



THE STUDY OF LOST SPACE IN PEKANBARU CITY

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Article Info	Abstract
Article history: Received : Sept 29, 2023 Revised : Oct 21, 2023 Accepted : Nov 8, 2023	<p>The utilization of urban voids in Pekanbaru Kota Subdistrict grew no control causes problems in decreasing visual quality and slums. It happened because there were no clear rules regarding the utilization of urban voids in this City. This study aims to identify the distribution and utilization of urban voids becoming an active space. The approach of this research is to observe physical form city through figure/ground, linkages, and place. The targets achieved are identified the distribution, the factor that influence space, identified government regulation in the utilization and recommendation and direction for the design of urban voids. The analysis used are analysis of spatial, figure/ground, linkages, and place as basis to finding and the characteristics of urban voids itself. Data collected using observation techniques, open interview with purposive sampling to the relevant agencies. This paper was conducted in Pekanbaru Kota District, Pekanbaru City. The results obtained from this paper are: 1) Identification of six points an urban void sporadic with types of spatial pattern and characteristic of urban voids, namely pattern of linear arch, angular, and organic. 2) The identification of the factors that form the urban voids, namely zoning regulation, the unwillingness of some contemporary institution to contribute to the management and utilization of urban voids. 3) The absence of specific policies related to planning, utilization, and control of urban voids. 4) Recommendations for designing urban voids with visualization.</p> <p>Keywords: Urban Voids, Public Space, Lost Space.</p>

1. INTRODUCTION

Public space as the common ground where the people carry out the functional and ritual activities that bind a community, whether in the normal routines of daily life or in the periodic festivities. We recognize that in much of the rest of the world, and increasingly in the West, public space is also used for "private purposes – for buying or selling things, for gardening, for self-improvement through exercise, or for simply finding a place to exist. It can also be the setting for activities that threaten communities, such as crime and protest [1]. The city is a centralized place for various community activities, always growing both in quantity and quality. Cities should have quality and sustainable plans that are balanced with good plans and spatial planning.

The empty spaces that are usually used as parks seem to be just decoration for city regulations which require parks to be in them without being connected to other areas. Basically, the formation of urban space by paying attention to the relationship between spaces and their functions will indirectly make it easier for people to understand the existing city structure. This connection provides orientation for people in exploring the city and makes it less easy for people to get lost in it. The importance of establishing linkages between components in a city makes linkage seen as one of three important approaches in city design. The creation of empty spaces because of the construction of non-aligned road intersections has directly created spaces that have no character which can function as a medium for interaction and as a marker or place. The relationship between areas or

buildings in one city is often overlooked because more attention is given to planning and designing the mass of buildings without paying attention to the spaces between them [2]. The empty space lost space namely an area in the city that is unable to make a positive contribution to the environment and its users. The main factors that contribute to the formation of lost space are [3]:

1. Increased dependence on vehicles.
2. Architect behaviours in the Modern Movement.
3. Zoning and land use policies that divide the city.
4. Institutional ability to manage public space.
5. Relocation of industrial and military activities outside the city which creates empty space within the city.

The city's lost space is formed because of several elements. The process of using urban space elements is part of the method for initiating lost urban space separately but still having a connection with each other. Elements of urban space include the space between and around buildings, public space, and private space [4]. The grouped the types of public spaces that develop in urban areas [1]:

1. Public/Central Park: Downtown Parks, Commons, and Mini/Vest-Pocket Park
2. Squares And Plazas: Central Squares, Corporate Plaza and Memorial
3. Market: Farmers Market
4. Streets: Pedestrian Sidewalks, Pedestrian Mall, Transit Mall, Traffic Restricted Streets, Town Trails, Playground, and Schoolyard
5. Community Open Space: Community Garden/Park
6. Greenways And Parkways: Interconnected Recreational and Natural Areas
7. Atrium/Indoor Marketplace: Atrium and Marketplace/Downtown Shopping Centre

Pekanbaru is an image of a city transformation with a very dense urbanization growth area. It becomes a very important thing to study when juxtaposed with the development of style and quality of life in modernization. Pekanbaru City is the administrative centre of Riau Province which requires a study of the development of the scale of the city's needs. The city's need for residential space and other functional activity spaces, such as entertainment and interaction spaces. Public space is no longer an essential thing to be discussed or even rumoured. Meanwhile, the construction of malls and other buildings in Pekanbaru City continues to grow regardless of the quantity of open space that remains for public spaces.

Pekanbaru City is classified as an old city that does not have regional arrangement and buildings according to sustainable spatial planning rules, which are not designed and prioritize regional arrangements for the future. This leaves empty spaces (Urban voids) that were not planned together with the development, so that these spaces create new problems for the area. The main challenge faced by the City of Pekanbaru is the pattern of urban space which is no longer concerned with living space or urban voids which in essence have the potential to be converted into spaces that are beneficial to the city's residents. There is an empty space (Urban voids) such as the space under the flyover, the space at the intersection of the Great Mosque Road.

The existence of empty space can result in various environmental impacts on an area. The impact of empty space can be determined through an analytical study or comparison of areas where there is no empty space with areas where there is lost space [5]. The impact of the existence of empty space also results in a decrease in environmental quality, a decrease in property values, space inefficiency, a decline in the area's image and the formation of slum environments.

Utilization of empty space (Urban voids) can make a solution to the problems that occur due to the lack of public space in a city, as well as make the city atmosphere more attractive and provide a

beautiful visual appearance for the image of a city. Based on the above, it encourages the author to conduct research on "Identification of the urban voids distribution in Pekanbaru City".

2. RESEARCH METHOD

2.1. Research Location

This research was conducted in the District of Pekanbaru City, Pekanbaru. The reason for taking the study location as the object of research is because Pekanbaru Kota Subdistrict is one of the areas with a high number of activities and dense buildings but still cannot be separated from spatial problems.

2.2. Data Collection Method

The data collection method in this study was carried out by observation, documentation, literature review, and interviews.

2.3. Types and Sources of Data

The type of data used affects the results of this study because it uses accurate data processing methods. Deductive approach with qualitative descriptive method and data sources in this study are primary data and secondary data. Primary data must be sought through respondents, namely people who are used as objects of research or people who are used to obtain information or data needed, besides that primary data can also be obtained from direct observations/ observations in the field.

Secondary data in this study is data obtained from other sources indirectly from the object of research. Researchers obtained data that was already available from related agencies, including the Public Works and Spatial Planning Department (PUPR), the Development Planning Agency at Sub-National Level (BAPPEDA), the Engineering Faculty Library, the Central Bureau of Statistics (BPS) year 2017 [6], Newspapers and Literature Studies. Collecting data from relevant agencies is needed to support the discussion of the study tailored to the needs of the data needed can be obtained through official documents related to the object of research both nationally, supporting records, literature, books in the library, documentation, archives important government and other information related to the research problem that is used as a complement and support for secondary data.

2.4. Data Analysis Methods and Techniques

The first analysis is to identify the urban voids Distribution in Pekanbaru City District. At this stage of analysis, the analytical method used is 3 (three) stages, namely Figure Ground Analysis, Linkage Analysis and Place Analysis [3]. The three analyses will go through a GIS- based spatial analysis that will identify the distribution of Urban voids in Pekanbaru City District from the digitization process of several basic physical maps and the latest image/land-sat maps using the ArcGIS 10.1 application. and before entering the 3 stages of the analysis, some basic physical maps of Pekanbaru City District must first be analysed using basic physical analysis.

The second method is to identify the factors that affect the urban voids. To get a clearer picture of the factors that affect the urban voids, at this stage interviews were also conducted to complete the data from the study. The analytical method used is descriptive qualitative analysis through the results of interviews with respondents from government agencies.

The next analysis is the identification of Pekanbaru City Government Policies on the Use of urban voids in Pekanbaru City. The analysis used to identify the Pekanbaru City government's policy on the use of urban voids is descriptive qualitative by collecting normative regulations in Pekanbaru City including the Detailed Spatial Planning (RDTR) Urban Land Use Plan (RTRWK). The last is the analysis of the Recommendation for the Use of urban voids in Pekanbaru City. The analytical method

used is descriptive qualitative analysis. This analysis technique is carried out by describing the empirical observations of researchers on the causes and impacts of empty space based on the results of interviews with respondents and then providing direction and recommendations for the use of urban voids in the form of visualization.

3. RESULTS AND ANALYSIS

3.1. Characteristics of Urban Voids in Pekanbaru City District

Public space can be defined as a space that can be used by all levels of society to carry out various daily activities. There are 5 (five) types of urban voids found in Pekanbaru city district, this study found each of these spaces has a risk that contributes to the character of Urban voids (empty space) in this city. The types of space are small street space (Alley), Living Space (Life Space), Courtyard or Yard, Fly Over Bottom Space (Elevated Bridge, Shophouse Building Arrangement). In the study area, the urban voids have not been fully utilized by the city government so that it has the potential to create an empty and obsolete space that makes the scenery unattractive to a city and has the potential to become a crime scene. The flyover can be found under the flyover on Jendral Sudirman street.

3.2. Identification of GIS-Based Urban Voids Distribution in Pekanbaru City District

3.2.1. Figure/Ground Analysis

This figure/ground digitization analysis resulted in the percentage of void area of 20% and solid of 80% of the total area of Pekanbaru City District of 2.26 km². The lattice pattern in the Pekanbaru City District space was formed because the solid elements of commercial buildings consist of shop houses where there are walk around the shop building. The compact area with this lattice pattern is 1.8 km² of the total city area. Figure/ground is understood as a textural relationship between the built form (building mass) and open space. Figure/ground analysis is an excellent tool for identifying urban fabric textures and patterns, as well as identifying figure and ground problems as a basis for identifying urban voids.

Based on the figure/ground analysis, it is identified a texture and urban spatial patterns in Pekanbaru City District by processing existing patterns figure ground by adding, subtracting, or changing geometric patterns and is a form of analysis of the relationship between buildings and open space in Pekanbaru City District. Then the results of the analysis that can be obtained are:

1. The composition of the Pekanbaru City District area is not clearly homogeneous, where there is no one arrangement pattern.
2. The composition of the Pekanbaru City District area is heterogeneous, where there are two or more conflicting patterns.
3. The regional arrangement tends to be dispersed with an irregular tendency.
4. Referring to the calculation of the percentage of solids and voids in the research area, the amount of green open space designation in Pekanbaru City District is less than 30% of the required green open space standard.

The solid urban condition in Pekanbaru City District can be classified based on the identification of the land-sat map digitization process which can be divided into four (4) patterns, namely grid, angular, curvilinear, and organic. This type of built space pattern will form different spatial characteristics and affect the formation of urban voids. The following will be explained in Figure 1:



Source: Result of Analysis, 2018

Figure 1. Map of Solid Urban Spatial Pattern Analysis in Pekanbaru City District based on the Classification.

3.2.2. Linkage Analysis

The analysis is carried out in the form of a macro scale. This analysis shows the research area, the macro-connection analysis focuses on the characteristics of the transportation that are the origin of the cause of urban voids and the problem of urban voids in the research area. Linking analysis group to show the layout arrangement and the relationship of the parts of the city to one another.

The city-connector union can be seen by presenting the connecting elements in black and the figure/ground elements in white. In terms of figure/ground, the connector is one of the elements in the city ground. Therefore, to analyse it, the connecting elements need to be separated from the city ground and the ground combined with a figure to show a clear amount between the percentages taken up by the connecting elements in the city texture.



Source: Result of Analysis, 2018

Figure 2. Linkage Analysis in Pekanbaru City District

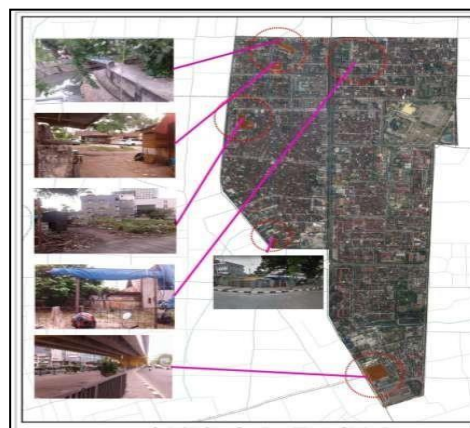
The results of the Urban voids nodes contained in the linkage of Pekanbaru City District. Urban voids identified at road nodes and intersections are the causes that can highlight the characteristics of urban voids in terms of connection. The Flyover on Jendral Sudirman street

leaves an empty space under the bridge construction. The existence of the flyover on Jendral Sudirman street has become a centre that has the potential to become urban voids. Empty space that occurs is caused by the remaining space under the bridge that is not used optimally.

Diponegoro-Hangtuah street leaves a redundant space due to the ineffective roundabout system. And includes confusing intersections. The roundabout system which is currently changing to one direction has made road users confused about the roads around the An-Nur Mosque, because of this change in the route system has made road users less likely to pass and gave potential urban voids.

3.2.3. Place Analysis

Place analysis focuses on the unique shape and centre of community activity in parts of the city with its spatial environment. The analysis of this place is to identify the potential for living space in the research area so that a comparison of the portion of space used in Pekanbaru City District is found.



Source: Result of Analysis, 2018

Figure 3. Distribution of Urban Voids in the District of Pekanbaru City

Table 1 Problems and Barriers to Urban Voids in Pekanbaru City District

No	Urban voids State	Problem	Resistance
1	Flyover on Sudirman Street	Abandoned space and nothing optimization so That reduce city beauty	There are no plans yet for spatial planning.
2	Land area on Ahmad Yani Street (1)	Slum and abandoned	There are no plans yet for spatial planning.
3	Land area on Ahmad Yani Street (2)	Slum, abandoned and be a place vehicle parking temporary	There are no plans yet for spatial planning.
4	The river area on Dr. Sam Ratulangi Street	Slum and not managed	There are no plans yet for spatial planning.
5	Tamtama street	Abandoned and place vehicle parking while at the center shopping mall	There are no plans yet for spatial planning.

Pekanbaru

6	Land area on Hos. Cokrominoto street	Slum and not managed	There are no plans yet for spatial planning.
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Source: Result of Analysis, 2018

3.3. Identification of Factors Affecting Urban voids in Pekanbaru City District

At this stage, interviews were conducted to complete the data from the study. Interviews were conducted to get an overview of the factors that affect Urban voids. The analytical method used is descriptive qualitative analysis which clearly describes the results of interviews and the study of the theory of the use of empty space (urban voids) in Pekanbaru City District from the data that has been obtained.

The results of interviews with stakeholders related to the factors that cause empty space in Pekanbaru Kota District can be concluded and there are 3 main factors that have contributed to the occurrence of urban voids, namely:

1. City zoning & rejuvenation policy. The zoning and rejuvenation policy of Pekanbaru City in each decade creates a pattern and spatial structure that is less orderly so that the layout and layout of the building is more oriented towards zoning while this has inadvertently left space left on the side of the building.
2. The unwillingness of some contemporary institutions (public & private institutions) to assume responsibility for the public urban environment. The lack of contribution and intervention of related institutions to the management and utilization of the existence of urban voids makes the urban voids in Pekanbaru City still exist and there is no renewal.
3. There is a condition that is left behind (ancient/unmaintained) in the centre of Pekanbaru City. A condition that is left behind (ancient/unmaintained) in Pekanbaru City, especially in Pekanbaru City District, makes the space not utilized, so it is very easy to see the existence of urban voids in a city that does not have a positive impact on city dwellers.

3.4. Identifying Pekanbaru City Government Policies on the Use of Urban Voids in Pekanbaru City

There are currently no policies related to planning, utilization, and management of urban voids in Pekanbaru City, but those relating to planning, utilization, and management of space in general are contained in the Pekanbaru Urban Land Use Plan (RTRW) and Detailed Spatial Planning (RDTR) Pekanbaru City.

3.5. Recommendations for the Use of Urban Voids in Pekanbaru City

The recommendations and directions for the use of urban voids in Pekanbaru City are based on the characteristics and types of activities in the environment itself, as well as finding the types of vegetation that will be applied to the recommendations for active parks and passive parks from open interviews at the Pekanbaru City Park Service.

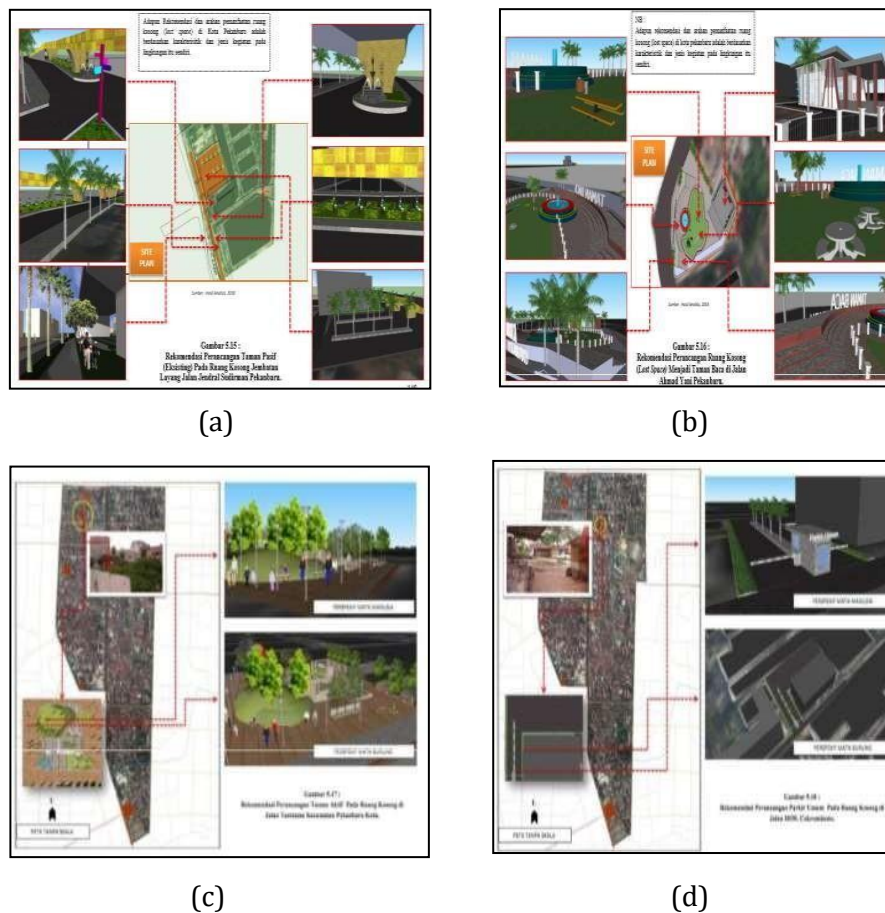
The basic considerations for the use of free space are as follows:

1. Conformity with the surrounding environment, this is intended to maintain the integration between spaces within the area.
2. Functions of roads and traffic conditions, meaning that the functions to be placed do not interfere with the smooth flow of traffic.

3. Economic aspects, the placement of functions must be in accordance with the economies of scale so that the development investment costs are not too large.
4. Social aspect, this is to answer and accommodate the interests of the lower class of society.

Determination of the function of the use of free space with the following criteria:

1. Provide high economic value for local governments and communities.
2. Synergize with the surrounding environment.
3. Does not interfere with the smooth traffic of vehicles on the road network around the empty space.



Source : Result of Analysis, 2018

Figure 4. a) Recommendations for Passive Garden Design (Existing)in urban voids of Sudirman Pekanbaru Flyover Street; b) Recommendations for Designing an urban void into a Reading Garden on Ahmad Yani Street; c) Recommendations for Active Park Design in urban voids on the Tamtama street; d) Recommendations for Public Parking Design in urban voids on Hos Cokrominoto Street

4. CONCLUSION

Based on the results of the study, the following conclusions were obtained:

1. Distribution of urban voids Empty Space in Pekanbaru City District.
Urban voids under the Jendral Sudirman flyover, Land area on Ahmad Yani Street, The river area on Dr. Sam Ratulangi Street, Tamtama Street, Hos Cokrominoto street area.
2. Factors Affecting Urban voids.

- a) Zoning policy (zoning) & city rejuvenation. The zoning and rejuvenation policy of Pekanbaru City in every decade creates a more irregular pattern and structure of
 - b) space so that the layout and layout of the building is more oriented towards zoning to leave space remaining on the side of the building.
 - c) The unwillingness of some contemporary institutions (public & private institutions) to assume responsibility for the public urban environment.
 - d) There is a condition that is left behind (ancient/unmaintained) in the centre of Pekanbaru City.
3. Pekanbaru City Government policy on the use of Urban voids.
There are currently no policies related to planning, utilization, and management of urban voids in Pekanbaru City.
 4. Recommendations for the use of urban voids in Pekanbaru City.
 - a) Parks, which are passive uses, can be placed in all types of urban voids.
 - b) Another use of space is active use.

ACKNOWLEDGEMENTS

The author would like to thank to Urban and Regional Planning Department Universitas Islam Riau.

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