The Influence of Social Behavior to The Emergence Residential Segregation in Sleman Regency D.I Yogyakarta

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ABSTRACT
As a peri-urban area of Yogyakarta City, Sleman Regency has become transition zone in which the transitions of land use and socio-economic are occurred. Those transitions have resulted in diversified socio-economic background of people who live in Sleman Regency. In the context of urban development, if the diversified socio-economic factor is unmanaged, the diversified socio-economic factor may become a vulnerable factor related to discrimination of minority group resulting lack of public participation due to lack of coordination among local people and migrants. Discrimination or exclusion to a certain group or community in residential area is usually called as residential segregation. In terms of study, researcher is going to reveal about “is there any influence of social behavior to residential segregation? If so, then how strong the influence of social behavior to residential segregation?”. Analysis of influence of social behavior is conducted to socio economic factor. This study conducts a quantitative method. Referring to the analysis result, there are segregations which are emerged in research area mainly segregation by income and segregation by education level. Both of segregations show that socio-economic factors have influenced the emergence of segregation especially for the variable of income level. The variable of income level has been proven influencing the segregation by income level about 20.8% and segregation by education level about 19%. Some areas which is included into weak segregation are Ngaglik, Depok, Berbah, Gamping and Ngemplak while some areas which is included into strong segregation are Godean, Kalasan, Ngemplak and Sleman.

Keywords: socio cultural, socioeconomic, residential segregation.

ABSTRAK

Kata kunci: sosial budaya, sosial ekonomi, segregasi perumahan.

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INTRODUCTION

In the context of urban development, population growth can cause many impacts both in positive and negative way. As the positive impact, labor availability can support the urban development. However, population growth will lead to an increase of land demand to accommodate all activities resulting the expansion of urban activity and land conversion in peri-urban area. Prior (as cited in Yunus, 2008) states that some urban and rural activities can be found easily in peri-urban area known as a transition zone. As a transition zone, peri-urban area has several transformations consisted of land utilization, economic condition and social condition. The transformation of land utilization in the peri-urban area happens in terms of converting agricultural land to non-agricultural land. Moreover, the transformation of social and economic condition can be seen from the shift of lifestyle brought by migrant to local agrarian as the local people of peri-urban resulting in the diverse socio cultural and socioeconomic characteristics. In regard to the diversified socio cultural and socioeconomic characteristics in peri-urban area, Gottdiener and Hutchison (2011) introduce the term of urban sociology. The urban sociology emphasizes that in the diversified socio cultural and socioeconomic characteristics, some people live in a symbolic world. They have a certain value which possesses ideas and attempts to communicate with others by using similar symbol. In addition, people have a tendency to live in a residential area in which the community has the same characteristics such as the same language, race, social class and so on. For some reasons, some of them prefer to separate from others who don’t have similar identities and create a social exclusion. The existence of grouped or enclaved community is a symptom of segregation. As one of the urban areas in Indonesia, Yogyakarta City has been experiencing the growth of urban population. Unique identities of Yogyakarta City attract people to live in this city. Yogyakarta City has encouraged people since it is known by the center of Javanese culture, tourism and student city. Similar to other cities, land limitation has caused the city to expand the urban activity to Sleman Regency as peri-urban area of Yogyakarta City.

In a dynamic and fast development of peri-urban area, segregation can jeopardize the further development of this area. Some scholars state several negative impacts caused by segregation such as social exclusion and discrimination (Firman, 2004; Bayer et al, 2001; Balakrishnan et al, 2005). In case of Sleman Regency, the former study has revealed that the emergence segregation is more caused by the shift of a way of life of local agrarians, resulting the social fragmentation. Considering to the potential of social conflict in Sleman Regency caused by segregation, the study will examine to what extent the impact of residential segregations. Hence, the study about the influence of social behavior on residential segregation should be conducted. By conducting this study, the type of segregation in the study area can be determined initially. Thus, the extent of impact on residential segregation in the study area can be examined further. Therefore, to conduct this study, the research question can be formulated as “Is there any influence of social behavior on residential segregation? If so, then how strong the influence of social behavior on residential segregation?”. According to the research question, the goal of study is to examine the influence of social behavior to the emergence of residential segregation in Sleman Regency as Peri-urban area of Yogyakarta City. In order to achieve the goal, there are several objectives of study which have been established. First is examination of socio cultural and socio economic characteristics of residents. Second is analysis of social behavior factor contributes to the emergence of residential segregation.
ANALYSIS METHOD

In accordance with the goal and objectives of study, the quantitative approach has been chosen since the study establishes socioeconomic and socio cultural factors as variables. There are several variables which are included into socio cultural factors such as religion, ethnic, lifestyle, education level, origin, and length of living. Moreover, the socioeconomic factors are income level and occupation. Each variable is analyzed by using statistic descriptive in order to determine the index of dissimilarity. Next, the regression analysis is conducted in order to examine the relation between the social behavior and the emergence of segregation. In the regression analysis, the index of dissimilarity will be a dependent variable and the independent variables consist of socioeconomic and socio cultural factors which are representing housing preference assessed by residents (see Table 1). In terms of income level and length of living, since the type of data is ratio, the assessment of housing preference isn’t conducted and both of them are analyzed directly without being converted into ratio data. The sample of this study is householders who live in Sleman Regency both in residential area and non-residential area. The total sample is 194 householders which are chosen by simple random sampling in research area (see Figure 1).

<table>
<thead>
<tr>
<th>Sub Variable</th>
<th>Description of Preference</th>
<th>Level of Preference</th>
<th>Description of Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td>Prefer to live within the community with the same religion</td>
<td>5 4 3 2 1</td>
<td>Prefer to live within the community with different religion</td>
</tr>
<tr>
<td>Ethnic</td>
<td>Prefer to live within the community with the same ethnic</td>
<td>5 4 3 2 1</td>
<td>Prefer to live within the community with different religion</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Prefer to live close to the family</td>
<td>5 4 3 2 1</td>
<td>Prefer to live far from the family</td>
</tr>
<tr>
<td></td>
<td>Prefer to live close to commercial area</td>
<td>5 4 3 2 1</td>
<td>Prefer to live far from commercial area</td>
</tr>
<tr>
<td></td>
<td>Prefer to live close to workplace</td>
<td>5 4 3 2 1</td>
<td>Prefer to live far from workplace</td>
</tr>
<tr>
<td>Origin</td>
<td>Prefer to live within the community with the same origin</td>
<td>5 4 3 2 1</td>
<td>Prefer to live within the community with the same origin</td>
</tr>
<tr>
<td>Level of education</td>
<td>Much consider about the quality of residential environment</td>
<td>5 4 3 2 1</td>
<td>Less consider about the quality of residential environment</td>
</tr>
<tr>
<td>Occupation</td>
<td>Prefer to live within the community with the same occupation</td>
<td>5 4 3 2 1</td>
<td>Prefer to live within the community with the different occupation</td>
</tr>
</tbody>
</table>

Source: Research Analysis, 2013.

In regard with the regression analysis, for each type of segregation, the index dissimilarity will be the dependent variable and the independent variables are social behavior related which represented by housing preference related to socio cultural and socio economic factors. Since the social behavior related to many factors in both of socio culture and socio economic, in regression analysis, the examination of each independent variable should consist of:

1. Test of Multicollinearity
The test of multicollinearity should be conducted in order to examine the linearity of each factor by examining the value of tolerance and value of inflation factor (VIF). Variable which show the multicollinearity can be examined by its value of tolerance which lower than 0,1 and the value of VIF which bigger than 10 (Hair et al as cited in Priyato, 2009). Variable showing the multicollinearity should be eliminated in regression analysis.
2. The value of standardized coefficients
   The value of standardized coefficients represents the correlation between dependent variable and independent variable. If the value of standardized coefficients is close to zero (0), the correlation between dependent variable and independent variable will be weaker.

3. T test
   T test can show the influence of independent variable on dependent variable partially whether it is significant or not. To determine the t test several steps of calculation should be established as (a) formulate the hypothesis (b) determine the value of t and the significance (c) determine the value of t table (d) establish the t criteria, according to this research, t table is 1.972 (e) establish the criteria based on significance (f) formulate the conclusion.

After determining several tests in regression analysis, the analysis of social behavior on residential segregation can be conducted.

![FIGURE 1](image)

**FIGURE 1**
**RESEARCH AREA**

**THE EMERGENCE OF SEGREGATION IN SLEMAN REGENCY**

Sleman Regency has been chosen as the research area because the highest rank of population number compared to other regions in D.I. Yogyakarta in 2010. The number of population in Sleman Regency has indicated that people would prefer living in Sleman rather than other regions. The preference of people to live in Sleman is caused by several motivations (Pradoto, 2009). First, people live in Sleman Regency in order to seek better living conditions. Second, people prefer to live in Sleman Regency because they want to get the opportunity to establish or be engaged in small industry. Third motivation is looking for cheaper land for housing. Moreover, since Sleman Regency has many universities both private and public, people are encouraged to live in this area temporarily or permanently. The last motivation is the property investment for the future. Those reasons have become pull factor for migrant to live and reside in Sleman Regency.

In terms of peri-urban development, residential development in Sleman Regency has been triggered by the urban expansion of Yogyakarta City. Both public and private developers have
developed residential estate in Sleman Regency. Most of them are located in agglomeration area of Yogyakarta City which consists of several districts such as Depok, Godean, Gamping, Ngaglik, Kalasan and Sleman. For some purposes, many developers both public and private have developed many residential areas into three types such as deluxe, moderate and simple in order to accommodate housing needs from all social classes in Sleman Regency. The varied class of residential areas in Sleman Regency indicates the existence of social class of residents. The distinction class of residents will lead to social exclusion (Firman, 2004) and drive the segregation in surrounding residential area. Pradoto (2009) also affirms in his dissertation that Sleman Regency has been experiencing residential segregation which the segregation in Sleman Regency has been categorized as two types. First is in-between housing which is currently concentrated in Ngaglik District mainly in Sinduharjo and Sariharjo sub-district. Second type of segregation is clustering development. The clustering development is spreading in Sleman Regency. The existence of clustering development indicates sharper segregation since the residents in this residential area have a tendency to make a group with the same social class. They prefer to live separately from other communities coming from different social class. Pradoto (2009) stated that the exclusive residential cluster has caused the spatial fragmentation and social segregation which bring some crucial problem to residential development in surrounding area.

LITERATURE REVIEW

Urban Development in the Perspective of Sociology
The rapid growth of urban activity in urban area has caused the increase of demand for instance the demand of human desires. Regarding to this, Gottdiener and Hutchison (2011) emphasize that the urban development is supposed to not always consider about the urban growth related to the increase of demand in urban area, but also about the urban sociology. The development should realize and consider that people live in a symbolic world which are meaningful and valuable for them so that they usually posses ideas and attempt to communicate with others by using the similar symbol. For instance, people prefer to interact with others directly by using the same language rather than using different language. Not only for the language, but people also tend to live together with others who have the same race and ethnic.

Peri-urban Residential Development
According to UU No. 1, 2011 residential area has been determined as a group of houses which are part of settlement area both in urban and rural area equipped with public infrastructure and facility as result of fulfilling appropriate housing. In the context of residential demand, peri-urban area has become a proper place to develop residential area offering the cheaper land price. Moreover, some of residents prefer to live in peri-urban area because of a better quality of neighborhood. Another reason of people's preference to live in suburbs is also mentioned by Balakrishnan et al (2005) who state that mostly, trend of movement from the center city to the peri-urban area is also caused by social status improvement of the residents. Many residential buildings have been built by developer, in which most of developers build the exclusive residential areas surrounded by walls, containing rows and clusters of house along with standardized automobile thoroughfares. The new residential built in some different characteristics of residential areas. First is built in the new residential area in peri-urban area on land that used to be agricultural or plantation areas. Second is built in the existing residential areas mostly kampung or other urban land uses. Those conditions are resulting in “gated communities” (Firman, 2004). Moreover, Goix (2004) states that the gated community which
usually emerged in residential area represents a form of privatization of public space. In the USA, gated community has been becoming a symbol of social fragmentation. As the result, the sprawl of gated community will increase residential segregations since the gated community is going to create a border which separates two spatial systems namely the territorial system of gated community and the urban space where they are located. Brunet (as cited in Goix, 2004) states that the border which created by gated community will lead to geographical discontinuity. The geographical discontinuity represents not only the idea of separation and segregation but also the description of the urban spaces in terms of differentiation processes produced by or producing physical barriers.

**Socio Spatial Segregation in Peri-urban Development**

As the statement of Romero et al (2012), segregation can be simply defined as the action to separate or remove one item or group from the others. In the context of development, segregation is usually seen by two perspectives. Due to the perspective, segregation is always related to socio spatial aspect. First is sociological aspect and second is spatial aspect. In the sociological perspective, segregation is an absence of interaction between social groups while in the geographical perspective, segregation is unequal distribution of social groups in the physical space. Johnson et al (as cited in Firman, 2004) also mention that spatial segregation, as seen from geographical perspective, is always referring to social condition mainly happened in the residential area which is a separation of sub groups within a wider population which could be associated primarily with racial groups, ethnicity, religious beliefs or income status. Kempen and Ozuckren (as also mentioned in Firman, 2004) clearly mention that the most visible area where the symptom of segregation can be found is in residential area because spatial segregation comes into existence when some areas show an overrepresentation and other areas show an underrepresentation of members of a group. Pacione (2005) also mentions that in the empirical world, residential segregation is usually driven by many factors related to socio spatial aspect in which both sociological aspect and spatial aspect may be significant overlap resulting in several types of segregation. First is segregation by social status. Since social status is always represented by income level, occupation and education level, people with high income level are assumed to have higher affordability for a better occupation and a higher education level compared to others who have lower income level. In regard with the segregation, people with high social status have more opportunities to select their residential environment in accordance with their interests and tastes. In the other hand, people with lower income are constrained to select their residential environment due to their weaker market position. Second is segregation by lifestyle. Segregation is created due to terms of ‘them and us’ or ‘insider and outsider’ in regard with residential environment. Those terms represent the segregated group by their social behavior or preferred life style. For those who retain their traditional itinerant lifestyle are classed as outsider treated with suspicion and denied places to live. Third is segregation by ethnic. Segregation by ethnic is mostly driven by racial, religion, or nationality. Most of them are creating specific physical characteristics of housing building. Ethnic minority groups in cities are usually segregated.

**ANALYSIS**

In regard with the literature reviews of residential segregation, some variables can be determined as socio cultural factor (religion, ethnic, lifestyle, education level, origin and length of living) and socioeconomic factor (income level and occupation). The compositions percentage of those factors is examined in order to determine the index dissimilarity of each variable (see Figure 2).
After determining the compositions of socio cultural and socioeconomic factors in Sleman Regency, the following analysis can be done by regression analysis which uses the index dissimilarity as dependent variable and housing preferences as independent variables. The housing preferences are referring to socio cultural and socioeconomic variables. See Table 1 for the result of regression analysis.

Source: Research Analysis, 2013
According to the regression analysis, length of living, income level and education level are some influencing factors. However, the result of regression analysis is not the only result which can be relied on. The empirical finding in research area should be taken into account in order to get the final result representing the real phenomenon of segregation in Sleman Regency. Therefore, the most influencing factors for each type of segregation should be compared with the empirical finding. In terms of segregation by religion, length of living factor has become the most influencing factor. However, compared with the empirical finding, most of residents don't consider about length of living factor in their housing preference. It is affirmed by the average of housing preference related to religion factor is only 3,14 from 5 as the maximum degree. According to the housing preference, 5 is referring to the maximum degree of housing preference representing the strongest preference of people to live in community that has same religion and 1 is referring the minimum degree of housing preference representing the weakest preference of people to live in community that has different religion. The degree of housing preference average has represented that residents in study area has been in a neutral position since the value is 3,14 or in the middle position of the housing preference related to religion factor. There is none of resident who intentionally prefer to live in community that has the same religion and to be segregated. Therefore, according to the empirical findings, the correlation between length of living and segregation by religion can be understood as coincidental phenomenon. Similar to segregation by religion, segregation by occupation can be seen as coincidental phenomenon since the average of housing preference related to occupation factor is only 2,88 or close to 3 (neutral). Thus, it can be understood that most of residents don't intentionally prefer to live in a certain community that has same occupation and to be segregated.

In terms of segregation by education level, most of resident is in upper middle income in average. It is represented by the mean value of income level in study area which is about 2,74 (close to 3). Since income level represents the people ability to buy exclusive residential area, the equation of regression model can be comprehended that the higher tendency of people to live in exclusive residential area, the higher tendency segregation by education level. Pacione (2005) states that the level of education will be strong related to the social status in society.
The social status of people will be usually determined by their income level. The emergence of segregation by education level can be related to the composition distribution of education level. According to Figure 3a, Ngaglik, Depok, Gamping and Godean have more diverse education level than other districts in study area. The diversity of education level in several areas has been driven by the characteristic of residential area itself. For instance, Ngaglik and Depok located in the northern part of Yogyakarta city have education activity as their main activity. These areas are also becoming the agglomeration area of Yogyakarta City which can attract migrant to live in this area. Similar to segregation by education level, segregation by income level in Sleman Regency has income level as the most influencing factor. Since the income level represents the social class, the regression model can be understood that the higher tendency of resident to live in residential area in which the resident has the same social class, the higher segregation by income level in study area.

The emergence of segregation by income level is more or less related to composition distribution of income level in research area (see Figure 3b). Godean, Gamping, Ngaglik and Depok have more diverse income level. Similar to education level, the diversity of income level in these areas are caused by characteristic of area. For instance, Depok and Ngaglik located in the northern part of Yogyakarta City, these areas have education activity and automatically attract many people to live in these areas though the land prize is quite high compared with other areas in Sleman Regency. The bigger number of migrant occupied will automatically bring the more diverse income level. Similar to Depok and Ngaglik, Godean and Gamping located in the western part of Yogyakarta City have diverse composition of income level. It is caused by the land price of these areas which is cheaper than other districts. The factor of land price has attracted many people to live in these areas. Thus, the bigger number of migrant occupied will automatically bring the more diversity of income level. However, the composition of income level in Kalasan has shown the vulnerability of segregation since the existence of social distance which is represented by occupancy of high income group and lower middle income group.

According to the result of analysis, income level has driven the residential segregation. It is similar to Khaikar (2008), Firman (2004), and Bayer et al (2001) who states that social class can drive the segregation in residential area. As the indication of residential segregation, Bayer et al (2001) affirmed that residential segregation is an isolation of certain community in the certain residential area which is separated from mainstream community due to several reasons.
such as policy and solid residential gate. Moreover, Goix (2004) states that solid residential gate is usually caused by gated community who want to separate from other community.

According to previous explanation, the existence of solid gate can be an indication related to the residential segregation. Another indication of segregation impact is the kinship among residents. Because residential segregation increases the visibility of a racial or ethnic group, it can sharpen discrimination by the dominant groups. In case of Sleman Regency, the indication of social gap can be examined from the internal interaction among residents in the same residential area. Researcher has also examined the level of kinship by categorizing the kinship in research area. First is strong kinship which for those who interact with others not only greeting each other but also participating in social activity held in their residential area. Second is medium kinship which for those who interact by only greeting each other. The last is weak kinship which for those who don’t interact both greeting and participating in their social activity. Moreover, the social gap is not only occurred in the same residential area but also in the different residential area. Therefore, to examine the social gap among residential areas, researcher has examined the external interaction between residents who live in residential estate and residents who live in non-residential estate. See Figure 4 for the existing condition of residential development in research area.

![Figure 4: Indication of Segregation in Sleman Regency](source)

- **a.** Experience of solid gate
- **b.** Internal kinship level
- **c.** Interaction among residents in different residential area

*Source: Research Analysis, 2013*
After examining the indications of segregation in study area, it is important to examine to what extent the residential segregation emerged in study area by examining the level of segregation. The determination of segregation level can be conducted by several steps:

1. Establish the residential typology regarding the type of segregation. Referring to the result of analysis, the segregation which emerged in study area is segregation by education level and segregation by income level. Therefore, the composition of education level and income level will be considered to establish the residential typology.

2. Establish the residential typology regarding to domination of rural – urban activity.

3. Establish the residential typology regarding to impact of segregation which consists of the existence of solid gate, level of internal kinship, the existence of external interaction.

4. Determine the class of segregation level.

5. Classify each residential typology based on the score into classification of segregation level.

According to several above, some typologies of segregated residential area in Sleman Regency can be determined. There are 10 typologies which are resulted. Next, those typologies should be categorized in order to examine the level of segregation which emerged in Sleman Regency by using scoring method based on the indications of segregation. After scoring, the level of residential segregation can be determined. The level of segregation is categorized into two levels. First is strong residential segregation and second is weak residential segregation (see Table 2).

<table>
<thead>
<tr>
<th>No.</th>
<th>Interval Class</th>
<th>Description</th>
<th>Typology</th>
<th>Residential Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2 - 4</td>
<td>Strong residential segregation</td>
<td>Typology 1, 2, 3, 4, 5</td>
<td>Godean, Kalasan, Ngemplak, Sleman</td>
</tr>
<tr>
<td>2.</td>
<td>5 - 7</td>
<td>Weak residential segregation</td>
<td>Typology 6, 7, 8, 9, 10</td>
<td>Ngaglik, Depok, Berbah, Gamping, Ngemplak</td>
</tr>
</tbody>
</table>

Source: Analysis, 2013

CONCLUSION

After determining the level of residential segregation, it can be concluded generally:

1. According to the segregation level, in case of Sleman Regency, the existence of solid gate can no longer be indication if residential segregation as long as the internal interaction is as strong as external interaction among residents. The absence of solid gate can’t also be indication as less segregation if the interactions both internal and external are less.

2. In case of Sleman Regency, the statement of Pacione (2005) has been verified that social status has influenced the residential segregation. According to the characteristic income level in study area, it is informed that the residential area which has strong segregation level has been more dominated by lower class rather than upper class. Since commonly lower class has less bargaining position in housing market, it can indicate that the upper class has been segregated intentionally while lower class has been segregated unintentionally.
3. The statement of Pacione (2005) has been verified that social status which is represented by education level has influenced the residential segregation. According to the characteristic of education level in study area, the residential area which has strong residential segregation is more dominated by higher educational level (bachelor degree) rather than lower education level (senior high school). It can indicate that residents who have higher education level prefer to be grouped and separated intentionally from residents who have lower education level.

4. Since the segregation has been driven by the housing preference of resident, in perspective of spatial planning, the level of segregation in study area can be influenced by characteristic of residential area. Referring to the residential area which has weak segregation level, Ngaglik, Depok, Berbah, Gamping, and Ngemplak has similar characteristic. According to master plan of Sleman Regency in 2011 to 2031, most of them are provincial strategic area and national activity center (PKN). In terms of accessibility, Ngemplak and Ngaglik have been crossed over by highway which connects Yogyakarta City to Bawen and Surakarta. Depok and Berbah are also located near airport area of Yogyakarta Province. In terms of tourism activity, some of them have different tourism activity. Gamping has preservation area and area of palace sites. Berbah and Ngemplak also located at minapolitan area of Sleman Regency. Meanwhile, Gamping and Berbah have industrial activity. Considering the activity distribution and accessibility in those areas, it can indicate that Ngaglik, Depok, Berbah, Gamping, and Ngemplak offer many potential development. Many people move to these areas and resided since Ngaglik, Depok and Gamping are agglomeration area of Yogyakarta City. The residential areas which located near Yogyakarta City have more heterogenic background of resident and have a weaker segregation level due to assimilation process. It is similar to Pacione (2005) who affirmed that in some residential areas, the segregation can be reduced over time through assimilation process while the rest still have socio spatial segregation remained as a feature of urban life.

REFERENCES


UU No. 1, 2011 about Kawasan Permukiman dan Perumahan.