

The growth of wild settlements in the city of Manado

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Abstract—This study discusses the growth of squatter settlements in the city of Manado which necessarily will be studied in two locations, namely in Manado Bay and Tondano River. The research objectives were (1) to analyze the characteristics of the original settlements and differences in the process of growth of illegal settlements in the study area, seen from the factors of time and place, (2) analyzing the characteristics of solutions in terms of legal considerations, perceptions of drivers and pullers, income, education and livelihoods. The method used is the spatial analysis method, to study the process of growth of illegal settlements in coastal areas and the periphery of the Tondano times in Manado City. The results of the study show that: The growth of illegal settlements in the Titiwungen and Karame villages, has confirmed its differences. The difference in high and low levels of accessibility affects the high and low growth of illegal settlements. For regions with a high degree of availability, the economic prospects are considered good, so that the area is the target of migrants to improve the commercial presence of their home areas which is very minimal. Then also, the distance of the wild residential regions to city facilities causes a high and low growth process. There are differences in the density of squatter settlements, according to the length of the solution. Wild arrangements in the Bay of Manado are affected by the longevity of solutions to the level of density in the wild settlement area.

Keyword: *Wild Settlements, Growth, Population*

I. INTRODUCTION

Geography is a scientific discipline that has one part called "Geography of Settlements." Residential geography which in its capacity as a science that has the object of study of the earth's surface highlights land use as a distributed feature or an aspect of area differences. There are so many forces that play a role in producing a pattern of distribution of specific land uses. Interactions that run between various elements of the environment still create a peculiarity of models. A review of the forces that play a role in shaping the pattern of distribution of types of space and place use will differ, although there are elements of equality.

Fandari (2015) argues that the problem of poverty is a social phenomenon in various regions. Therefore, various efforts have been made by the government through the implementation of multiple policies that directly touch the needs of the poor. Low-income residents who do not have residential land are forced to occupy and construct buildings on vacant properties that are not designated for residential areas. Riverbanks, local railroad tracks, under toll roads or another vacant land which is usually the place where residents were eventually made to build houses for shelter [1].

Similarly, according to [2] illegal settlements are an occupation (occupation) of unauthorized land or solutions that are occupied illegally, without legal force and the necessary permits as a basis for protection of the area. For those who do not have rights to property, then use it, this violates the illegal occupation law. Illicit settlements which in this case indicate the relationship between groups of people and housing on certain lands without legal force. A wild settler means someone who occupies a plot of land without lawful authority. Land needs for shelter are increasing rapidly, but these conditions are further exacerbated by the cost of building materials that are growing and the cost of land that soars. This makes it difficult for the poor to get housing.

The 2003 Global Report on Human Settlements in the slums-a place where poor people struggle to make a living and raise their families, and areas where one third of the urban population lives. This report. Therefore, about poverty and housing and poor housing policies. Since there have been poor cities there but only since the 16th century have there been slums, places that are 'dirty, crowded and poor.' Slums are the only large-scale solution providing housing for low-income people. This is the single type of affordable and accessible housing for the poor in Indonesia, cities where competition for land and profits are enormous, and places where they have to live if they have little income or no other choice [3].

The growth of squatter settlements from year to year, that the orientation of the settlement growth process that is horizontally or widely spread often occurs in areas close to the CBD or the center of activities, in this case, the district that is considered empty. This illegal settlement system generally supports a row or several rows of houses along the coast, along rivers or other places that are considered abandoned or no man's land.

Thus it is clear that the emergence of illegal settlements is mainly due to the factor of helplessness of settlers to build decent settlements according to needs. The powerlessness to meet the needs of solutions in the city is usually closely related to income.

Based on the appearance in the field that essentially has specific characteristics, especially in the application of spatial structures. Likewise, the ability is seen in the process of growth of squatter settlements, which in this case appears in the knowledge of distance and distribution of solutions. Then when examined further about the appearance of length and delivery from the process of growth of illegal settlements, especially in the city of Manado is closely related to the spatial and temporal dimensions.

II. RESEARCH METHODS

The method used in this study is a spatial analysis method, to study the process of growth of illegal settlements in coastal areas and the periphery of the Tondano city of Manado. The population in this study were all heads of households in residential areas and along the coast of Manado Bay and Tondano River Manado City. While sampling in this study, using a stratified random sampling method.

III. RESULTS AND DISCUSSION

In measuring the growth rate of squatter settlements in the Bay of Manado, five factors trigger, namely accessibility, distance, time, education, livelihood.

A. Accessibility

Illegal settlements in Manado Bay (Tituwungen Village) and Tondano River (Karame Village) level of accessibility and growth rates of illicit arrangements, namely the number of large increase houses in the period 2010 to 2017, when compared with the period 2000 to 2010. The magnitude of this increase mainly because the area is close to the city center (CBD) which is considered to have a high degree of accessibility, while the growth rate of settlements is the small increase in land area. This is for the Manado Bay area (Tituwungen Village), due to the construction of coastal reclamation for the "Boulevard" road, so that vacant land on the beach is mostly used by road agencies and other facilities (sidewalks, waterways and green lines). Then for the Tondano river area (Karame Village), it was caused by the program of land acquisition by the river side by the Manado City Regulation, for the construction of a dam for floods or overflowing rivers and trails. Thus, the tendency of high growth can be possible, especially in the expansion of the land. From the data above, by referring to the research hypothesis which states "the higher the level of accessibility the higher the growth

process of squatter settlements," specifically in squatter settlements in the Bay of Manado (Tituwungen Village), and Kali Tondano (Karame Village) proved correct. This situation was made possible by the level of accessibility in the two regions, accompanied by the growth of illegal settlements.

Thus, it is [4] states that there has been a dichotomy between accessibility to housing and settlement resources that are increasingly expensive, with the need for accessible residential locations at work and businesses, facilities general and public service center. Strengthened by the reality of social, economic and population pressures, this situation is what drives the concentration of dense, poor and slum housing and settlements. The control and use of land by residents are still weak regarding legal and administrative aspects such as river banks, railroad tracks, grave land, in-absentia land or unemployed or land under other parties' ownership or ownership status. In the old paradigm and the common interests of urban development, the environment is often faced with eviction problems. This is a form of social conflict in event and denial of fundamental rights to housing and settlements in urban areas.

B. Distance

Distance is a span of two points using meters or kilometers. Then with the numbers obtained from this measurement result, it can determine the Distance classification (Far, medium and close) by calculating the category index. The distance meant here is mainly the relationship between residential areas and city facilities grouped into seven sections, namely (1) shopping centers (markets and shops); (2) government offices (village, sub-district police, and sub-district heads); (3) health centers (hospitals, health centers); (4) entertainment venues (cinemas, children's toy parks); (5) place of education (elementary, junior high, high school, University); (6) communication centers (post and telecommunication offices); and (7) places of worship (churches, mosques and temples).

This is in line with Christaller's opinion in [5] that a central place has boundaries of influence which are complementary circles to the central location. These additional regions or regions are regions that are served by a central location. The boundary circle in the area of influence of central places can be divided into threshold or lower limit, real limits, and ideal limit (ideal limit). The maximum distance under the influence of a central place is called the perfect restrict or economic boundary. The real deadline is the distance that is lived by a person or population to get the goods needed. Then the threshold limit or lower limit is the radius of the circle that encloses the threshold population.

Furthermore, it was stated that people would walk to the place closest to their place of residence to get their needs. This causes the tendency to find a place to live close to city facilities, which is considered the main thing. Thus the opinion states that the influence of the area of residence with the middle distance to get the needs of goods including all the facilities of the city is a huge role. Primarily related to the facilities obtained from these facilities, so that there is a tendency for migrants to find residential locations where accommodation costs are cheap and easy to reach.

Thus through the results of this study, it can be concluded that the proximity of city facilities to the wild residential areas in Manado Bay (Titiwungen Village) and Tondano River (Karame Village) has a significant influence on the growth of settlements. The research hypothesis that states "getting closer The distance to the city center, the higher the process of growth of squatter settlements "in the wild residential areas of Manado Bay (Titiwungen Village) and Tondano River (Karame Village) proved to be correct. This situation is very possible because of the large degree of accessibility of the area close to the city center (including city facilities), causing the tremendous growth of illegal settlements. Then completing the results of the research Distance of city facilities with unlawful residential areas, the next pattern will be the distribution of solutions based on the results of the analysis of the nearest neighbor's report. Thus the results of the study of the nearest neighbor's review for the Manado Bay area (Titiwungen Village) obtained the value of $R = 0.7$. This means that the wild settlement patterns include clustered patterns. Next, to the Tondano River area (Karame Village), the amount of $R = 1.24$ was obtained. This means that the wild settlement patterns include uneven patterns. This pattern of formation is influenced by land area conditions, ethnic segregation, and others. The spatial structure of the creation of the design of the spread of wild settlements, which in this case specifically for the Manado Bay region (Titiwungen Village) the pattern of its structure is clustered, the Tondano River (Karame Village) its formation pattern is unevenly distributed.

C. Time

For this time measurement, based on the year of settlement (house building) was built in the wild settlement area in the Bay of Manado (Karame Village) in a certain time interval. Then through this time interval, the density level of the settlement can be calculated using the following density formula:

$$KP = \frac{JP}{LW}$$

Where:

KP = density of settlements

JP = number of settlements (house buildings)

LW = area

With this formula, housing density can be calculated based on the length of settlement in the illegal settlements of Manado Bay (Titiwungen Village) and Tondano River (Karame Village).

When compared to the wild settlement density in the Manado Bay area (Titiwungen Village) with Tondano River (Karame Village) based on the length of settlement, it turns out that the highest density level is in the range of arrangement above 21 years. For squatter settlements in Manado Bay (Titiwungen Village) with a density level of 6.4 is in the stable category, while for Tondano River (Karame Village) with a density level of 8.3 is in the permanent type.

D. Education

The year of success in this study was based on the primary data divided into three parts, namely (1) SD 1-6 years; (2) junior high school 7-9 years; (3) SMA 10-12

years; especially for household heads as respondents in the wild residential areas of Manado Bay (Titiwungen Village) and Tondano River (Karame Village). The results of this study indicate the level of education (years of success) of respondents with the highest percentage is an elementary school (1-6 years); for illegal recreation areas in Manado Bay (Titiwungen Village) of 68.3 percent, illicit settlements in Tondano River (Karame Village) amounted to 42.5 percent. If seen further the level of education of family heads in the wild settlement area of Manado Bay (Kelurahan Titiwungen), junior high school education level (7-9 years) by 23.3 percent, high school (10-12 years) by 8.3 percent; while in the wild settlements of Tondano River (Karame Village), junior high school education level (7-9 years) is 27.5 percent, high school (10-12 years) by 30 percent. To be analyzed here is the difference in the level of education of family heads in the wild residential areas of Manado Bay (Titiwungen Village), with the head of the family in the wild settlement area in Tondano River (Karame Village). In testing, this difference used Kai-Square analysis for the level of education in both regions. Referring to the hypothesis that "most of the illegal settlers in the Bay of Manado have low levels of education when compared to the wild settlers in the Tondano River." So to make sure there are differences, it is tested with Kai-Squared. Kai-Squared statistical test results show calculated X^2 of 0.55561 greater than X^2 table 5.99 with a degree of freedom (DF) of 2, and the significance of 0.0084 with a 95 percent confidence level. These results indicate significant differences in the level of education of household heads in Manado Bay (Titiwungen Village) and Tondano River (Karame Village). This difference is reinforced by the contingency coefficient value (cc) of 0.29533. Thus the hypothesis is accepted.

The different levels of education of household heads in the two squatter settlements have shown the highest percentage of primary school strata, compared to junior and senior high school education levels. For hot fishing areas in the Bay of Manado (Titiwungen Village), the junior high school level is 23.3 percent, the high school level is only 8.3 percent. Because this area most of the heads of households come from Sanger Talaud, inability to pay for education and finding a challenging high school in the village, especially between islands where communication and transportation are still not smooth, causing many of the heads of households in the area to have advanced education levels (junior and senior high school) including low. Then for the wild residential regions of Kali Tondano (Karame Village), junior high school level is 27.5 percent, high school level is 30 percent. This area is mostly family heads from the Gorontalo region, although the inability to finance education but to find a secondary school (junior and senior high school) strata are still more natural. Moreover, the area is in the mainland region of Sulawesi where communication and transportation are smooth.

E. Livelihoods

The type of livelihood referred to in this study is the type of activity carried out by the head of the family and family members and is the main work or as the primary source of income. The results of the research in these two regions showed that most of the family heads worked as street

vendors. For illegal settlements in the Bay of Manado (Titiwungen Village) 33.3 percent, while the wild arrangements in Tondano River (Karame Village) were 75 percent.

If examined further about other types of livelihoods in the two regions, especially for illegal settlements in the Bay of Manado (Titiwungen Village) whose livelihoods are 30 percent, driver's 15 percent, fishermen 13.3 percent, civil servant 5 percent, and brokers 3.3 percent. Then for the wild residential areas in Tondano River (Karame Village), the drivers' livelihoods are 10 percent, brokers are 5 percent, workers are 5 percent, and PNS 5 is per. It turned out that the head of the family in the two squatter settlements, worked more in the informal sector when compared to the formal area. Referring to the sixth hypothesis which states "most of the illegal settlers in Manado Bay are Fishermen, while the wild settlers in Tondano are street vendors." This is completely different because no one works as a fisherman in Kali Tondano. The type of livelihood of the head of the family in the two squatter settlements has shown the highest percentage has the livelihood of street vendors. Especially in the Manado Bay area (Titiwungen Village), it turns out that fishers are only a small percentage or 12 percent. This is because the beach reclamation made the road "Boulevard" caused many fishermen to change jobs or look for other jobs, on the grounds, there was no place to tie the boat anymore. Thus many have shifted from the livelihoods of fishers to street vendors and laborers in addition to other livelihoods. For the Tondano River area (Karame village) the head of the family who has the highest number of street vendors, in addition to other livelihoods. Most of the family heads in the area came from the Gorontalo region whose original job was as a street vendor.

IV. CONCLUSION

The growth of illegal settlements in the Manado Bay area (Titiwungen Village) and Tondano River (Karame Village), has shown distinct differences. The difference in high and low levels of accessibility affects the high and low growth of illegal settlements. There are differences in the density of squatter settlements, according to the length of the solution. In this case, the wild settlement areas in Manado Bay (Titiwungen Village) and Tondano River (Karame Village), according to the results of the study have shown a tendency, the influence of the settlement age to the density level in the wild settlement area. There is a real difference, the level of education of the head of the family in the wild settlement area in the Bay of Manado (Titiwungen Village), with in Tondano River (Karame Village). There are differences in the types of livelihoods of the head of the family in the wild settlement area in the Bay of Manado (Titiwungen Village), with Kali Tondano (Karame Village).

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