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Environmental Sanitation in Relationship with the Growth of Squatter Settlements the Coastal Area of Manado City

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Abstract:- In principle, humans need a healthy environment for their survival. Humans with their tridas can be used for adjustment, mastery and creation. One form of human tridaya that is always carried out is to utilize the natural environment for its interests, especially those related to supportive sanitation so that survival can be better. Manado City is one of the cities in Indonesia which is located in a coastal area with a supportive environmental sanitation in accordance with common expectations in relation to life in general. All its activities and settlements are accompanied by a very rapid development growth because the trend of growth causes population pressure with its socio-economic dynamics. The coastal area of Manado City is considered suitable as a case study in research, where the feasibility level of environmental sanitation needs special attention, especially the condition of the settlement which is in accordance with the expected standards. Specifically, the characteristics of environmental sanitation, which are linked to the growth of squatter settlements, are in fact related to one another because in areas where there are squatters, the environmental sanitation is also irregular. Therefore, it is necessary to get serious attention from both the Manado City government and the community in general, especially the settlers around it. The characteristics of environmental sanitation in illegal settlement areas, especially in Manado Bay (Kelurahan Maasing) and Kali Tondano (Kelurahan Sindulang I), are of varying character, in this case mainly due to factors of different levels of education and income. Due to different levels of education, this causes different perceptions about environmental sanitation. Their assumptions about environmental health do not really matter. Likewise, the income is very minimal, causing no effort to improve the quality of sanitation in the neighborhood.

Keywords:- *Environmental Sanitation, Growth of Squatter Settlements.*

I. INTRODUCTION

Settlement can be described as an environment of areas where people gather and live together and build houses and roads for their benefit. Thus, settlements can be viewed as an environment, because of the elements of their natural environment (Bintarto, 2005).

The residential environment is an interaction between the environment and humans. Humans have a mind and mind based on values and norms to form social and economic structures and institutions, the natural environment to support life with them by creating an artificial environment, namely settlements.

The problem of settlements in urban areas is more complex than in rural areas. The population in urban areas is very diverse, both in terms of occupation and education as well as socio-cultural conditions. Residential places for residents in urban areas also vary widely. Starting from buildings that are luxurious palaces to huts that are not suitable for humans, there are in urban areas as well as the level of sanitation.

The city as a form of space and as an ecosystem, has multiple functions (multifunction) in serving the needs of its inhabitants. The demographic growth of the urban population, both from birth and migration from rural areas as well as population movements from cities and from other areas, is a very unique problem. Especially regarding settlements, usually in cities, what are called slums and squatters appear.

Manado City is one of the cities in Indonesia which is located in a coastal area with all its activities and settlements, accompanied by a very rapid development growth because the trend of growth causes population pressure with its socio-economic dynamics. The growth and development of the city of Manado tends towards the coast or the sea, causing many people's activities to shift to coastal areas, both to enjoy the beauty of the beach and to be used by the informal sector to earn a living. The coastal area of Manado City is considered suitable as a case study in this research, where the feasibility level of the settlement needs special attention, especially environmental sanitation conditions.

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II. RESEARCH METHOD

a) The research method that will be used in this research is to use the spatial method (spatial). In this case, to examine the characteristics of the growth patterns of squatters and their environmental sanitation in Manado Bay and Kali Tondano.

b) Concepts and Variables

The concept of the growth pattern of squatter settlements in the city of Manado can be described in three research variables, namely: environmental sanitation and growth patterns of squatters.

c) Operational Definition of Variables

Environmental sanitation is an environment that has healthy standards including the physical buildings and land. The growth pattern of illegal settlements is a form of illegal expansion of land occupation (occupation) of illegally occupied land, without having legal force, in this case ownership of certificates in relation to land and IMB in relation to buildings.

d) Population and Sample

The population in this research is the coastal area of Manado City. The sample in this study used purposive sampling which was taken as representatives of 2 (two) villages, namely Sindulang I Village and Kelurahan Maasing. As for being respondents as a source of data in the field, namely the head of the family (settlers) who occupy an illegal settlement area.

e) Data Collection Techniques

In collecting data in this study, it will be done by:

1. Collecting documents (maps 1990, 2000, and 2010);
2. Interview;
3. Questionnaire;

f) Data analysis techniques:

To find out the results of this study, the R scale and Chi square analysis techniques were used.

g) Research location

This research will be conducted in Manado Bay and Kali Tondano in the coastal area of Manado City; because this area is generally dominated by squatter settlements.

h) Research Time

Research on the growth patterns of squatter settlements and their environmental sanitation in the coastal areas of Manado City is planned to be carried out for 6 (six) months, namely: covering preparation, data collection, data processing, data analysis and reporting.

i) Research Instruments

The instruments or tools to be used in this research, specifically in filtering data, include:

1. Map of Manado City (1990, 2000, and 2010);
2. Questionnaire sheets;
3. Camera for taking pictures in the field;
4. Notebook / ballpoint.

III. RESULT AND DISCUSSION

➢ *Factors Influencing the Growth of Squatter Settlements*

In measuring the growth rate of illegal settlements in the Manado Bay area (Kelurahan Maasing) and Kali Tondano (Kelurahan Sindulang I) it consists of two main factors, namely the determinants and the factors that stimulate the growth of illegal settlements. What is meant by the determinant factor in this research is a system that is very influential on the presence or absence of illegal settlement areas, especially in the Manado Bay area and in Tondano River. The determining factors referred to are legal factors, perceived push and pull factors, and income level factors. In measuring the growth rate of illegal settlements in Manado Bay (Kelurahan Maasing) and Kali Tondano (Kelurahan Sindulang I), there are 5 driving factors, namely accessibility, distance, time, education, livelihoods.

➢ *Quality of the Home Environment (Environmental Sanitation)*

The quality of the home environment is the state of all the materials around the house that affect the existence of the house and its inhabitants. Home environmental indicators used include house ventilation, lighting systems, garbage disposal systems, household waste disposal systems, distance of wells from waste disposal sites, garden plants, house yards, and yard fences. Most of the ventilation conditions of houses in squatter settlements in the Bay of Manado and Kali Tondano are in poor condition compared to others. This is due to a lack of knowledge about the function of the ventilation holes in the house, causing most of the two areas to use less ventilation. Thus it can be concluded that the air circulation in the house in the two areas is considered poor. Most of the indoor lighting systems of houses in the squatters in Manado Bay and Kali Tondano are bright compared to the others. This means that the natural lighting system in both areas is generally good. Most of the garbage disposal systems in the squatter settlements in the Bay of Manado and Kali Tondano are littering rather than littering in the provided place. This means that the waste disposal systems in the two areas are generally poor. Most of the household sewage disposal system in squatter settlements in the Bay of Manado and Kali Tondano goes through sewers. This means that the household waste disposal systems in both areas are generally good.

The distance between wells or clean water sources and waste disposal sites in illegal settlement areas in Manado Bay and Tondano River is mostly the distance between wells and waste disposal is less than 10 meters. Thus most of the settlers no longer use well water as a source of clean water, but instead use clean water from PAM. This means that the distance between the well and the waste disposal in the two areas is generally not good. In the illegal settlement areas in Manado Bay and Kali Tondano, most of them do not have garden plants. This means that the air circulation through the house ventilation in both areas is less fresh. In the illegal settlement areas in the Bay of Manado and Kali Tondano, most of the conditions of the house yard are dirty and muddy. This means that in both areas, the page

conditions are generally not good. The squatter settlements in the Bay of Manado and Kali Tondano are mostly without fences, compared to having fences. This is because most of the yard size is too small, so it is not possible to make a fence. This means that the condition of the house is generally not good.

Based on the eight indicators mentioned above, the scores can be added up so that the minimum and maximum scores of each indicator score per respondent can be obtained. The result of this research in determining the quality of the home environment, obtained a minimum value of 9 and a maximum value of 22. The difference between the maximum value and the minimum value is 13. If the desired class is three classes, then the value of each class is: (1) first class (jelak) worth under 13.3; (2) the second class (medium) scores between 13.3 to 17.6; and (3) the third class (good) scored more than 17.6 (Table 5.39). In general, it can be seen that the quality of the housing environment in the squatter settlement areas in Manado Bay (Kelurahan Maasing) is mostly the quality of the housing environment, including in the bad class, amounting to 35 respondents or 58.3%, followed by moderate and good classes; Meanwhile, in the illegal settlement area of Kali Tondano (Kelurahan Sindulang I), most of the quality of the house environment was of the bad class, amounting to 20 respondents or 50%, followed by the quality of the house environment in the medium and good class. From these data, it shows that in general the quality of the housing environment in the squatter settlement areas in Manado Bay and Kali Tondano, most of the quality of the housing environment is classified as poor. Thus it can be concluded that the quality of the housing environment in the two areas is included in the category of slum environment quality.

IV. CONCLUSION

In the process of the growth pattern of illegal settlements in the Bay of Manado (Kelurahan Maasing) and Kali Tondano (Kelurahan Sindulang I), they have different characteristics from one another. Where in the calculation results using the R Scale (R Scale) shows the results for Manado Bay (Maasing Village) get a result of R = 0.7. This means that the growth pattern in the location (area) of Manado Bay (Kelurahan Maasing) is clustered in nature. Then for the Kali Tondano area (Kelurahan Sindulang

I) the result is R = 1.24. This means that the growth pattern in the Kali Tondano area (Kelurahan Sindulang. I) is unevenly distributed (random pattern). In addition, there are factors influencing the growth of squatter settlements, namely the determinants of settlement growth (law, settler perceptions and income) as well as the stimulating factors for settlement growth (accessibility, distance, time, education and livelihoods).

The characteristics of environmental sanitation in illegal settlement areas, especially in Manado Bay (Kelurahan Maasing) and Kali Tondano (Kelurahan Sindulang I), are of varying character, in this case mainly due to factors of different levels of education and income. Due to different levels of education, this causes different perceptions about environmental sanitation. Their assumptions about environmental health do not really matter. Likewise, the income is very minimal, causing no effort to improve the quality of sanitation in the neighborhood.

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