

Land-Use Shifting from Residential into Commercial Activities in the Region of Tlogosari Kulon, Semarang

Rarasvitalia Dinda Anditya Puteri^{*}, Ragil Haryanto

^{*}Diponegoro University College of Urban and Regional Planning, Semarang, Indonesia

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Abstract- Tlogosari Kulon is a residential space which also rapidly growing along with its commercial activities. This phenomenon promotes a shift in the utilization of residential space that originally built for private housing, now it slowly shifted into trade and service activities or even have mixed functions. The purpose of this research is to study the commercial activities effect of how it transformed residential space utilization in Tlogosari Kulon. Quantitative method will be applied with spatial analysis and quantitative descriptive technique that uses primary and secondary data. Subjects in this research are commercial actors around Tlogosari Kulon perimeter. Post analysis review has been made with no objections to the fact, also, some study findings have been found which are related to this residential to commercial shifts case in Tlogosari Kulon.

Keyword: regional development, residential space utilization, commercial activity, commercial shift

I. INTRODUCTION

Regional development is a transformation process of an area that is characterized by its physical change, which will affect the social and economic aspects of a region (Wardhana & Haryanto, 2016). Such development always attracts heavy migrants to settle down, as it implies the population density (Harahap, 2013). Increased populations will cause a high demand for land (Andriani & Handayani, 2014).

Basically, every resident needs a landholding to live. Various population activities within a region are not separated from different land functions. High demands for land obviously impacts on land-use change, a vacant land rapidly changed into a developed one (Pontoh & Sudrajat, 2009). This is due to the limited land being unable to further accommodate any activity on it (Purwanto, Ernawati, & Wijaksono, 2017). In addition, the high demand for land also encourages housing development as a new growth centre.

Housing is a basic necessity for urban dwellers with socio-economic characteristics (Almaden & Cagayan, 2014). Whereas based on Law No. 1 of 2011 on Housing and Settlement Areas it is clear that housing is a complex of houses as part of a settlement, both urban and rural, equipped with public facilities as a result of the decent housing fulfilment. The existence of residential areas as a new growth centre will have a significant impact on the development of the surroundings. Residential development will also be followed by its main supporting activities, the commercial ones (Indarto & Rahayu, 2015)

Commercial activity is an easy-to-grow sector in a strategic and affordable area by means of transportation. Types of commercial activities can be in the form of industrial, trading and service activities. The expansion of trade and service activities is influenced by several factors such as marketing, market segmentation, and customer behaviour (Syahrir, 2010). Commercial development in a residential space is a natural phenomenon. But it becomes unnatural when commercial activity develops within the scope of housing space, especially in well-planned residential, like what previously occurred in the public housing area of Tlogosari Kulon [West Tlogosari] Pedurungan District. Based on Local Regulation No. 14 of 2011 on Regional Spatial Planning of 2011-2031, this subdistrict has a basic function as a settlement area. While currently Tlogosari Kulon, as a decent residential area, subjected to experience rapid commercial developments (Nugroho & Mardiansjah, 2016). Commercial activities in Tlogosari Kulon can be seen in the following figure,



Source: Field Observation, 2018

Picture 1
Secondary Commodity Trading Activities in Tlogosari Kulon

Tlogosari Kulon is a well-planned public housing and managed by the national housing authority, which in its planning has taken into account and provides a platform for accommodating commercial activities as a housing estate. But in reality, it has now been predicted that commercial activities in the Tlogosari Kulon are increasingly evolving into residential complexes because they cannot be accommodated in the pre-provided business area. Such phenomenon is expected to encourage a shift in the housing space utilization which originally functioned as a residency shifting into trade and service activities or even having mixed functions. The shift in space utilization that happens in socio-cultural environment of the communities affected by the large number of requests to support daily life so that it encourages the occurrence of economic growth and growing community become a commercial activity (Serneels & Lambin, 2001).

The shift in space utilization can be triggered by various factors, one of which is a strategic location. This can be the potential and benefit for landowners to change the utilization of their landholding by selling houses or being rented as a place of business. In addition, limited space and working opportunity make some people use their home as a place to run businesses (Haryanto, Soetomo, & Buchori, 2013). It is anticipated that Tlogosari Kulon will become increasingly dense with the emergence of medium-sized enterprises, which has implications for the widespread commercial function that was originally intended for housing. This commercial activity needs to be examined so it can be known how this kind of shifting process affects residential space in Tlogosari Kulon.

II. RESEARCH METHODOLOGY

A study that examines commercial activities presence on the shift of housing space utilization in the Tlogosari Kulon uses a quantitative research method based on numerical data or numerically processed by statistical methods (Nazir, 2003). Spatial analysis will be applied in the form of imagery maps whilst quantitative descriptive analysis will be shown in the form of tables, diagrams and brief descriptions. The analysis in this study is divided into the identification of residential land-use and commercial activities presence within residential space in Tlogosari Kulon based on the pattern and scale of service aims to know the pattern or form of commercial activity and its coverage. In this analysis, imagery maps are provided to reveal the patterns of commercial activities that occur and the extent to which these commercial activities can serve. Furthermore, there is an analysis of commercial activities presence within residential space in Tlogosari Kulon based on the zoning overview with the intention of knowing the difference related to commercial activities form and characteristics, whether there is a difference in each area or not. Next, there is an analysis of

land-use shifting from residential into commercial aimed to find out how much the shift has occurred in Tlogosari Kulon by looking at the pattern, building function, and the physical condition of the commercial buildings. Lastly, this study aimed to find a connection between existing commercial activities and the land-use shifting that occurred.

Research data was obtained from questionnaires, interviews, and observations as the basis of information related to emerging commercial activities. While for sampling techniques, researchers use purposive technique sampling and area technique sampling and Slovin formula is used for the sampling method with a total population of 620 commercial actors, the amount was obtained after conducting a field survey. Subjects in this research are commercial business actors located in Tlogosari Kulon.

Slovin's Formula:

$$n = \frac{N}{1+N(d)^2}$$

After using the Slovin formula, it has been revealed that this research shall involve around 87 commercial actors with 10% margin of error so that the level of trust is 90%.

III. RESEARCH ANALYSIS

Identification of Housing Space Utilization in Tlogosari Kulon

National Housing Development [Perumnas] in Tlogosari Kulon has been established since 1986, where previously it was being part of Genuk District, Demak. Historically, the Tlogosari Area was originally a swamp located on a section that serves as a water catchment area. In line with the government's program to equitable development, Tlogosari was transformed into a public housing area managed by the national housing authority. Thus, Tlogosari has begun to be visited by residents from within and outside the city.

Based on the function of the building, Tlogosari Kulon is dominated by commercial functions along its road corridor. Commercial activities development along the road corridor was part of perumnas plan that deliberately provides a business centre to accommodate the growing commercial activities in the future. High demand for the marketplace has led commercial activity sporadically come forth into the housing complex.

Analysis of Commercial Activities Presence on the Tlogosari Kulon Residential Area Based on Service Pattern and Scale of Service

Based on the research, most of the commercial activities that dominate Tlogosari Kulon are grocery stalls, food stalls, laundry, private-rent flats, mobile display counters and workshop/service places. The number of shopkeepers in this area indicates that the demand for fulfilment of daily necessities is high so it creates opportunities for those who want to profit by selling. In addition, a number of people aged 40 to 65 and above in Tlogosari Kulon indicates that some residents have retired or no longer productive. Most of the retired residents want to keep their income to continue their lives. Therefore, these elders take advantage of business opportunities by changing their landholding utilization into a place of business to earn additional income. Not only grocery stalls, some of them are also looking for new income by opening a food stall, laundry, private-rent flats, etc.

The dominance of business activities such as food stalls, private-rent flats and laundry also indicates that Tlogosari Kulon Area is strategically located where it facilitates a sufficiently comprehensive infrastructure which affects the emerging business activities. This is indicated by the location of Tlogosari Kulon which is close to educational facilities such as Semarang University. The existence of such educational facilities is also a great opportunity for the people around to earn income both as an additional or permanent. The distance between those two is about 500 meters, so it is natural that many people tend to increase the utilization of their space into business activities such as food stalls, private-rent flats, or laundry, as it will provide university students with their daily life needs.

While the presence of mobile display counters in Tlogosari Kulon is due to the high market demand and the similarity factor of the business type. In opening the business, the owners are concerned about the market interest of the goods to be traded and the location of the sale to get the biggest profit. The emergence of a venture will bring other similar efforts. This is because high market demand makes a great opportunity for investors to profit. In addition, such commercial activities will compete in attracting consumers with the promotional strategies provided by each store. Commercial activity map is also provided below.

Overall, commercial activity in Tlogosari Kulon residential area is very diverse and has met the Indonesian National Standard [SNI], even above. Therefore, it is necessary to study and control the utilization of commercial space in Tlogosari Kulon so that there is no overlapping. Here is the table of commercial service suitability standards as follows,

Table 1
Compliance Standard of Commercial Activity Services

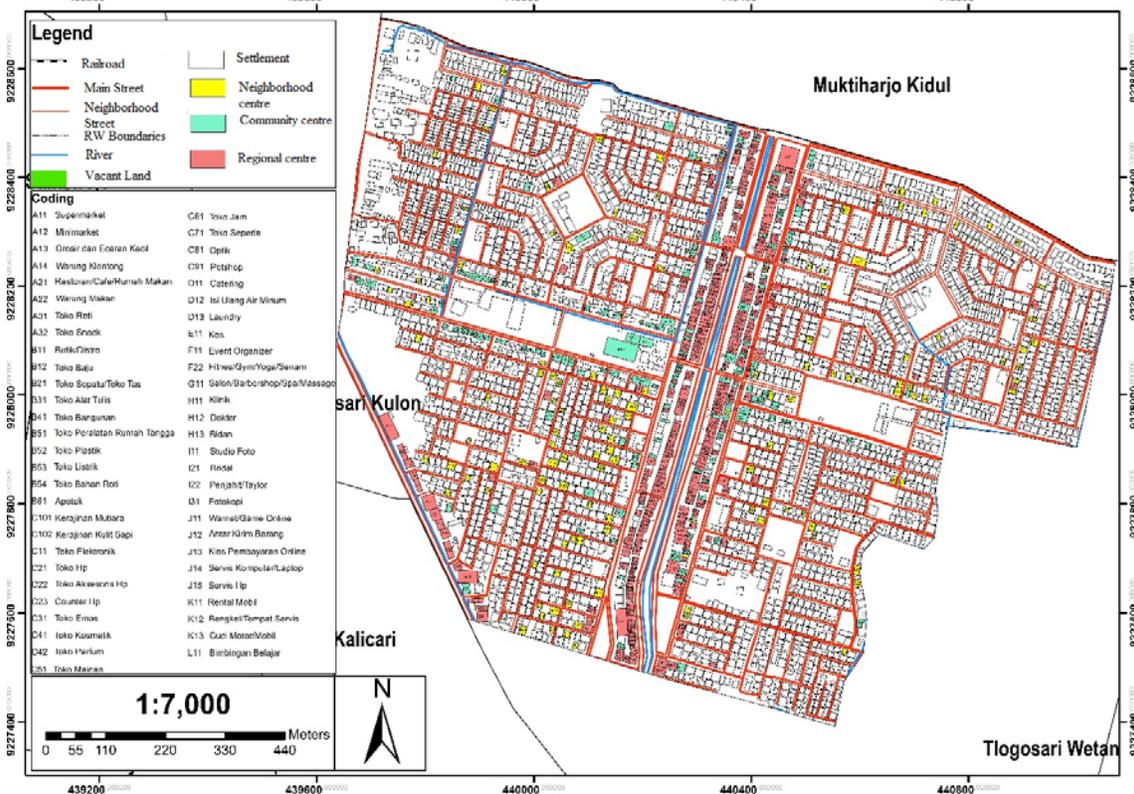
No	Commercial Types	Population	Supporting Residents	Commercial Activity Based on Standard	Existing Commercial Activities	Note
1	Stalls/Restaurants/Laundry	32.725	250	131	216	Exceeds Standard
2	Shopping Centre/Public Facility Services	191.039	6.000	31	404	Exceeds Standard

Source: Research Analysis, 2018

Based on the table above it can be seen that the number of stalls, restaurants, and laundry services has already met the SNI and almost doubled by 216 units whilst the shopping centre and public facility services have also exceeded the standard of 404 units in total. This indicates that there is a commercial activity overlap within residential space in Tlogosari Kulon.

Analysis of Commercial Activity Patterns

The existence of a residential area in Tlogosari Kulon makes the surrounding area experiencing a rapid development, where many residential supporting activities serve the high demand for the fulfilment of the surrounding community needs. The area of Tlogosari Kulon can be said to be the sub-centre of growth because all trade commodities and services are available in this residential area. The number of investors who tried their luck by opening a business in the Tlogosari Kulon made the area more crowded because they are targeting not only local customers but also the people outside Tlogosari Kulon. Here is the map of commercial activities pattern within the residential space in Tlogosari Kulon,



Source: Field Observation, 2018

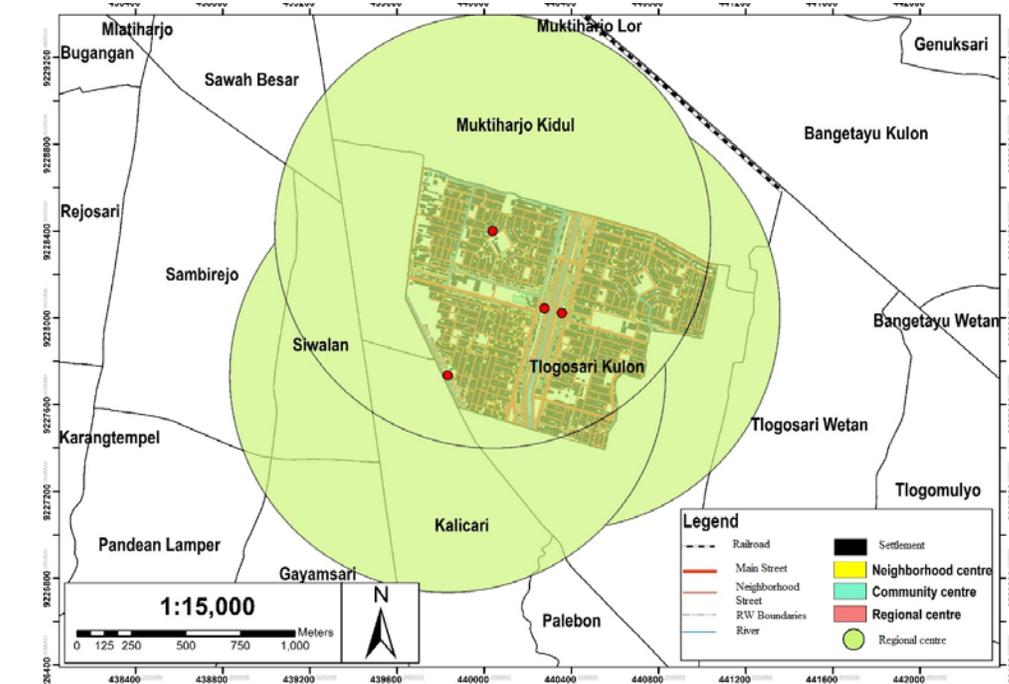
Picture 2
Secondary Commodity Trading Activities in Tlogosari Kulon

Public space function along the road corridor of Tlogosari Kulon residential area differs from the function of space within. This is indicated by the different characteristics of commercial activity types in the area. Commercial space utilization along the dense corridor has characteristic of commercial activity with the customer target not only for the local population but also outside the

district. In addition, many trade commodities from both primary to secondary needs and all types of services are available along the business centre. Aside from that case, the commercial space within residential area serves a different type of activities where commercial bustles are largely for primary commodities production such as food stalls and grocery stores as well as housekeeping services such as laundry. The dominance of primary commodities within residential area indicates that the growing commercial activity is largely accommodated to meet the needs of the surrounding population.

Analysis of Commercial Activity Coverage

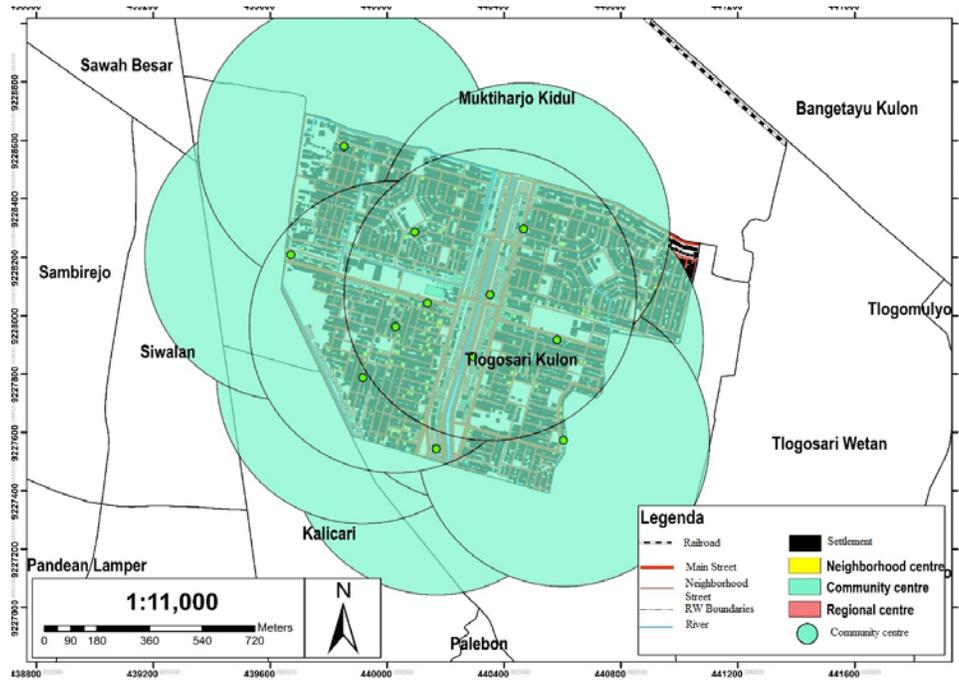
In a commercial activity, there will be a flow of goods from one region to another. The flow of goods should be supported by good means of transport and economy to support the mobility of goods and services that will be sold in commerce. To find out the range of commercial service coverage in Tlogosari Kulon residential area, it is divided into three scale, neighbourhood centres, community centres, and regional centres. Here is the map of commercial services coverage as follows,



Source: Research Analysis, 2018

Picture 1
Scale Map of Regional Centre Service Coverage in Tlogosari Kulon Residential Area

Based on the above figure it can be seen that the residential area of Tlogosari Kulon is divided into several service scales. Commercial activity on the road corridor is dominated by regional service centre scale. These commercial activities can serve up to a radius of 1000 meters or can be reached within 20 minutes using vehicles with the average speed of 25 km/h. Goods traded at this regional centre scale include tertiary needs such as mobile display counters, gold stores, perfume stores, and so forth. Most of the commercial activities that sell tertiary needs have customers who are not only domiciled in Tlogosari Kulon but also from outside, even from the suburban cities. With such a customer target, Tlogosari Kulon has become increasingly dense and crowded as many customers enter the residential area. In addition, the existence of online taxi application made it easier for customers to buy the desired item. This is the thing that ultimately makes those business enterprises targeting customers outside their local perimeter.

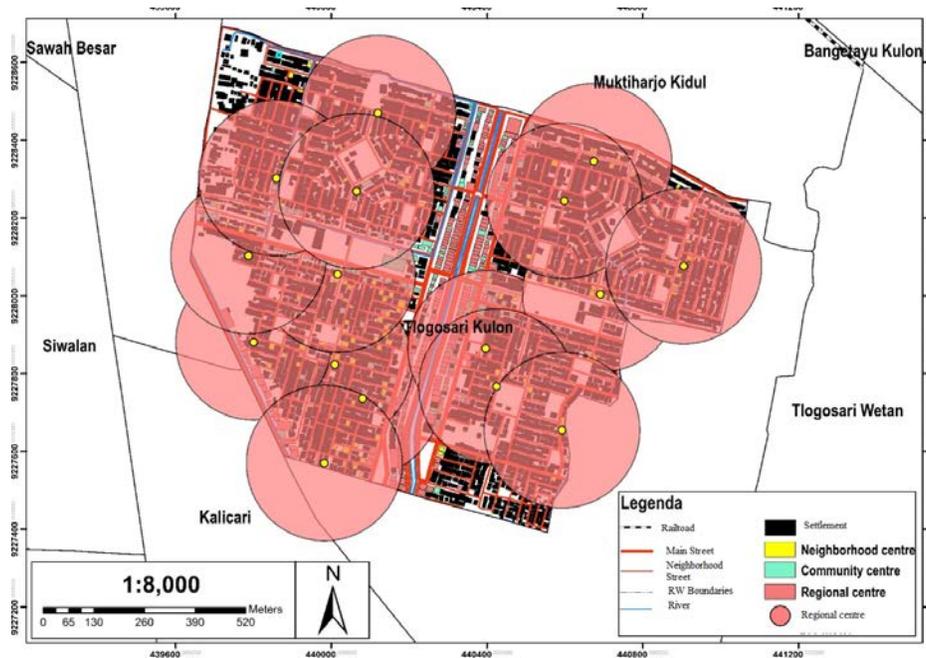


Source: Research Analysis, 2018

Picture 4

Scale Map of Community Center Service Coverage in Tlogosari Kulon Residential Area

Based on the above figure it may be noted that commercial activity located in the middle of the residential area, on average has a scale of community centre services. This service scale is capable of serving up to a radius of 500 meters or equivalent with a 25 km/h drive for 10 - 15 minutes. The goods sold are secondary necessities such as toy stores, clothing stores, shoe stores, pharmacies, and so forth. Most of the commercial activities that sell secondary goods have customers who are not only domiciled in Tlogosari Kulon but also from outside the perimeter. Targeted customers at this service scale are limited to inter-district coverage. With such a customer target, Tlogosari Kulon has become increasingly dense and crowded as many customers enter the residential area. In addition, the availability of online taxi application made it easier for customers to buy the desired item.



Source: Research Analysis, 2018

Picture 4

Scale Map of Neighborhood Center Service Coverage in Tlogosari Kulon Residential Area

At this service scale, it can be seen in the picture above that the residential core has a neighbourhood centre scale where the existing commercial activities can serve up to a radius of 200 meters or the equivalent of a five to ten-minute walk. Goods or services sold are primary needs such as grocery stalls, food stalls, laundry, photocopying, tutoring services, drinking water refills, online payment kiosks, and so on. Most of the commercial activities that sell primary goods have a loyal customer because it is intended only for the residents around the housing area. But the existence of online taxi application makes it easier for customers to buy the desired item. It makes some of the primary commodity trading activities such as food stalls, restaurants, or other culinary spots also targeting potential customer outside the residential zone.

Analysis of Commercial Activities Existence within Residential Space in Tlogosari Kulon Based on the Urban Zone

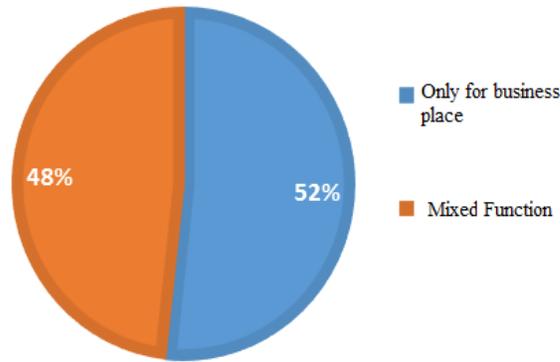
Table 2
Analysis of Commercial Activities Existence within Residential Space in Tlogosari Kulon Based on the Urban Zone

No	Zone	Commercial Characteristics	Space Allocation
1	Zone A	Commercial activities that dominate space utilization in zone A are primary commodities . Most of the commercial activities located in zone A are still in lease or contract status. As for the commercial activity operational hours, most businesses operate around 13 - 16 hours per day and the average commercial activity has existed for more than 15 years . In addition, many entrepreneurs set up the businesses on the grounds of earning profits.	Most commercial buildings are dominated by the mixed function of housing and commercial.
2	Zone B	Commercial activities that dominate space utilization in zone B are tertiary commodities . Most of the commercial activities located in zone B are still in lease or contract status. As for the commercial activity operational hours, most businesses operate around 13 - 16 hours per day and the commercial enterprises available has just been running for 1-5 years .	Most commercial buildings are used only as a place of business
3	Zone C	Commercial activities that dominate space utilization in zone C are primary commodities . Most of the commercial activities located in Zone C have been on their own . As for the commercial activity operational hours, most businesses operate around 13 - 16 hours per day and the commercial enterprises available has just been running for 1-5 years .	Most commercial buildings are used only as a place of business
4	Zone D	Commercial activities that dominate space utilization in zone D are tertiary commodities . Most of the commercial activities located in zone B are still in lease or contract status. As for the commercial activity operational hours, most businesses operate around 13 - 16 hours per day and the commercial enterprises available has just been running for 1-5 years .	Most commercial buildings are dominated by the mixed function of housing and commercial.

Analysis of Land-Use Shifting from Residential into Commercial Activities

The shifting phenomenon of residential to commercial space is overwhelmingly occurring in densely populated areas supported by high market demands. Limited land and high land prices are also one of the causes that encourage the occurrence of space utilization shifts. Some business people prefer to use the space they have for profit rather than having to rent or buy other spaces. Based on the research that has been done, researchers found that Tlogosari Kulon has experienced a shifting phenomenon, where some of the population has changed or increased the initial function of settlements into commercial activities.

By analyzing the shift of housing to commercial space, it can be known how far the commercial development spread and how many commercial activities with mixed function by looking at the housing space utilization in terms of its function and physical condition of the buildings. The proportion of the result will be shown on the graph as follows,

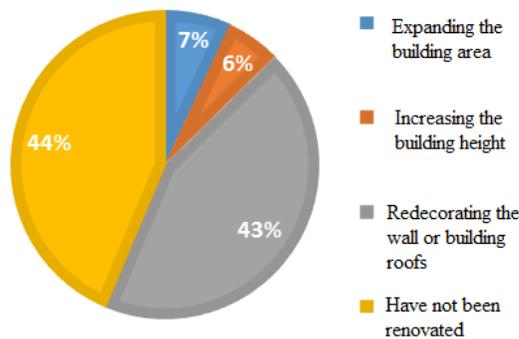


Source: Research Analysis, 2018

Picture 5

Graphical Percentage of the Commercial Building Function in Tlogosari Kulon

Based on the graphs above, the commercial activities seen from the functionality perspective is largely dominated only for business place reason. The percentage of building function only for business place reaches 52% of the total commercial activity, while the remaining 48% is a mixed function of housing and commercial. The number of functions as a place of business only indicates that the existing commercial activity is still new. On the other hand, some business owners are only using or leasing a small portion of their land for a place of business. Rarely rented out all of its residential buildings because it was originally intended to buy housing lots for shelter. But with time, the high demands of daily living needs encourage households to capitalize on existing opportunities by opening businesses with fewer competitors available. In addition, due to the economic factors, it forces some people to maximize their space function by opening a profitable business. Then after seeing the commercial building functionality, it is also necessary to understand the physical condition. It aims to know how many businesses have been renovating their workplace to date. Here is the following graph,



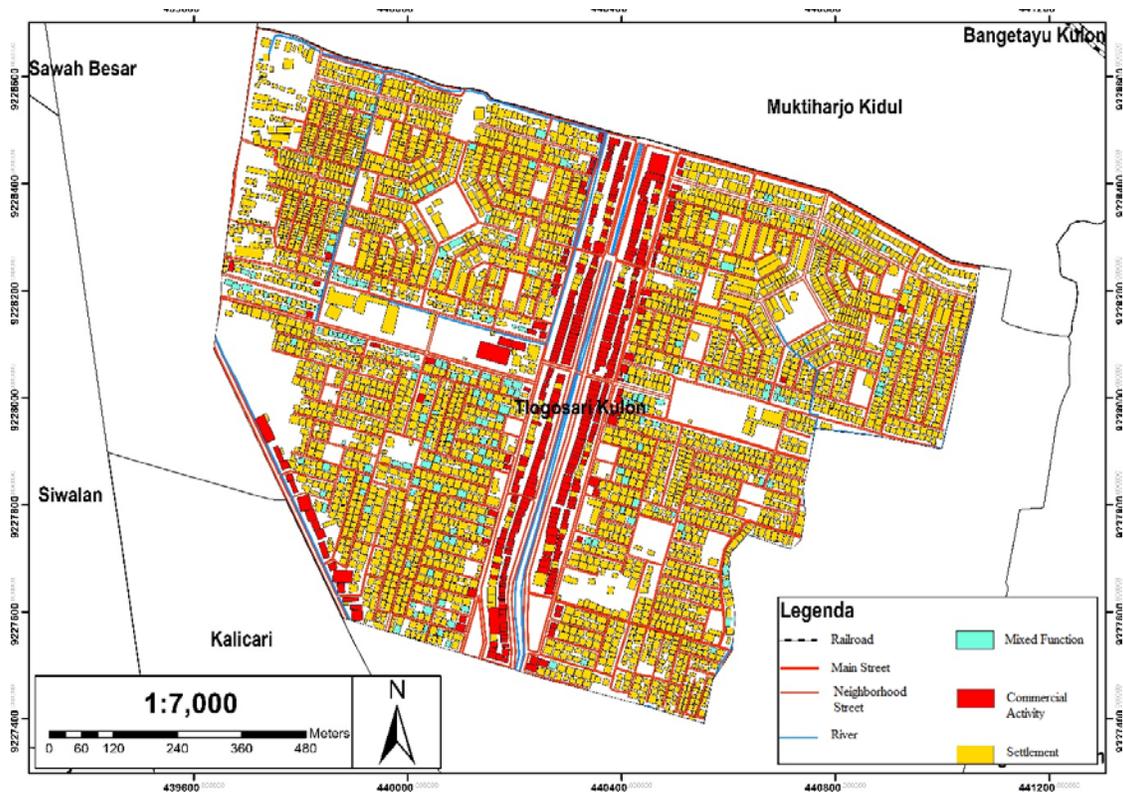
Source: Research Analysis, 2018

Picture 6

Graphical Percentage of Renovated Commercial Activity Buildings

Based on the physical condition graph above, it can be seen that most business owners have been renovating their business places such as redecorating the wall or building roofs, expanding the building area and increasing the building height by 43%, 7%, and 6% in sequence. While the other 44% have not been renovated because their place of business is still relatively new, under six years timespan. In other cases, businesses that have been running for more than six years, usually have undergone renovations even though they are only doing walls redecoration or repairs the ageing roofs.

Based on these observations, it can be concluded that the shift in commercial activities is very volatile. Some business activities that have a high market demand will last much longer than when it comes to less visited business sites. The low market demand will throw the less-profitable enterprise out of business. So that the shifting term is so relatable because the existing utilization of housing space in Tlogosari Kulon slowly being transformed and can be shifted back to the previous function. To view the distribution of the existing mixed functions, clear zonal mapping has been provided as follows,



Source: Research Analysis, 2018

Picture 7
Functional Zone Preview of the Commercial Activity in Tlogosari Kulon

Based on the figure above it is known that the mix function is sporadically dispersed in a residential complex. As previously mentioned, the mixed functions scattered within the housing complex are the result of limited business centre space provided by the national housing authority for trading activities while the demand of surrounding communities is high. In addition, the consequence of not having a job because of unemployment or retirement encourages a person to take advantage of existing opportunities by changing or increasing the utilization of their properties for trading. Hence, mixed functions development is quite obvious.

Study on the Existence of Residential Shifts to Commercial

Tlogosari Kulon area is a well-planned and managed community housing, which in its planning has taken into account and provides a platform for accommodating commercial activities as a housing estate. In reality, however, commercial activity in Tlogosari Kulon has been growing and penetrating into the residential complexes because it cannot be accommodated in a pre-provided business centre. Such phenomenon is expected to encourage a shift in the housing space utilization which originally functioned as a residency shifting into trade and service activities or even having mixed functions.

The shift in space utilization can be triggered by various factors, one of which is a strategic location. This can be the potential and benefit for landowners to change the utilization of their landholding by selling houses or being rented as a place of business. In addition, limited space and working opportunities make some people use their home as a place to run businesses. It is anticipated that Tlogosari Kulon will become increasingly dense with the emergence of medium-sized enterprises, which has implications for the widespread commercial function that was originally intended for housing.

Based on previous analyzes, it can be concluded that the existence of commercial activities has been linked to the shift of housing space utilization. The emerging commercial activities within residential has had a major impact on the housing environment and surrounding areas. Most of the commercials that have mixed functionality are commercial with the type of primary trading commodities with the likes of daily needs such as rice, vegetables, cooking spices, meat, eggs, fruits, and so on where the rate of

daily purchase frequency is high and purchasing quantities are in relatively small limits. While the mixed functions are grocery stalls, food stalls, laundry, drinking water refill, online payment kiosk, and many more.

According to the facts, land-use shifting within the area only caused by the residents or their own landowners who intentionally took profits out of their land with a mixed function development. The shift is taking place gradually over the years, yet some of the existing commercial might not survive the tight competition. If a business was unable to compete, business actors would prefer to close or even rent out its space function to other ventures.

IV. CONCLUSION

There is a difference in the existing land-use implementation with the official plan that has been announced by the authorities. The incompatibility lies within the residential complex which initially specified only for housing needs to later be developed into commercial activities or mixed functions. Seeing the pattern of commercial activity, Tlogosari Kulon residential area has the centre pattern where its development forms a hierarchy that begins with commercial activity with low service levels, followed by a district-scale business such as supermarkets, pharmacies, and so forth. While at the next level is a service centre offering a high level of goods such as clothing store, bakery, fruit shop and mobile display counters. At the regional level, there are department stores, offices, mosques, and others. If viewed from the scale of its service coverage, Tlogosari Kulon is able to serve from neighbourhood centre, community centre, to regional centre.

Based on the utilization of its space, Tlogosari Kulon is a well-planned residential area and managed by the national housing authority. The presence of commercial activities within housing spaces makes Tlogosari Kulon looks disproportionate due to the development of commercial activities that have a consumer target not only within the local area but also from outside markets. It also highly encourages the growth of commercial activities within the residential space. The availability of education and office facilities inside and around the area has enabled commercial activities to grow rapidly. As with the presence of the university, it encourages the emergence of supporting activities such as private-rent flats, food stalls, laundry, photocopying, and so forth. Hence it makes Tlogosari Kulon widely known as the sub-centre of growth. In addition, online transportation networks have had a huge impact on commercial activities within. With the existence of online taxis, it becomes easier for someone to buy the desired item so that the target of a business is unlimited, which initially prepared only for locals to be spread out because of the online taxis flexibility.

The expansion of commercial activities has also led to a shift in the utilization of housing space. Land-use shifting in Tlogosari Kulon is very volatile. Some business activities that have a high market demand will last much longer than when it comes to less visited business sites. The low market demand will most likely throw the less-profitable enterprise out of business. So that the shifting term is so relatable because the existing utilization of housing space in Tlogosari Kulon slowly being transformed and can not be shifted back to the previous function. In addition, many mixed functions are dispersively sporadic inside the residential complexes. As previously mentioned, the mixed functions scattered within the housing complex are the result of limited business centre provided by the national housing authority while the demand of community needs remain high, so the mixed functions development is quite obvious.

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