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Village Government Communication Patterns in Waste Management in the District South Minahasa

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Abstract

The waste problem remains a serious problem in Indonesia, including in South Minahasa Regency. Various methods and programs for waste management have been implemented by the government, but waste remains a constant presence in people's lives. One method that still needs to be optimized is how the government, especially village governments, communicates with each other in waste management in Minahasa Regency. The government often fails to maximize its communication approach regarding the waste problem. The position of the village government is the closest to the community, so it is essential to have communication skills and good and appropriate communication methods in addressing the waste problem. The above problems serve as a basic reference for researchers to explore and examine how village government communication patterns in waste management in South Minahasa Regency. This study uses a qualitative descriptive method, as it will explore more human subjects as the main data source. The dominant communication patterns carried out by village governments in South Minahasa Regency related to waste management are mostly using wheel and chain communication patterns.

Keywords: Communication Patterns, Village Government, Waste Management

Introduction

The waste problem has become a classic problem in various regions, this is due to many factors, among others, awareness of waste disposal in the community is still very low, many people still throw garbage carelessly, then the problem of waste management, many people still do not understand how to process organic and inorganic waste. Plastic waste is one of the threats to environmental cleanliness and health (Dey et al., 2024; Verma et al., 2016; Kehinde et al., 2002). This is because plastic is a type of waste that takes a long time to decompose. Ordinary plastic bags take ten to twelve years to decompose. Meanwhile, plastic bottles take even longer, because the polymer is more complex and thick, making it take twenty years to decompose. Meanwhile, Styrofoam takes five hundred years to completely decompose. Plastic waste has always been a major problem in environmental pollution, both land and sea pollution (Kosior & Crescenzi, 2020; Verma et al., 2016). The nature of plastic waste is not easily decomposed, the processing process produces toxins and is carcinogenic, taking up to hundreds of years if it were

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to decompose naturally. Another problem that is often encountered is the large number of piles of illegal garbage that are clearly visible on the streets and other strategic places, thus having a negative impact on the cleanliness and health of the surrounding community (Momodu et al., 2011).

This waste problem also occurs in South Minahasa Regency, particularly in villages near the regency town and its surrounding areas. The waste problem seems to never go away, despite various preventative measures being implemented, but waste remains a constant presence in people's lives (Cox et al., 2010; Zacho & Mosgaard, 2016). The government's role needs to be strengthened in addressing this issue. The communication patterns used by the government in addressing this waste problem are the main issues in this research, which refers to communication studies. This research also refers to the Unsrat Research Strategic Plan 2021-2025, with a focus on social humanities and research topics on economics and human resources. The target output of this research is publication in an international journal.

Research Objectives And Benefits

The purpose of this study is: To determine the communication patterns of village governments in waste management in South Minahasa Regency .

The benefits of this research are: (1). Theoretically, the results of this research can contribute to the development of the field of communication science studies, and more specifically for studies related to government communication patterns (2). Practically, the results of this research are expected to be information or input for village governments in overcoming waste problems that occur in the community.

Literature Review

Communication patterns are actions that enable us to receive and provide information or messages according to what we need (Malmgren et al., 2009; Zhu et al., 2024). In community communication, communication patterns can be interpreted as patterns of relationships between two or more people in sending and receiving messages in an appropriate manner so that the intended message can be understood. Meanwhile, according to (Effendy) communication patterns are a process designed to represent the reality of the interconnectedness of the elements covered and their continuity in order to facilitate systematic and logical thinking, and communication patterns can also be described as a simple picture of the communication process that shows the relationship between one communication component and another component. Communication or communication in English comes from the Latin word communis which means "same", communico, communication, or communicare which means "to make the same" (to make common). The first term (communis) is the term most often referred to as the origin of communication, which is the root of other similar Latin words. Communication suggests that a thought, a meaning, or a message is shared (Fatimayin, 2018; Salman & Aleem, 2024; Kastberg, 2022).

Communication patterns according to Joseph A. Devito there are five elements of network structure in group communication patterns, the five patterns are wheel patterns, chain patterns, circle patterns, y patterns, and star patterns, in this study this communication pattern will be

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studied in relation to how communication patterns occur in village governments in handling waste in the South Minahasa district. Waste is waste produced from a production process both domestic (household) and industrial. In Law No. 18 of 2008 concerning Waste Management, it is stated that waste is the remains of human daily activities or natural processes in solid or semi-solid form in the form of organic or inorganic substances that are biodegradable or non-biodegradable which are considered no longer useful and are thrown into the environment. Judging from the source, waste comes from several places, namely: 1) Waste from residential areas in a settlement is usually waste produced by a family living in a building or dormitory. The type of waste produced is usually organic, such as food scraps or wet, dry, plastic ash and other waste. 2) Waste from public and commercial places. Public places are places where large numbers of people gather and carry out activities. These places have significant potential for producing waste, including commercial areas such as shops and markets. The types of waste produced generally include food scraps, rotten vegetables and fruit, dry waste, ash, plastic, paper, cans, and other waste.

Mehods

This study uses a *qualitative descriptive research method*. According to Usman and Akbar (2004: 4), descriptive research aims to create a systematic, factual, and accurate depiction of the facts and characteristics of a particular population. In other words, this research aims to describe the nature of something that is taking place at the time of the study. This qualitative method is more based on phenomenological philosophy that prioritizes appreciation (*verstehen*) by attempting to appreciate and interpret the meaning of an event of human behavioral interaction in a particular situation from the researcher's own perspective (Chasokela, 2025; Brinkmann, 2017; Elsherif, 2024). The types of data obtained by the author in this field research are primary data and secondary data, both qualitative and quantitative, including:

Primary data is data obtained directly from informants in the form of information in the field, which includes communication of village government organizations with influencing factors. The main instrument in this study is the researcher himself, with the help of interview guidelines, namely a number of structured or unstructured questions if deemed necessary to obtain the necessary information from informants. Informants are selected to obtain clear and in-depth information about various things related to the research problem. Secondary data is data obtained through reports/books/notes that are closely related to the problem being studied, including data from all activities related to the work process of the village government and documents, including documents on government administration, development, community and public village services, village monographs, conditions of facilities and infrastructure, and others. The main informant in this study is the village government in the South Minahasa Regency area. The focus of research in this study is referring to the theory of communication patterns according to Joseph A. Devito there are five elements of network structure in group communication patterns, the five patterns are the wheel pattern, chain pattern, circle pattern, y pattern, and star pattern.

Collection Techniques: This research used literature review, document research, observation, and interviews with informants relevant to the research problem. The data collected included primary and secondary data. Data collection was conducted using the following techniques: 1)

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In-depth interview techniques and structured interviews to obtain detailed and in-depth explanations regarding the role of coastal communities in managing plastic waste in Manado City; 2) Observation is also an effort to obtain primary data, namely a technique for gathering information through observation during the research process. Observations in this study include data on the physical condition of village buildings, community services, and working relationships between the government and the community; 3) Meanwhile, documentation techniques are used to obtain secondary data, namely by reviewing documents and literature collected from various documents such as archives, reports and other supporting documents containing expert opinions regarding the research.

Qualitative analysis is used in research when the research data collected from the field also has qualitative characteristics. The data analysis technique used in this study is componential analysis, a qualitative data analysis technique that analyzes elements that have contrasting relationships with each other within predetermined domains for more detailed analysis. The analysis can begin with several steps, namely:

Presentation of observation and interview results

The results of the observations and interviews carried out were presented in easy-to-read sheets, after which the researcher could carry out limited editing.

Sorting of observation and interview results

The results of the interviews and observations after being held are sorted according to domains and/or sub-domains without having to question which element the sub-domains originate from.

Finding contrasting elements

At this stage, researchers can create a specific table that is used to search and place the sub-domain selection that has found contrasting elements. In testing the validity of the data in this study, researchers conducted triangulation on initial informants and rolling informants. Patton (in Donkoh & Mensah, 2023) said that: "Triangulation with sources means comparing by checking the degree of trustworthiness of information obtained through different times and tools in qualitative methods." The Triangulation technique that will be used is an examination technique that utilizes the use of sources (observation, interviews, library studies and archives).

Results and Discussion

Description of Research Location

South Minahasa Regency was established by the Indonesian House of Representatives (DPR RI) based on Law Number 10 of 2003 concerning the Establishment of South Minahasa Regency and Tomohon City in North Sulawesi Province, Indonesia. However, these two new regions were officially inaugurated on February 25, 2003. The administrative center and capital of South Minahasa Regency is located in Amurang. In 2021, the population of South Minahasa was 237,740, with a density of 163.91 people per square kilometer. By the end of 2023, it had reached 241,772.

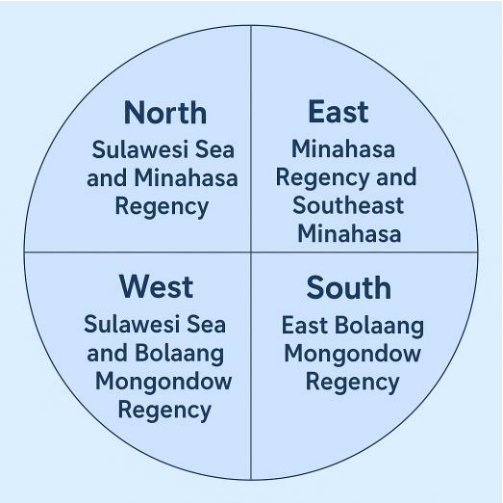

Figure 1. Borderline

History of Mianhasa Regency

South Minahasa Regency was formed based on Law Number 10 of 2003. The territory of South Minahasa Regency originated from the sub-districts of Minahasa Regency, namely Belang, Modoinding, Motoling, Ranoyapo, Ratahan, Sinonsayang, Tenga, Tareran, Tombasian, Tombatu, Tompaso Baru, Touluaan, and Tumpaan. In 2007, Southeast Minahasa Regency was formed as a result of the division of South Minahasa Regency based on Law Number 9 of 2007.

Discussion

The waste problem is a global issue that has serious impacts on the environment, public health, and the economy. Globally, in Indonesia, and in North Sulawesi, this problem is growing rapidly along with population growth, urbanization, and consumption. Global Waste Problems: Increasing Waste Volume: Every year, the world produces billions of tons of waste. According to the World Bank report (2022), approximately 2.01 billion tons of waste are generated annually, and this figure is expected to increase to 3.4 billion tons by 2050 if there are no significant changes in waste management. Plastic Waste: Plastic accounts for approximately 12% of total global waste, with most of it ending up in the oceans. It is estimated that more than 8 million tons of plastic waste flows into the oceans annually, causing alarming marine pollution. Inefficient Management: Many countries, especially in developing regions, do not have efficient waste management systems. Waste is often burned openly or dumped in landfills without proper processing. Environmental Impact: Soil, water, and air pollution occurs due to poorly managed waste. Methane gas produced from organic waste in landfills (TPA) contributes to climate change.

Indonesia's Waste Problems: High Waste Production: Indonesia produces approximately 67.8 million tons of waste per year. Most of Indonesia's waste comes from households, and approximately 15% of the total waste is plastic. Marine Plastic Waste: Indonesia is the second largest contributor of marine plastic waste in the world after China. Each year, an estimated 620,000 tons of plastic waste from Indonesia enters the ocean, polluting marine ecosystems and endangering marine life. Poor Waste Management: Approximately 60% of Indonesia's total waste

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ends up in landfills, while only a small portion is recycled or properly managed. Many regions in Indonesia lack an integrated waste management system, and littering remains common. The Role of Landfills: Most of Indonesia's waste is transported to landfills, which are often poorly managed, causing environmental pollution. One example is the Bantar Gebang landfill in Jakarta, one of the largest in the world.

Waste Problems in North Sulawesi: Population Growth and Urbanization: North Sulawesi, including South Minahasa Regency, is experiencing significant growth due to its population growth and rapid urbanization. This has led to increased waste production in the region.

Another impact of waste is on the tourism sector: North Sulawesi, especially areas like Bunaken, is known as an international tourist destination. Unfortunately, marine and land-based waste pollution threatens sustainable tourism in the region, damaging the natural beauty and marine environment that are its main attractions.

This waste problem also occurs in South Minahasa Regency, which has spread to villages near the district capital and its surroundings. The cause is the increasing population growth, and also the growth of new settlements, as well as the lack of public awareness to dispose of and manage the waste. The waste problem seems to never disappear, even though various prevention efforts have been carried out, but waste is always present in people's lives. One effort that needs to be improved is the role of local governments or village levels in addressing this problem. In this study, it is necessary to explore how the communication patterns used by the government in an effort to address this waste problem become the main problem in this study by referring to the study of communication science. According to Joseph A. Devito, in group communication there are five patterns of communication network structures that describe how information or messages flow within a group. The five patterns are:

Wheel Pattern: In the wheel pattern, all group members communicate through one central individual, who acts as a controller or information hub. Other group members do not communicate directly with each other, but rather through this central individual.

Advantages: Efficient for fast and coordinated decision making.

Weaknesses: Limited interaction between members can hinder participation and creativity.

Chain Pattern: In a chain pattern, communication occurs linearly, with messages flowing from one individual to the next in a fixed sequence. Each person only communicates with two other people: the person before them and the person after them in the chain.

Advantages: Suitable for hierarchical structures or systems that require hierarchical communication. Disadvantages: Information can reach the end of the chain late, and there is a higher risk of message distortion.

Circle Pattern: In a circular pattern, group members communicate with their two closest neighbors, forming a closed circle. There is no central individual, and messages can flow throughout the group in a circular fashion. Advantages: Everyone can participate equally, more democratic and interactive. Weakness: The time required to convey information to the entire group can be longer.

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Y Pattern: The Y pattern resembles the branches of the letter Y, where there is a central individual who communicates with two branches, and one of the branches can continue to another node. This pattern is often seen in group structures that have a central leader and two separate subgroups.

Advantages: This structure provides a relatively organized and hierarchical line of communication.

Weakness: Some members may feel less involved because they are far from the central point of decision making.

Star Pattern or All-Channel Network: In a star pattern, every member of the group can communicate with every other member. This pattern is also called an "all-channel network" because all individuals are connected without any hierarchy. Advantages: Everyone can actively participate, communication is open, creative, and very democratic.

Weaknesses: Can be less efficient when used for quick decision-making due to the high volume of communication. These five communication patterns describe how information flows in a group, each with its own advantages and disadvantages: Wheel Pattern: Efficient, but less participatory. Chain Pattern: Structured, but slow. Circle Pattern: Democratic, but takes longer. Y Pattern: Organized, but hierarchical. Star Pattern: Open communication, but can be slow in decision-making. Each of these patterns is used depending on the needs of the group, whether prioritizing efficiency, openness, or hierarchy of communication.

The wheel communication pattern in the context of waste management by the village government describes a communication flow that is centered on the village government as the main controller (hub), with each related party in the village functioning as a node (spokes) that is directly connected to the center but not directly to each other.

Village Government as Center (Hub)

The village government acts as a communications center, coordinating all activities related to waste management. They are the primary source of information, decision-makers, and directors of village activities related to waste management.

Connected Parties (Nodes or Spokes)

Every party involved in waste management in the village, such as neighborhood associations (RT/RW), youth organizations (Karang Taruna), PKK (Family Welfare Movement), schools, and other community groups, serves as a node (spoke). They communicate directly with the village government to receive instructions, submit reports, and provide input.

Distribution of Information and Directions

The village government held a meeting with the RT/RW heads and other community representatives to provide information about the new waste management program in the village, such as the introduction of a schedule for collecting separated waste (organic and inorganic).

The village government provides direct instructions to each RT/RW head on how to implement the program in their area, including their respective duties, waste collection schedules, and

education efforts for residents.

The chain communication pattern in the context of waste management in village government describes a hierarchical flow of information from one party to another in a fixed sequence. Each party communicates only with those above and below them in the communication hierarchy, without direct contact with any other parties further down the hierarchy.

Hierarchical Information Flow

In a chain pattern, information regarding waste management flows from the village government (village head) to village officials, then to the neighborhood unit (RW) head, then to the neighborhood unit (RT) head, and finally to the community. Each level has its own responsibility for conveying and implementing the information received.

Instructions from the Village Government (Village Head)

The village government (village head) initiates a waste management program by establishing policies such as setting waste collection schedules, enforcing waste sorting rules, and implementing sanctions for residents who do not comply with the rules.

This information is first conveyed to the village apparatus (village secretary or head of the cleaning section), who is responsible for coordinating the implementation of the program.

The dominant communication pattern carried out by village governments in Minahasa Selatas district related to waste management, mostly uses communication patterns with wheel patterns and chain patterns, the Wheel Communication Pattern has the advantage of centralized control: Village governments can control the flow of information and decisions directly, ensuring that all information about waste management is distributed uniformly throughout the village. Quick Response: Village governments can quickly respond to problems reported by related parties, so that waste management programs can run effectively. Strict Supervision: Because all reports must be submitted directly to the village government, this allows for better supervision of the programs being implemented.

While the chain pattern has advantages including: Organized Structure: The hierarchical communication flow ensures that each level of the hierarchy is responsible for passing on information and carrying out directives, so there is no confusion regarding each person's role. Clear Responsibility: Each party in the chain has a clear responsibility in conveying and carrying out instructions, so it is easy to identify who is responsible if there is a problem or error. Efficiency in Management: This hierarchical system allows for a more structured flow of information, with responsibilities divided among various levels of leadership. Both of these communication patterns have been carried out by the village government in an effort to overcome waste in the village area, but there are still obstacles, namely this communication pattern has not been supported by the intensity of message delivery, then emphasis on the rules or prohibitions and penalties received if violating the rules for disposing of waste.

Conclusion

The communication pattern with the wheel and chain model is most dominantly seen to be used by village governments in Minahasa Selatas district related to waste management problems,

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using more communication patterns with wheel and chain patterns , this is because the wheel communication pattern has the advantage of centralized control, meaning that the village government can control the flow of information and decisions directly, ensuring that all information about waste management is distributed uniformly throughout the village. The Wheel Communication Pattern has a fast response: The village government can quickly respond to problems reported by related parties, so that the waste management program can run effectively. Strict Supervision: Because all reports must be submitted directly to the village government, this allows for better supervision of the program being run.

Meanwhile, the chain pattern has advantages including an Orderly Structure: The hierarchical communication flow ensures that each level of the hierarchy is responsible for passing on information and carrying out directives, so there is no confusion regarding each person's role. Clear Responsibility: Each party in the chain has a clear responsibility in conveying and carrying out instructions, making it easy to identify who is responsible if there is a problem or error. Efficiency in Management: This hierarchical system allows for a more structured flow of information, with responsibilities divided among various levels of leadership. Both of these communication patterns have been implemented by the village government in efforts to overcome waste in the village area, although there are still obstacles, namely this communication pattern has not been supported by the intensity of message delivery, then emphasis on rules or prohibitions and penalties received for violating the rules for disposing of waste. The village government's communication pattern in waste management needs to use a persuasive and instructive communication approach so that the community has a responsibility in overcoming the waste problem.

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