

The Effect of Urban Spatial Configuration on Sustainable Tourism Development in Jabon District, Sidoarjo

Pengaruh Konfigurasi Ruang Kota terhadap Pengembangan Sustainable Tourism Kecamatan Jabon, Sidoarjo

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Abstract: *Sidoarjo Spatial Planning's data indicates that the Jabon area is planned to be a Dem Island tourist area and secondary mixed-used. Some tourism activities have started to exist but are only concentrated in the Tlocor area, while other areas in the area are still very minimal in facilities. Is it true then that the configuration of urban space in Jabon District can accommodate the city's development – which is now leading to tourism? This research is qualitative research with a phenomenological approach. The chosen space syntax analysis technique is used as a heuristic tool to discuss fundamental concepts. The study results indicate a relationship between the configuration of urban space and the concept of sustainable tourism development. Configuration can be seen in terms of accessibility and economic improvement that can be done by knowing the parts that can be mobility options and are connected to other urban spaces. Accessibility in the area can be developed by evaluating the existing road network so that connectivity can be better and human mobility to and from tourist areas is higher*

Keywords: Jabon, spatial configuration, sustainable tourism, space syntax, spatial space

Abstrak: Jika merujuk pada data Rencana Tata Ruang Wilayah Sidoarjo maka kawasan Jabon Sebagian terencana menjadi area wisata Pulau Dem dan *mix-used* sekunder. Beberapa kegiatan wisata sudah mulai ada, namun hanya terpusat pada daerah Tlocor saja, sedangkan daerah kawasan lain di area tersebut masih sangat minim fasilitas. Benarkah kemudian konfigurasi ruang kota yang ada di Kecamatan Jabon mampu mengakomodasi perkembangan kotanya – yang kini mengarah pada pariwisata. Penelitian ini merupakan penelitian kualitatif dengan pendekatan fenomenologi. Teknik analisis *space syntax* yang dipilih digunakan sebagai alat heuristik untuk membahas konsep fundamental. Hasil penelitian menunjukkan bahwa adanya keterkaitan antara konfigurasi ruang kota dengan konsep pengembangan sustainable tourism. Hal ini terlihat dari sisi aksesibilitas dan peningkatan ekonomi yang dapat dilakukan dengan cara mengetahui bagian yang berpotensi menjadi pilihan mobilitas dan terkoneksi dengan ruang kota lainnya. Aksesibilitas pada area dapat dikembangkan dengan mengevaluasi jaringan jalan yang sudah ada sehingga konektivitas pada kawasan dapat lebih baik dan mobilitas manusia dari dan menuju kawasan wisata semakin tinggi.

Kata Kunci : *jabon, konfigurasi ruang, pariwisata berkelanjutan, space syntax, spasial ruang*

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Introduction

Sidoarjo is a Delta city located between the Surabaya River and the Porong River. The Jabon sub-district itself is located on the east coast of Sidoarjo, which is divided by the wide Porong River (figure 1). Geographical conditions like this then make the topography and spatial of the city different from other cities, especially when compared to Surabaya and Pasuruan.

The Jabon Subdistrict in Sidoarjo is no exception, which is located on the side of the Porong River. Referring to the Sidoarjo RTRW (Regional Spatial Plan) data, the Jabon area is only planned as a secondary mixed-used area and a tourism area for Dem Island. Federalist activities have started to exist, but are only concentrated in the Tlocor area, while other areas in the Jabon area are still very minimal in facilities. It instantly directs the growth of the city through several related policies, including the spatial arrangement of urban space areas.



Figure 1. Potential Map of Jabon Sidoarjo District (Personal Analysis, 2021)

The term spatial area is often discussed when we want to map and plan the direction of urban growth. One of the issues that need attention is the phenomenon of suburban areas and the process of spatial and socio-economic change in this area. A suburban area (Urban Fringe) is defined as a suburban area that is in the process of transitioning from a rural area to an urban area. Spatial analysis is one of the models for formulating science-based development policies to take into account the various linkages of economic potential both within and between regions so that they can be utilized optimally to encourage development performance. Spatial planning is about projecting how aspects such as land use design, development regulation and control, and planning activities according to the priorities and challenges prevailing in modern society are expressed in the spatial realm. (Acheampong, 2018)

However, the question is how then the configuration and visibility of the existing urban space in Jabon District can accommodate the development of the city? – which now leads to tourism

Methods

This is qualitative research (Groat & Wang, 2013) that uses a phenomenological approach. The purpose of qualitative research is to explain a variable phenomenon as deeply as possible and as it is following the conditions at the research location. The space syntax analysis technique (Hillier & Hanson, 1989) was chosen not only to be used as a measurement technique but also as a heuristic tool to discuss the

fundamental concepts of spatial relations in urban space (Hagbert et al., 2019) Questions about the spatial configuration of the city that are raised, such as separateness or openness to local contexts, or the logic of internal communities which will be discussed more, will be related to the concept of sustainable tourism.

Results and Discussion

Jabon Area Spatial Configuration

Directly, urban space is the result of human social interaction which then forms the city. These interaction spaces are formed from the pattern of human behavior that can form a spatial configuration. This configuration can then be seen as a form of pattern and basic mapping in urban planning and development considerations, considering that the city is a "living thing" consisting of many individuals who interact with each other.

Spatial configuration is a pattern of spatial relationships in the built environment. Each of these connections has a behavioral interpretation in interpreting the form and function of a space. In space, this relationship can not only be seen in one look but it is necessary to make observations of the movement.

The movement that must be observed is from one point to another in the entire system of spatial structures, to obtain a pattern of interpretation of spatial patterns in space. Research on space syntax has found that spatial configuration explains a substantial proportion of the variance between the rates of movement of human aggregates at different locations.

The pattern of relationships in space is called a syntax which then localizes the space so that its configuration can be read. With the readability of this configuration, researchers will more easily understand how the characteristics of people or users of a space act in responding to the

organization of space. In addition, the identification of human expressions in the built environment can also be read.

Configuration affects the pattern of space movement and movement will affect the use of space. The results of the pattern analysis create an intervention variable between the architectural form and the behavior of a design. This is because the configuration cannot stand alone. Configurations are always affected from one configuration to another. No exception in the Jabon area, several recognizable landmarks indirectly form a network and spatial configuration.

By looking at the configuration form, the behavior pattern of an area on the site is obtained. The form of configuration in an arrangement can be assessed using an integrated approach. The integration value is a unit of value to calculate the strength of the relationship between each element in a space.

Knowing the strengths and weaknesses of an order of form will make it easier to see the strength of the accessibility of a system. The value of space integration analysis in Jabon is as follows (figure2):



Figure 2. Global Integration Value of Jabon Region (Personal Analysis, 2021)

Figure 2 is the result of line analysis of *axial line integrity*. The value of integration is the value of a person's ease to reach a certain space. In the Jabon District area, the results of the *DepthmapX analysis* can

be seen that the global integration value is quite evenly distributed. This is indicated by data in red, orange, and yellow colors which indicate that the connectivity between urban spaces in the Jabon area has a probability of being more crowded in that area. The red space area is the former Malang – Surabaya Toll Road which had to be cut off due to the Lapindo Mud disaster. Even though it is not being used now, it turns out that the potential for crowding is still very high on a global scale.

This is following the results of observations in the field, which show a lot of trading activity and high vehicle mobility (figure 3). Several trucks and food stalls were seen, apart from motorcyclists. Although it is no longer used as a toll road, this road area is still busy and becomes an alternative road between the residents of Jabon in the north of the river and south of the river. Several sand trucks are also in this area.



Figure 3. Road locations with the highest global integration in the Jabon area (Personal Documentation, 2021)

In addition, the value of micro integration, which measures the mobility of local communities, especially pedestrians, shows a low value of spatial integration. With the measurement of radius 3, the space integration value changes to be less integrated.

The results of this integration show that there is a low trend of local movement on a regional scale. This is due to low accessibility without using a vehicle so the development of space for local people and pedestrians tends to be low

The connectivity value (Figure 4) is also very low in the Jabon area. The red color which indicates good connectivity in the area is only visible on the side of the Provincial Road which shows the movement from Sidoarjo-Bangil. Accessibility in the area then becomes very low in the area, because the area is not well connected.



Figure 4. The Value of Local Integration in the Jabon Region (Personal Analysis, 2021)



Figure 5. The Value of Spatial Depth of Jabon Area (Personal Analysis, 2021)

The analysis of the depth of field value (Figure 5) shows quite good results. The ease of accessing the road is evenly

distributed, and it doesn't take too many steps to access the area.

Spatial Configuration of Jabon City Space and Sustainable Tourism

The clarity and legitimacy of urban space have an important impact on the city's economy (Bindajam & Mallick, 2020) therefore the government needs to pay attention to the existing urban spatial structure, especially this time in the case of Jabon District in Sidoarjo. The low value of axial line connectivity indicates low accessibility as well, this is certainly an obstacle to the development of tourism. In the theory of sustainable tourism (Niedziółka, 2022) it is said that there must be an increase in the economy (economical booster), therefore it is necessary to plan commercial land use in the right urban space area.

The commercial area, if viewed from the area, can be placed on The Old Toll Road and the road to Wisata Tlocor on the north side. Commercial areas of trade and services, in general, can be located on The Old Toll Road, while the trade and service areas that characterize coastal tourism as supporting Tlocor tourism can be placed on the north side.

This is by the movement and potential of human gathering, it is also in line with regional conditions so that there will be clarity in recognizing urban space. Areas that are used as areas for tourism areas and which ones support local economic growth. Accessibility and road network are based on the function in each function zone (Ratodi & Syariah, 2019) so the road network should be able to be developed based on the function of the zone.

Moreover, if you look at the analysis of mobility choices in the region (figure 6), it shows that the red and orange-yellow areas are people's choices. This shows that globally the area tends not to be a choice for mobility, except in the area of the

former Old Toll Road heading towards Bangil.

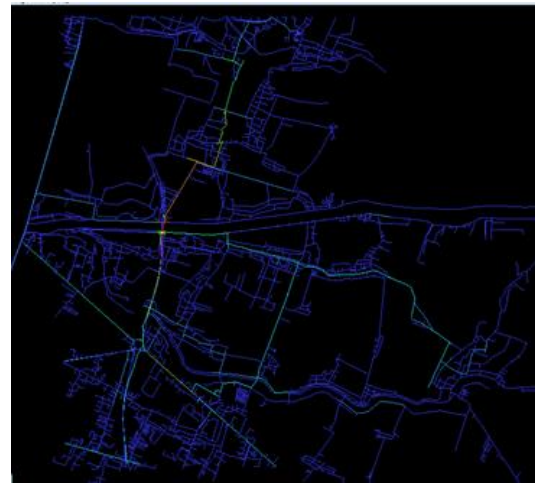


Figure 6. Choice Value for Jabon Region (Personal Analysis, 2021)

Conclusion

The results of the study show that there is a relationship between the configuration of urban space and the concept of *sustainable tourism development*, especially in terms of accessibility and economic improvement, which can be done by knowing which parts have the potential to be the choice of people to be mobile and interconnected with other urban spaces.

With the placement and development of commercial areas in the Old Toll Road area and the direction towards Tlocor tourism, the clarity and legibility of the area will increase, along with the formation of a clearer identity. Accessibility in the area can also be developed further by evaluating the existing road networks so that connectivity in the area can be further improved which will increase human mobility to and from tourist areas.

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Author Contribution

Fairuz Mutia contributed to conceptualization, data collection, and analysis as well as drafting articles and editing.

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Fatimatuz Zahroh contributed to methodology and literature data, supervising research and conducting article reviews