsistency of the socialization program. The following is one of the quotes in question:

*"We don't understand, bro, you just told us to sort the trash. Because there is no socialization from the Environment Sub-Department, what it's like and what it should be like. Once, after that, he never came again."*

(Chairman of BPS RW 001 Papanggo Village, Tanjung Priok District)

The contribution value for each node can be seen in the table below:

**Table 2.**
**Nodes System Hierarchy Reference 1**

| No. | Nodes | Ref. | Files Coded | Max. Value | Share |
|---|---|---|---|---|---|
| 1 | Institutional > Implementation Effectiveness | 16 | 16 | 25 | 64% |
| 2 | Regulation Dispute | 4 | 4 | 25 | 16% |
| 3 | Awareness Blocking | 1 | 1 | 25 | 4% |

Source: Processed data (2023)

From the table above, it can be seen that the "Institutional > Implementation Effectiveness" node has a contribution of 64% of all available sources. Furthermore, "Regulation Dispute" and "Awareness Blocking" were each mentioned by 4% of the informants involved. The following will show the mapping of System Nodes 1:

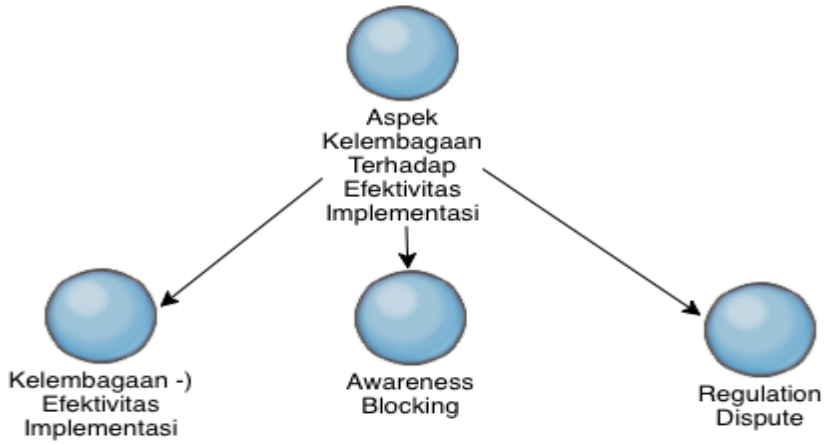


**Figure 3.**
**Nodes System Project Map 1**
Source: Processed data (2023)

Furthermore, the following will show the hierarchy of System Nodes 2 (Regulatory Interpretation of Implementation Effectiveness), as follows:

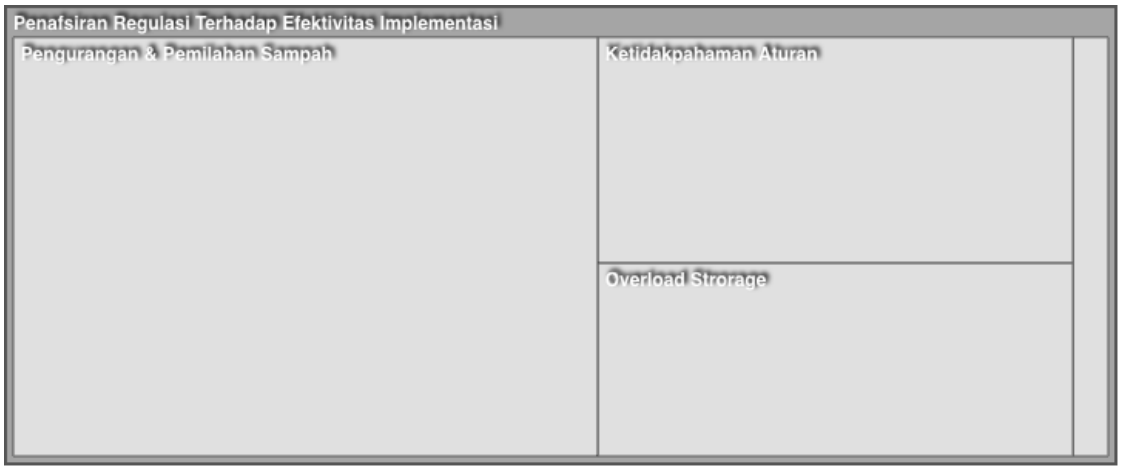


**Figure 4.**
**Nodes System Hierarchy 2**
Source: Processed data (2023)

From the figure above, it can be seen that in System Nodes 2, "Waste Reduction & Sorting" is the node with the highest number of references, namely 16. These results mean that, in the context of interpreting regulations, the majority (64%) of informants interpret it

as a form of waste management ( waste reduction and sorting). However, several informants did not understand the rules in question. This is demonstrated by the existence of the "Not Understanding the Rules" nodes which have a contribution of 28%. The following is an example of the quote in question:

"I don't understand, bro, regarding waste management in this RW."
Residents of RW 01 Koja Village, Koja District
"I don't understand, bro. Just know that there is waste management, there is a waste bank. Because I got the information from Mr. RW."
Residents of RW 01 Koja Village, Koja District

The contribution value for each node can be seen in the table below:

**Table 3.**
**Nodes System Hierarchy Reference 2**

| No. | Nodes | Ref. | Files Coded | Max. Value | Share |
|---|---|---|---|---|---|
| 1 | Waste Reduction & Sorting | 16 | 16 | 25 | 64% |
| 2 | Incomprehension of Rules | 7 | 7 | 25 | 28% |
| 3 | Storage Overload | 6 | 6 | 25 | 24% |
| 4 | Migration > Garbage Accumulation | 1 | 1 | 25 | 4% |

Source: Processed data (2023)

From the table above, it can be seen that the "Waste Reduction & Sorting" nodes have a contribution of 64% of all existing sources. Furthermore, "Not understanding the rules", "Overload Storage", and "Migration > Waste Accumulation", respectively, were mentioned by 28%, 24%, and 4% of the informants involved.

The following will show the mapping of System Nodes 2:

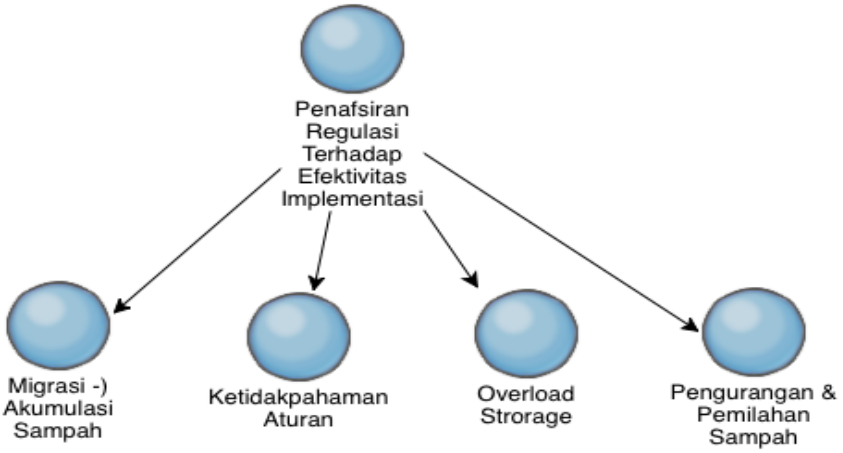


**Figure 4.**
**Nodes System Project Map 2**
Source: Processed Data (2023)

Next, the following will show the hierarchy of System Nodes 3. (Policy Implementation on Implementation Effectiveness), as follows:

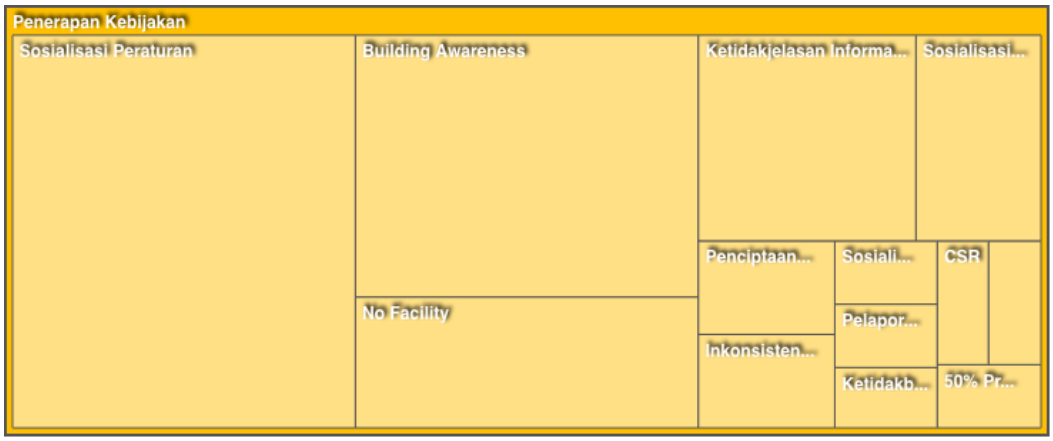


**Figure 5.**
**Policy Implementation on Implementation Effectiveness**

From the figure above, it can be seen that in System Nodes 3, "Socialization of Regulations" is the node with the highest number of references, namely 21. These results mean that, in the context of policy implementation, the majority (84%) of informants, either explicitly or implicitly, touched on the Socialization of Regulations. In this case, most informants confirmed that socialization had been carried out regarding waste management regulations. Therefore, the socialization carried out creates "Building Awareness". Meanwhile, some have not felt it. This is demonstrated through the nodes "Unclear

Information on Socialization" and "Program Inconsistency", the following are some of the statements in question:

*"It looks like there is, but I don't know, bro."*

(Residents of RW 07, Tugu Utara Village, Koja District)

*"I didn't know, bro, there are rules for waste processing. But Mr RW likes to talk about telling us to take out the trash."*

(Residents of RW 002, Pluit Village, Penjaringan District)

*"I don't know, bro. Never socialized with RW either"*

(Residents of RW 011 Penjaringan Village, Penjaringan District).

The contribution value for each node can be seen in the table below:

**Table 4.**
**Nodes System Hierarchy Reference 3**

| No. | Nodes | Ref. | Files Coded | Max. Value | Share |
|---|---|---|---|---|---|
| 1 | Socialization of Regulations | 21 | 21 | 25 | 84% |
| 2 | Building Awareness | 14 | 14 | 25 | 56% |
| 3 | No. Facilities | 7 | 7 | 25 | 28% |
| 4 | Ambiguity of Socialization Information | 7 | 7 | 25 | 28% |
| 5 | Socialization > Literacy | 4 | 4 | 25 | 16% |
| 6 | Creation of BPS | 2 | 2 | 25 | 8% |

Source: Processed data (2023)

From the following table, it can be seen that the "Regulatory Socialization" node has a contribution of 84% of all available sources. Furthermore, “Building Awareness”, “No Facility”, “Unclear Information on Socialization”, “Socialization > Literacy”, and “Creation of BPS”, respectively, were mentioned by 56%, 28%, 28%, 16%, and 8 % of informants involved the following will be shown regarding the mapping of System Nodes 3:

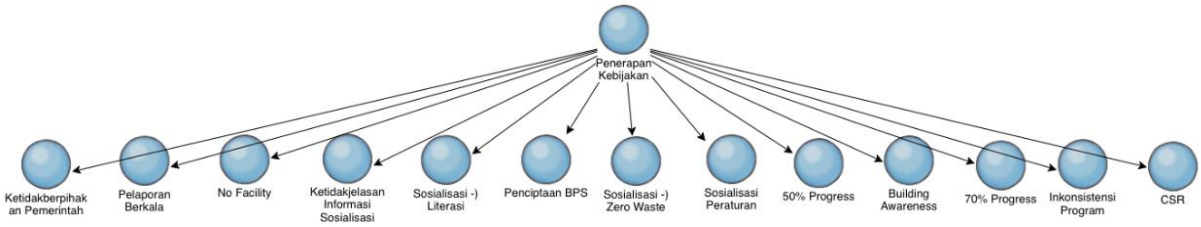


**Figure 5.**
**The Mapping of System Nodes 3**

## CONCLUSION

Based on the results and analysis previously described, several conclusions can be drawn regarding this research, as follows:

1. The role of institutions and Governor Regulation 77 in creating a cleaner environment through waste management. Apart from that, there were still several informants who had neutral or even negative answers who considered that the role of institutions and Gubernatorial Regulations did not affect the effectiveness of implementation (citizens' awareness of waste management).
2. Interpretation of policies or regulations is related to management (waste sorting). There were still several informants who had neutral answers and did not know about the regulations in question. Interpretation of regulations is very important in raising public awareness of waste management. So, in this case, the socialization of regulations is a crucial factor in determining the effectiveness of implementation.
3. Policy implementation is not optimal. Apart from that, several informants thought that the socialization had not been carried out or had been carried out but was not sustainable. Most people who feel they have been socialized reflect the building of awareness through these activities (Building Awareness).
4. There are still some informants who feel they still need to adapt to these regulations (Behavior Adaptation). The impact on implementation effectiveness for the majority of informants, 64%, explicitly stated that it depended on the level of awareness, paradigm, and compliance of citizens in implementing these regulations.

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