Citizen Preference on Arrangement of Slum Area in Banjarmasin Riparian Zone

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Abstract. The city of Banjarmasin has a strategic function as a center of trade growth and social services. Along with the population growth and housing needs, people tend to use the riparian zone (river border area) as a place to live. One of the river border settlement areas in Banjarmasin City that grows organically is the area around Martapura River, Kelurahan Pasar Lama. As the impact of that way of life, many people become victims of flood disaster when the rainy season arrived. The purpose of this study is to know the preference of the slum dwellers for staying or moving from the slums of Pasar Lama area. The slum dwellers were offered with two options: move (relocate) or stay (land consolidation). The population chosen was a prosperous household. The sample selection was using the purposive technique. The research was designed by mixed method. Quantitative data collection was done through survey. Quantitative data processing was editing and tabulation, and quantitative research was carried out using factor analysis. The qualitative data were collected by Indepth - Interview and FGD. Based on the analysis results, it is known that slum dwellers chose the option to keep staying in Pasar Lama slum area with the highest preference related to the ease of accessibility to trade and service facilities, with an average value of 4.63. This is reinforced by the existence of various types of trading facilities and services that facilitate residents to meet their needs without the need to get out of the area. In addition, there was a tendency for activity in most slum dwellers to visit the trading facilities, both malls and shopping centers as their primary livelihood.

Keywords: Factor analysis, settlement area, illegal land, preference, riparian zone

1. Introduction
The city of Banjarmasin has a strategic function as a center of growth in trade, governmental activities, and social services. This function causes the flow of goods and services goes rapidly for both between districts and provinces. This high mobility stimulates the economic growth and become an attraction to move and work in the city which is also a factor driving the rapid growth in Banjarmasin [1]. The city development with the rate of population growth as well as its impact is closely related to the increasing demand for land or space [2]. Along with the growth of population and the needs of shelter, people tend to use the remaining space, including on the banks and river bodies as a place to live. One of the densely populated riverside settlement areas in Banjarmasin City that grows organically is riverside slum area of Kelurahan Pasar Lama Banjarmasin City. The majority of people live in this area are work as traders and informal workers in Pasar Lama and Martapura River. At first, the area was an illegal settlement on the banks of the Martapura River, but due to the uncontrolled urbanization, the number of people and homes in the area are rapidly increased, therefore it became very crowded.
As a result, many settlers in this area become victims of the flood disaster when the rainy season arrives. The victims still choose to survive and re-establish their life in the riverbank area or riparian zone even though the status of the land certificate is illegal and the occupied lands are not in accordance with the designation of the spatial plan, and that makes them are also vulnerable to become victims of evictions by the government. Government regulation of Banjarmasin City No. 31 Year 2012 on the Determination, Arrangement, and Utilization of River Riparian Zone and Former River [3] has confirmed that the river border areas are not for residential areas. Therefore, to find out more about how the existing condition and preference of the settlers or slum dwellers who become the victims of the floods resettled in the area, the authors were interested to conduct research in order to know the preference of the slum dwellers to keep live in the area which the results of this study in the science of planning the city is expected to be a reference in determining the direction and policy in the planning process. Especially, related to the river area planning and the handling of settlement problems in riparian areas.

2. Methods

The research was conducted in the slum area around river in Kelurahan Pasar Lama. The population in this study is the settler household. With reference to the technique of determining the sample according to Sugiyono [4], the sample size was set by 200 households. The sample selection in this study used purposive (deliberate) technique, considering the ease of access for researchers to the location of the study, and the uniqueness of social phenomena namely the slums of the river bank in the Pasar Lama village in the chosen location. The selection of respondents in the field was emphasized on the character of the sample members with certain considerations that were taken to represent the characteristics of the population. The characters of the respondents who become the focus of the research were poor households that include household heads and householders or household members who could complete the information related to the purpose to be achieved in the study.

The study was designed using a mixed method; namely combining qualitative and quantitative research. Quantitative data collection was carried out through survey methods. Data collection techniques were carried out through questionnaires with a Likert scale to make it easier to measure and test the quality of the data whether it was valid and reliable. Quantitative data processing includes editing and tabulation; this quantitative research used factor analysis. Factor analysis is one multivariate statistical analysis technique that aims to reduce data. While the collection of qualitative data was through: (1) In depth - Interview and (2) Focus Group Discussion (FGD). The informants in this study were people who really know or people who are directly involved with the research problems, so that it will be easier for researchers to explore the object/social situation that being studied. Qualitative data analysis was done through three stages: indexing, interpreting, and connecting. Data analysis techniques in this study were also carried out through an empirical approach, namely by referring to the method of analysis of Miles and A. Michael Huberman [5] that the analysis consisted of three flows of activities that occurred, namely: 1) Data reduction, 2) Presentation of data, and 3) Conclusion. The qualitative data analysis was used to express and understand the existing relations in the field in accordance with the real conditions in the field that describe the setting of observations, actions, and discussions to find patterns of the interactive relationships, describe the complex realities, and gain the understanding of meanings.

3. Result And Discussion

Kelurahan Pasar Lama, Banjarmasin city area has a large river, namely Martapura River. Because of the geographical conditions in the form of rivers, settlers in Kelurahan Pasar Lama are familiar with river life. The houses in the slum area of the riparian zone of Banjarmasin are built on poles on the banks of the river or above the river and are built facing the river.

3.1 Characteristics Identification of the Settlement Area in Riparian Zone
Social and Economic Characteristics of the Settlers. The social and economic characteristics studied includes the majority of marital status which is 92% married and the majority of middle-aged families, namely between 46 - 50 years old (61%).

**Figure 1.** Social interaction in slum Area of Kelurahan Pasar Lama  
(Personal documentation, 2017)

Figure 1 shows the social interaction in slum area of Kelurahan Pasar Lama. The type of social interaction of the settlers consisted of husbands: yassinan, hadrahan, community service, gotong royong, chatting; wives: arisan, burdahan, pengajian, PKK, chatting; and children: playing and sports. The period of time for settlers on the river side of Kelurahan Pasar Lama has resided in that location; where the average residence has been live there for 16-20 years to > 20 years. This was seen from the percentage of respondents at 85.53%. The close relationship between neighbors and the high sense of mutual cooperation between neighbors initiate the settlers to help each other. For the level of education, there were still many people with low education. It was assessed from 64% of respondents were graduated only from elementary to junior high school. Based on the results of the research in the field, it was also found the settler professions, including motorcycle/vehicle taxi drivers, construction workers, plywood industry workers, free lancers, traders, and boat drivers. The income of residents in this area was in the range of 1000,000-1,500,000 rupiahs. These was below the Regional Minimum Wage, where in 2017, the minimum wage of Banjarmasin City was Rp2,150,000. The expenditure was dominated by the expenditure level > 90% above income.

Physical Conditions and Environmental Facilities Characteristics. Based on Figure 2, the slum area of Kelurahan Pasar Lama had insufficient facilities. In this area, although there was a pattern of road network that was in the form of a major environmental road with asphalt pavement conditions, but for smaller road hierarchy, it was still not being paved yet (still wooden boards).
This poor result of justification was assessed from the use of toilets in every house which only reached 25% and the use of septic tanks by 36%. Based on the number of educational facilities, the only available facilities were kindergarten and elementary school. So, to continue to the higher level of education the settlers must go to the education facilities in other sub-districts.

3.2 Analysis of Citizen Preferences to Stay on Riparian Slum Area

To obtain the information regarding the main reasons for the citizens choosing to keep staying in the location of the river bank slums in Kelurahan Pasar Lama, the technique used was factor analysis. Factor analysis in this study was used to summarize the information in the original variable (initial) into a set of new dimensions or variation (factor), in general the stages in factor analysis were as follows: a). Formed a correlation matrix, i.e. a table showing interconnections between all observed variables, b). Determined the value of KMO (Kaiser-Meyer-Olkin), its value was considered feasible if above 0.50, c). Determined the Measure of Sampling Adequacy (MSA), the value (MSA) which eligible to be analyzed was 0.50, d). Extracted factors, the extraction criteria used were latent root criterion which was based on Eigen value. Methods that can be used in factor extraction include Principal Component Analysis, e). Factor rotation. Rotation was intended to facilitate the interpretation, the method used in factor rotation was the Orthogonal method of Varimax, f). Based on the extraction method, the rotation method used in this research was the Principal Component Analysis - Varimax, 9). Factor analysis result interpretation.

In the initial stage of factor analysis, 14 variables that have been predetermined, extracted using the Principal Component Analysis method resulted in 5 influencing factors. The five factor can be seen in table 1. The five factors have an Eigen value above 1, so it is known there are five factors that affect the public preference to remain in the area. Factor 1 with the value of Eigen value of 6.390, meaning that factor 1 was able to explain the variation of 33.450%. While factor 2 with Eigen value of 3.004, means that factor 2 was able to explain the variation of 18.021%. Factor 3 with Eigen value of 2.542, means factor 3 was able to explain variation equal to 9.259%. Factor 4 with Eigen value of 1.748, means that factor 4 was able to explain variations of 8.238%. While Factor 5 with Eigen value of 1.118, means that factor 5 was able to explain the variation of 5.341%. Overall, the five factors could explain 74.308%. This means that there are other factors beyond the factors discussed with an influence value of 26.692%. The member of each factor is a variable that has a correlation number above 0.5.
Table 1. Citizen preference for residing in riparian zone

| Factor | Variables                                      |
|--------|------------------------------------------------|
| 1      | Accessibility, Economics, Electricity, Roads   |
| 2      | Drainage, Sanitation, Economics                |
| 3      | Family, Safety, Organization, Neighborhood     |
| 4      | Communication, Garbage, Education, Healthiness |
| 5      | Open space, Administration, Center of Citizen Activities |

From the results of factor analysis, it can be drawn one main factor affecting people's preference to remain residing in the slum area of riparian zone in Kelurahan Pasar Lama. The first main factor consisted of five variables, namely: Access, Economics, Electricity and Road. From all the five variables, accessibility is the main one.

Figure 3. Work activities of citizens in the slum area (Personal documentation, 2018)

Figure 4. Slum dwellers home in Kelurahan Pasar Lama (Personal documentation, 2018)

Accessibility here meant the proximity to the location of work affect people's preferences to remain residing in the slum area of Kelurahan Pasar Lama. This was evidenced by most of the settlers having work locations located around their home or still in the same village (Figure 3 and Figure 4). This means that the work location of most of the settlers was not too far from where they live, with a distance of 1-5 km (63.8%) and travel time of 5-15 minutes (57.4%). It was also supported by water transportation owned by settlers, namely Jungkung (92.4%). In addition, settlers were also more concerned with
residential locations in the border area of the Martapura River because it provides all the ease of access to the Barito River area. In accordance with the natural environment, then the settlers in this location choose various livelihoods in accordance with the surrounding natural conditions.

4. Conclusion

Based on the analysis that has been done, it can be concluded that:
1. Position of settlement location in slum area of riparian zone in Kelurahan Pasar Lama, Banjarmasin City mostly stood on an area that was not in allotment for building.
2. Facilities and infrastructure facilities were still very bad due to the quality of buildings and the system of facilities and infrastructure services that were still inadequate.
3. The main factor underlying the settlers decided to stay in the slum area of riparian zone in Kelurahan Pasar Lama, Banjarmasin city was the distance/time factor to the workplace whereas the factors that were not so important according to the settlers in deciding to stay in the location were the facility and utilities contained in the home environment.
4. Settlers feel uncomfortable to stay in the location because they were aware that the location was prone to flood disaster and vulnerable to be evicted by the government due to the status of existing land certificate that was illegal and the land occupied was not in accordance with the designation of spatial plan of Banjarmasin City.

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