

## **Factors That Support Trash Reduction In The Environmental Perspective In Manado City**

**Dr. Grystin Djein Sumilat**

*Lecture, Manado State University, Faculty of Social Sciences*

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**Abstract:** *Based on research on the city of Manado can realize clean and green city by planting 4500 trees so as to obtain clean city award but to defend the city clean and green requires the role of government regulation and public awareness in order to keep the environment clean materialized. The purpose of the study is unuk determine whether there is a relationship factors influence the role of government, rules and public awareness in support trash reduction in the environmental perspective in Manado City. the samples used were out-sampling and random sampling of 54 respondents Based on the result of the relationship influence the factors that support trash reduction the environmental perspective in Wenang district Manado City using correlation analysis of Karl Pearson moment Productions based sample of 54 respondents, the results of ( $r = 0.958$ ), the influence of the relatively strong ties. Based on the results of research on the magnitude of the power coefficient of determination or determinant variables X and Y on the relationship influence of factors that support litter reduction in the environmental perspective in Manado City Wenang district result amounted to 92% and the remaining 8% is determined by other variables not examined by the author. To test the significance of the result t is appropriate formulation  $35.251$  If  $t \text{ count} \geq t \text{ table}$  then significant, and  $t \text{ table} = 2.074$  turns  $t \text{ count} > t \text{ table}$  or  $32.251 > 2.074$  Conclusion correlation variable X with Y or relationships influence the factors that support the reduction garbage in the environmental perspective in wenang district the city of Manado is a significant*

**Keyword:** *The Role Of Government, The Rule Of Public Awareness And Waste Reduction, Environmental Perspective*

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### **I. Antecedent**

Waste reduction in Manado city where every day garbage generated by the city of Manado current society increases, caused due to the growth of a high enough Manado society today. The garbage problem seems unsolved because of a car carrier that is always late, many people who live around the District of Wenang disappointed with the performance of the governing body of the City of cleanliness. By reason of the Government at every opportunity always give dissemination to the public in order to dispose of waste in place because of the ability of junk cars districts that often are damaged so that the cleanliness of the governing body is not able to cope. Moreover, in 2013 flash floods in the city of Manado cause garbage strewn everywhere, but because cooperation with the term mapalus then governor Dr Sarundayang called on the government and the Islamic community especially Christians from different regions of Minahasa District, North Minahasa regency, South Minahasa regency and Southeast Minahasa District, Bitung, Tomohon help the disaster with a variety of equipment to clean up the garbage that littered the houses on the street without regard to religion and tribe to bring facilities and infrastructure such as hoes, cars and food, clothing so rubbish scattered everywhere can overcome. To keep the environment then the need for public awareness in disposing of waste in place so that the waste problem can be solved though not optimal.

Similarly, with the launching of the City Clean and Green City in 2004, the municipal government as well as several NGOs Manado has planted 4500 trees in Manado with the program embodied the Government appealed to the citizens of Manado to have awareness of environmental hygiene and to nurture it so garbage can be overcome. Therefore the "clean and green city" may be able to realize the net living culture has been started from the self's so Manado into the city, which is free of the garbage so that should get more awards "ADIPURA" as a clean city that is part of the faith.

Therefore the garbage car air-label Clean And Green City that operate 3 times a day, and also in the way Sam Ratulangi and Wenang has held a regulation which for every citizen who throw garbage is not the time and place that will apply fines and this has seen the results. But still there are people who throw the garbage out of place in rivers and ditches so clogged drains and when the rainy season and finished frequent flooding rains the garbage strewn everywhere, in terms of existing rules to dispose of waste in place in the hours that have been determined. Therefore, waste reduction in the environmental perspective is indispensable role of the government to invite the community together hold social events and dispose of waste in place at certain hours according to the rules so as to create a clean and green city.

### **Formulation of Problem**

What factors can support the government's waste reduction rules in an environmental perspective in the district Wenang Manado.

## **II. Book Review**

### **Role of Government**

Ndraha (1997: 6) states, the government is a social phenomenon in the relationship between community members, both individual to individual, group by group, as well as between individuals and groups. These symptoms are at a time, in a society, there is a person or a group (call it X) in the process of, or interaction was dominant, against another person or group (call it Y).

Sumidjo (1997: 182) declare that: the scientific field there is a difference between the notion of government as an organ (instrument) state that perform tasks (functions) and the notion of government as a function of government. government term in the sense organs can be differentiated again between: a) The government in the narrow sense: in the specific intent to executive power, b) The government in its broadest sense: is all State organs, including the Parliament.

According to Wilson (1903: 14) Government in last analysis, is organized force, not necessarily or invariably organized armed force, but two of a few men, of many men, or of a community organization to Realize prepared by its own purposes with references to the common affairs or the community. Government is an organizing force, is not always air-organization relationship with the armed forces, but two or a group of people from many groups of people are prepared by an organization to realize their common purposes, with the things that provide information to the concern of public affairs community.

### **Rule**

In Manado Mayor decision rule number 16 of 2003 on the implementation of hygiene maintenance and use of urban waste management facilities in the city of Manado. The rules on time the garbage disposal in landfills are:

- Morning at 6:00 pm
- Afternoon 18:00 pm

Trash is very influential on the environment, society and the government due to the impact of the garbage can be fatal, government and community linkages in addressing the waste problem is very closely because without the cooperation of the government and the society would be impossible the garbage problem is resolved. Decision guardian Manado No: 16 of 2003, Article 7.

**Verse 1:** The governing body hygiene can foster cooperation or partnership with other business entities domiciled in the city of Manado according to applicable regulations.

**Verse 2:** to improve service coverage maintenance of cleanliness and performance optimization of operational technical transporting waste, then the governing body hygiene in collaboration with relevant technical agencies to make maps waste transportation services throughout the city area and set a specific area that requires a response as solid location the garbage.

### **Public awareness**

According to Anderson and Parker Society, (1964, p 102) A group of people who live in the area and work together and depend on each other to achieve their goals through organizations and institutions in shape. In awareness of the impact that caused by the garbage in need roles of community leaders, as pointed out by Soekarno which (1999: 319) Community leaders often at identical with informants leader / leader unofficial, (in the informal organization / not a government organization) which has a scope with no official boundaries, because such leadership is based on the recognition and trust of society.

Theory of experts, then it can be interesting author a hypothesis, according Sujana (1987: 231) hypothesis is a temporary formulation of something that can be made to explain this and determine, direct to the writer suggested.

1. Lack of awareness of the community in tackling the accumulation of the garbage. and which resulted in a lack of awareness of the public are: a) Lack of education in the community so that no formation of personality and good thinking patterns, b) Lack of socialization of the government about the impact that will be caused by the garbage, and c) The lack of sharpness sanction that is given to the public.
2. Lack of attention from the government and community leaders in dealing with the accumulation of garbage. This occurs because the limitations in the provision of funds so that transport means in the form of a garbage truck, container, and also landfills while (TPS) is quite minimal. So it can not cope with the garbage produced each day by the public.

## **Waste reduction**

Within the limits of science, garbage in the English language Waste basically covers a lot of sense. By: Ir. Wied.H. Apriadji: the garbage (Waste) are substances or objects that are not used anymore, either in the form of waste material originating from households and from the factory as the rest of the industrial process. Hadiwiyito (1983: 12) Waste is: remnants of materials that undergo treatments, either because it has taken the main part, or for processing, or has no benefit, that in the review of social and economic terms is of no value and in terms of environmental may cause pollution or nuisance sustainability. Therefore, in order that we know more about the garbage classification in doing all kinds of the garbage. This classification is based on several criteria, is based on the origin, composition, shape, location, the occurrence, nature and type. Classification of the garbage as it is imperative to know and held, in addition to knowing all sorts of the garbage and its nature as a basis for the handling and use of waste:

### **1. Classification of the garbage by origin**

- a. Garbage from the house tanggah activities. including in this case is the garbage from dormitories, hospitals, hotels and offices.
- b. Trash from the activities of industrial / factory
- c. Trash from the agricultural activities. Activities include plantation agriculture, forestry, fisheries, and livestock. Trash of agricultural products often called agricultural waste.
- d. Trash from the results of trading activities, for example the market the garbage, junk shop.
- e. Trash from the results of development activities
- f. Trash highway.

### **2. Classification of the garbage Based composition**

In an activity might produce the same type of waste, so that components of the formulation components would be the same. How to be undertaken by the government and the community in addressing the accumulation of the garbage, among others, namely:

- a. Garbage collection. Waste to be disposed of or utilized must be collected in advance from various places of origin. Normally garbage collection is not much difficulty in, with simple tools such as a broom, rake, then the garbage easily collected, in Cities to facilitate garbage collection encountered many places such as garbage the garbage, garbage cans and boxes -trash box.
2. Waste separation. Separating the types the garbage, which is in the form of leaves of paper or belonging to the separated organic waste from the waste in the form of glass, ceramic, metal, a plastic (inorganic waste).
3. Burning of waste. Waste incineration can be done in a place such as in a field or in the distant land of all community activities so as not to disrupt the activities of citizens. Waste incineration is one way to eliminate the garbage that issues related to environmental sustainability can be overcome or minimized.
4. Utilization of the garbage. According to Cooley who in sadurkan by Soekarno (1986: 202) argues that cooperation arises when people have the same interests and the air remains to have sufficient understanding of equality and self-control to understand the same interests. Therefore, the success of the program clean and green city, government and society in demand to work together for the creation of a clean city.

## **Environmental perspectives**

Usman (1996: 1) states that the environment is now more worried about critical to the livelihood of the nation of Indonesia what the first human survival threatened. In Article 1, paragraph 4 of Law No. 4 of 1982 on the principal provisions of the Environmental Management implicit understanding of environmental capacity is the ability of the environment to support humans and other living things. Later in chapter 4 stated goals of environmental management as follows:

1. The achievement of awareness of the relationship between humans and the environment as the goal of building a complete Indonesian man.
2. The controlled use of resources wisely.
3. The realization of human Indonesia as a coaching environment
4. The implementation of environmentally sound development for the benefit of present and future generations.
5. Sheltered countries to the impacts of activities outside the territory of the damage and environmental pollution.

Environment is unity with all things space, circumstances and living things, including humans and behavior, affecting the continuity of livelihood and well-being of humans and other living organisms. This notion is generally include the natural environment, the artificial environment and social environment. Law No. 4 of 1982 on the Principles of Environmental Management (UKPPLH) has accepted these terms sabagai series formulation of environmental management principles. In Article 3 of Law No. 4 In 1982 it is stated that

environmental management based on preservation of the environment's ability to support the harmonious and balanced sustainable development for the improvement of human welfare. Although the memory of explanation, the above article has expanded the definition of preservation implies harmonious and balanced with the increased capacity, but the term preservation will be very difficult to be released from the association of mind which aims to not give change on ecosystem environment.

Principles and objectives of environmental management can be seen in chapter 3 and UKPPLH which make man is obliged to secure his nature or environment that is well established, regular and definite. It is necessary for the protection and safeguarding of nature as contained in IKPPLH (Lonan, 1994). From the above description then humans depend on the environment. Survival is only possible within the limits of its ability to be able to adapt to the nature of the environment. When there is a change in the nature of the environment beyond the limits of the natural changes and changes caused by the activity of living, then the survival of human being would be threatened (Soemarwoto, 1992).

Furthermore Karyanto (1998) mentions factors that cause damage to the environment during this classified in : 1) Poverty, 2) Deliberate/accidental (ignorance), and 3) Greed.

When these factors simultaneously embedded in every step of human activities ensured that environmental issues, the cause is the human factor: either directly or indirectly, and sometimes far-reaching impact (massive) Soemarwoto (1992) defines an environmental expert environment is the sum of all the objects and conditions that exist in the space we live in and affect our lives. Environmental damage occurs is closely related to the lack of awareness of the environment and the lack of awareness and adherence to applicable laws. It is related to the lack of implementation and monitoring of the law and still very limited information about the regulations to the community, including government officials, entrepreneurs and the quality is still very limited and institutional regulations and administrative overlap is also contributing to the behavior of the population and development activities not friendly to the environment (Hidayanti, 1998). Sumarwoto (1981: 112) states that a change in the environment directly or indirectly cause a negative consequence on the health and well-being. Bintarto (1993: 115) states that the environment can support life, among others: 1) A healthy environment in the sense of not only free from pollution and contamination, but also sufficient for the purposes of life; 2) Productive environment that is something that the environment can produce optimal needs in terms of location and biological; 3. Diverse environment is an environment that has a variety of physical and socio-economic potential; 4. Beautiful environment is an environment that can provide inspiration and freshness interests

Salim (1995) mentions the causes of environmental damage are: 1) Relationship population factors, the level of income that emphasizes consumption of natural resources resulting in environmental damage, 2) Technology: Increased consumption must be met by the production to be driven by technology that tend to use a lot of natural resources, 3) The price distortions and economic policy: the price does not accommodate all factors that affect its rarity, one important factor is the environment that is not included in the price calculation, 4) Decentralization and development of effective administrative decisions granting permission to build and the location where the construction activities at the district level and the city, and 5) Public participation: endeavor to build without destroying human accompanied embrace efforts to care for the environment. In this connection it is important to have a business in the appreciation of the environment. From the description above it is clear that the environmental problems associated with environmental hygiene is the most important problem that needs to be addressed.

### **Hypothesis**

From the description above, this study with the hypothesis that: There is a factor of the role of government regulation and public awareness to support waste reduction in the environmental perspective in the district Wenang Manado.

H1 there is a relationship factors influence the role of government regulation and public awareness to support waste reduction in the environmental perspective in the district Wenang Manado.

H0 there was no correlation factors influence the role of government regulation and public awareness to support waste reduction in the environmental perspective in the district Wenang Manado

H1 :  $r \neq 0$

H0 :  $r = 0$

### **III. Reseach Methods**

#### **The Methods research**

The research method used in connection with this problem is the method of quantitative research with a deductive approach. These methods are intended to examine the intensity of the relationship between the variables examined. Various matters relating to the methods and approaches used in this study can be systematically described as follows.

**Population and Sample**

The population used in this study were 12 villages in the subdistrict treatment. Samples that are used in this study is the area sampling and purposive sampling. And to achieve results representative (to represent) the existing population. So researchers have determined the location and number of respondents as the study sample. The location specified in the district authorities, who have 12 (twelve) wards. But the researchers took samples three villages namely: 1) Sub Calaca, 2) Sub Pinaesaan, and 3) Sub North Wenang. From 3 villages is fairly representative of all villages in the subdistrict treatment every village taken 18 respondents to 54 respondents.

**Research Variables and operational definitions**

1. Research Variables. The variable x is the factors that influence : 1) the role of government, 2) Rules, and 3) Public awareness
2. Variable Y waste reduction. 1) Reduction the garbage, and 2) Perspective environment

**Data Collection Techniques**

The technique which used in the collection of data and information in this study using the following techniques: Observation (Observation), Interview (Interview). Questionnaire (Questionnaire) and Library.

**Data Analysis Techniques**

In data management first author conducted checks on the answers given by each respondent. Then the data in tabulated into a table to make it easier to analyze the data by correlation analysis Productions moment

**IV. Result Of Research And Solution**

**Result of Research**

Results of research on the factors that support waste reduction in environmental perepektif in District Wenang Manado City using the techniques of data collection through the circulation questioner to 54 respondents have followed the steps that should be done by a researcher so that research results can be considered representative. The results of this study collected and be checked. Then tabulated the results are:

$$\begin{aligned} x &= 1233, & y &= 1350, & x^2 &= 28158 \\ y^2 &= 33951, & xy &= 30414, & n &= 54 \end{aligned}$$

$$r_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{n\{[(\sum X^2) - (\sum X)^2]\}[(n\sum Y^2) - (\sum Y)^2]}}$$

$$r_{xy} = \frac{54 \times 30414 - (1233 \times 1350)}{\sqrt{(54 \times 28158 - (1233)^2)(54 \times 33951 - (1350)^2)}} = 0.964$$

So there is a relationship influence the factors that support waste reduction in the environmental perspective in the district of the city of Manado Wenang (r = 0.958) relatively strong.

**Table 2. Interpretation of Correlation Coefficient r value**

Interval Coefficient: Level Relations	
0.00 to 0.199:	Very Low
0.20 to 0.399:	Low
0.40 to 0.599:	Enough From
0.60 to 0.799:	Strong
0.80 to 1.00:	Very Strong

From the results of r is 0.958.

To know how much contribution (coefficient determinant or determinants coefficient) to variable X to variable Y by the formula is:

$$\begin{aligned} KP &= r^2 \times 100 \% \\ KP &= 0,958^2 \times 100 \% \\ KP &= 0.917 \\ KP &= 92 \% \end{aligned}$$

To determine the contribution (coefficient determinant determinant coefficient) variable X to Y by the formula  $KP = r^2 \times 100\%$  the result is 92%. This means that relationships influence the factors that support waste reduction in the environmental perspective in District Wenang Manado City by 92% and the remaining 8% is determined by other variables not examined by the author.

To test the significance of the formula t count:

$$T \text{ count} = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0.958 \sqrt{24-2}}{\sqrt{1-0.958^2}} = 35.251$$

If  $t \text{ count} \geq t \text{ table}$  then significant

If  $t \text{ count} \leq t \text{ table}$  then there is a significant

Based on the above calculation provided that the error rate of  $\alpha = 0.05$ ,  $df \ n-2 = 24-2 = 10$  thus obtained t table = 2.074 turns  $t \text{ count} > t \text{ table}$  or  $32.251 > 2,074$ .

Conclusion correlation variable X with Y or relationships influence the factors that support waste reduction in the environmental perspective in District Wenang Manado is significant.

### **Solution**

From the results of research on the relationship influence the factors that support waste reduction in the environmental perspective in District Wenang Manado result is equal to ( $r = 0.958$ ) So there is a relationship influence the factors that support waste reduction in the environmental perspective in District Wenang Manado City of ( $r = 0.958$ ) relatively strong.

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City clean and green city was realized in 2004. Therefore it is necessary to instill public awareness of environmental hygiene students ranging from school children to employees and the community in the city of Manado. Likewise, the municipal government as well as several non-governmental organization has planted 4500 trees in Manado with the program embodied the Government appealed to the citizens of Manado to have awareness of environmental hygiene and to nurture it.

Clean living culture must start from ourselves in creating Manado City "clean and green city" in order to realize the city of Manado, which is free of trash. Through the "Adipura" as a clean city government role through socialization can realize that public awareness of environmental cleanliness is half of faith.

Therefore it is necessary also means and instruments of conveyance should be noticed by the government because it is very influential in preventing the accumulation of garbage. Through the rules need to be confirmed again by the City of Manado so that rules that already exist should be adhered to by the public so adipura and "clean and green city. Can be maintained as a city that is clean because it has a clean culture.

## **V. Conclusion and Suggestion**

### **Conclusion**

From the description above and the results can be concluded as follows:

1. Manado can realize City "Clean And Green City" (City clean and green by planting 4500 trees so as to obtain Adipura but due to flash floods Manado City Paralyzed total but due to the cooperation of all the people of north Sulawesi mapalus terms of waste can be addressed so as to maintain a clean and green city requires the role of government regulation and public awareness in order to keep the environment clean materialized.
2. Based on the result of the relationship influence the factors that support waste reduction in the environmental perspective in District Wenang Manado City using correlation analysis of Karl Pearson Moment Productions based sample of 54 respondents, the results of ( $r = 0.958$ ), the effect of the relatively strong ties

3. Based on the results of research on the magnitude of the power coefficient of determination or determinant variables X and Y on the relationship influence of factors that support waste reduction in the environmental perspective in Manado City KecamatanWenang result amounted to 92% and the remaining 8% is determined by other variables not examined by author.
4. To test the significance of the result t is appropriate formulation  $35.251$ . If  $t \text{ count} \geq t \text{ table}$  then significant, and  $t \text{ table} = 2.074$  turns  $t \text{ count} > t \text{ table}$  or  $32.251 > 2.074$  Conclusion correlation variable X with Y or relationships influence the factors that support waste reduction in the environmental perspective in District Wenang Manado is significant.

### **Suggestion**

1. The government should pay more attention to the means in need and to realize this means the government procurement can work together with private parties in the provision of tools is needed.
2. In order to create a good working relationship between the government, the community, and community leaders, the government should hold social events,
3. Need to equip and reaffirmed regulations governing the sanctions for those who throw garbage out of place.

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