

## URBAN SPRAWL OF THE CITY OF YOGYAKARTA, SPECIAL REFERENCE TO THE STAGE OF SPATIAL TRANSFORMATION

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### ABSTRACT

*The study was conducted in Maguwoharjo Village, Depok Sub-District, Sleman District, which is part of urban fringe area experiencing regional transformation. This study aims at understanding the regional transformation stages in the location studied. The survey method using in-depth interviews with some informants was implemented. The data analysis was done descriptive qualitatively. From this study, it is found out that spatial distribution of regional transformation stages is closely associated with street connection and growth areas. Some areas directly bordering on Yogyakarta-Surakarta roads have higher regional transformation intensity than villages distant from the streets and growth areas.*

**Keywords:** urban fringe area, regional transformation stages, accessibility

### INTRODUCTION

The regional transformation stages referred to in this study are those related to stages of the changing process of characteristic patterns from rural characteristics to the urban ones. Forms and patterns of the current characteristic change are products of the continual changing process which has long started.

The term transformation refers to some change of particular characteristics in a period of time. There are three important elements in this process. First, in transformation process, a set of differences is an important aspect since it is through differences the forms of transformation process can be obviously seen. Second, it is characteristic or identity concept which becomes the key hint in transformation process, whether it is the social, economic or even physical characteristic of something. Third, transformation process is a historical event attached to different units of time. That is why transformation has always been about society shift in a certain period, from simple society to the modern one [Abdullah, 1994].



In his writing, [Abdullah, 1994] only mentions that transformation process is continuously related to society shift in a certain period, from simple society to the modern one in different units of time. He never pointed out what variables could be used to measure that shift/change.

### **Theoretical Framework**

Urbanization seen from the non physical review is the change in the whole life dimensions of people (economic, social, cultural, political, and technological behaviors), from rural characteristics to urban ones. This non physical change is also related to its physical change, whether the process takes short or longer time. An expert namely [Ruswurm, 1976, in Yunus, 2007] stated that urbanization could be considered as an infiltration process of urban values to the life system existing in villages. In addition, [Yunus, 2008] stated that: The higher the information and communication technology is, the bigger the gap between non-physical characteristic change from rural characteristics to the urban ones and the physical one seen in sub urban areas [Yunus, 2008:185].

Another expert, [McGee, 1997], revealed that rural urbanization occurred in areas with high economic development as well as the development of means of transportation and socio-economic facilities. Such urbanization is a process of progressive economic integration of urban economy into rural one, followed by the social change of people from being agricultural society into semi-urban society.

[McGee, 1997] only mentioned the occurrence of social change as a result of rural urbanization. This expert never mentioned economic, cultural and technological changes which are also some impacts of urbanization process.

This theory is particularly employed to understand the regional transformation stages derived from the understanding that regional transformation is closely related to the regional developmental level, meaning that more developed areas will likely have higher level of regional transformation than less-developed areas. It can also be interpreted that earlier-developed areas experience earlier regional transformation.

### **THE METHODS**

The method employed in this study was survey method. To collect the data, the technique implemented was conducting in-depth interviews with some informants with the help of a previously-prepared checklist.



In analyzing the regional transformation stages in the studied area, human phenomena were taken into account. Meanwhile, in order to understand completely the stages of regional transformation, the following matters gain prominent attention and become focuses of discussion:

1. Main events triggering the change taking place,
2. developmental stages of road infrastructure,
3. developmental stages of transportation modes; from animals to bicycles and then to motorized vehicles,
4. gradual increase in the number of socio-economic facilities,
5. conversion or depletion of agricultural land for other purposes, and factors behind it
6. developmental stages of built land,
7. migrating process of new comers to the studied areas and how they interact with the native inhabitants,
8. building ownership in the village (owner-occupied, rented, etc.),
9. stages at which houses with traditional/original types were no longer found,
10. stages of transformation in the use of building, from settlements to commercial use,
11. lifestyle change (way of dressing),
12. issues of moral decadence, e.g. that of teenagers (alcohol abuse),
13. efforts of keeping traditions, monitoring the changes taking place and finding ways to preserve them for a long time, keeping track of long-existing media and comparing them to the old one,
14. list of effectively running organizations or institutions, along with their stages of development, compared to those found in the past (neighbourhood associations [RT/RW], social gatherings, religious events, births, marriages, deaths, village meetings, ritual cleaning of the village).

As regards above points, the data gathered from in-depth interviews with key informants were descriptively processed and analyzed. After that, strong causes of regional transformation in the studied areas were analyzed, either the centripetal or centrifugal paths.

## RESULTS AND DISCUSSION

Transportation development in Maguwoharjo Village began in 1940, by the use of small traditional carriages (e.g. those used to transport sugar cane) and carts. The next phenomena were the use of pick-up truck in 1970 and the use of Colt Station-like cars in 1975. City buses entered the areas and started to operate in 1990, traveling along the route of Yogyakarta-Prambanan.



The roads connected areas in the village were first built in 1965, non asphalted and rough. In 1990, the roads were asphalted, bringing about steady flow of traffic in Maguwoharjo Village.

In 1982-1983, a road connecting areas within the province was build, known as *ring road*. The existence of this ring road became the trigger of the development in Maguwoharjo Village. In terms of its benefit to transportation, the ring road construction was certainly significant. The traffic flow became smoother than ever before, shown by the increase in the number of vehicles going back and forth over the road, travelling from or to the province and in the number of rural transportation routes passing Maguwoharjo village.

The transportation development in Maguwoharjo village has started since 1980. The public transportations have no longer been available outside Maguwoharjo village only, but have also reached areas within the village itself (not only available along the ring road). In 2000, public transportations travelling in the route of Prambanan-Jombor could already be found, passing inner Maguwoharjo village, such as Mustokorejo sub-village.

In terms of accessibility, the construction of the ring road pioneered the construction of small roads connecting areas within the village, facilitated by the village administrators in conjunction with the village inhabitants. It came about in 1980. In the meantime, in terms of its impact to the surroundings, the construction of the ring road became the trigger for land use change, from agricultural use to more commercial ones such as for building houses, stores and supermarkets. In some cases, the housings are not situated at the sides of the roads. They are mostly situated in the inner village or far from the Yogyakarta-Surakarta road (main road) and from the ring road. That phenomenon made perfect sense as the prices of land not directly bordering on Yogyakarta-Surakarta road and the ring road were relatively cheap.

The construction of the ring road also supported the traffic flow. Transportations connecting Maguwoharjo village and its surrounding areas became easily found. Most of the people living in Maguwoharjo Village owned two-wheeled vehicles or motorcycles. As the area developed, moral decadence cases such as alcohol abuse were soon spotted. To overcome the problem, warning or social punishment such as isolating the abusers was given.

The use of lands in the areas surrounding Maguwoharjo village have been converted from agricultural use to housing and store buildings. The main motivation was economic one (urgent need and inheriting process). The land prices in Maguwoharjo village have been increasing from time to time. Paddy fields with good irrigation have been held in reserve by the local administration.



Conversion of agricultural land into buildings, such as markets, also occurs in this area. The reasons why people sell their agricultural lands are their economic condition as well as the inheritance system. The noticeable impact is the change in the people's way of living, from agricultural sector to non agricultural one. Another impact is the shift in the farming system. The lands are no longer worked on by their own owners. Instead, they are worked on by farm-hands. Moreover, renting system is used to replace profit sharing system. In 1985, economic facilities like stores started to emerge. The emergence of stores was prompted by the construction of the ring road in 1980. After that, since 1985, more stores have been built in areas directly bordering on the ring road. Those lands and stores alongside the ring road, originally owned by the old inhabitants, were then mostly owned by new comers. Stores could not only be found alongside the ring road but also alongside Sudrasan Cakra road, near Stan traditional market (inner village).

The new comers were coming from several different areas. After they came to the village, they built a house and made use of the lands which were previously used for agricultural purposes. The models of house chosen were mostly modern ones.

New comers started to arrive in 1990-1995. Some of the sub-villages with high population density were Dusun Kembang, Sambilegi, Karang Ploso, and Nanggulan. Most of those new comers were students and workers. They made interaction with the native inhabitants.

Most of the native inhabitants in these areas made their living by working as farm-hands. These people usually did not own any land. They worked the lands of village administrators/leaders or any respected people. Approximately, the land worked on by them was 1,000 m<sup>2</sup> with as much as 5,000 kilograms of rice production each year. That amount of production was considered sufficient for their own use. However, as the price of fertilizers and operational cost of farming activity increased, the farmers could no longer get much profit. They barely made enough earning to fulfill their daily need.

Land prices vary in every place. The closer the land to main roads, which is associated with regional physical accessibility, the higher the land price. At the time this study was conducted (in 2006), the land price in Gondangan sub-village was 350,000 rupiahs per m<sup>2</sup> and even lower for more distant locations from the main roads.



The farmers selling their lands were mostly those who owned more than 1,000 m<sup>2</sup> cultivated lands. People from other places were their targeted buyers. Lack of prospective benefit of farming activity drove farmers to sell their lands. They chose to sell their lands and saved the money in the form of deposit account. Such investment was considered to give more benefit to them than farming activity. For farmers who owned no lands, construction workers, temporary workers or merchants became their preferred professions.

The use of house has been changed alongside the ring road. In 2003, more stores could be found. Those stores could be found within the areas of Maguwo, Mustokorejo and Stan sub-village. Meanwhile, in the areas adjacent to the Maguwoharjo village chief office, such as Gondangan sub-village, not many stores were found. The stores were privately owned. The land price along the ring road reached 1,500,000 per meter square in 2006, at the time this study was conducted.

The types of traditional house like *joglo* were rarely found in the areas though houses with Javanese architecture could still be found. This shows that old houses or inherited ones were still kept and maintained. Different situation was seen in Maguwo sub-village. *Joglos* were no longer found. Most of the buildings or houses in the village were privately owned. Meanwhile, settlement density was concentrated in the southern areas of Maguwoharjo. There were many new comers in those areas and most of them were students and people working in private sectors.

Most of the buildings found in the area were owner-occupied. Types of house like *joglo* were rarely found. Nevertheless, Javanese models of house like *limasan* (pyramid-like), *rumah kampung*, and timbered house could still be found. Those models of house still kept their original shapes and had only undergone little modification such as being raised (for *rumah kampung*).

Rural transportations started to grow in number since the opening of the ring road in 1985. Many land ownership status changed around the area of Stan traditional market. Many stores have been built along the road since 2001. Most of the lands and buildings were rented.

The inhabitants of Maguwo sub-village still held the culture and tradition. For that reason, materialism was not a prominent part of the society. In addition, impacts of new comer arrival on the native inhabitants' social and economic lives can be tolerated.



We can still see Javanese traditions being kept by the native inhabitants though as the time passes by, the number of traditions kept decreases. This is caused by the amount of money needed to do some tradition and the complex process should be undergone, such as the process of *ruwatan*. There has been no certain or intended organization or medium for keeping the tradition here. If we take a look at moral decadence among teenagers in the studied area, it reached 10% of the total number of teenagers (alcohol abuse). Organizations such as social gatherings, neighbourhood associations (*RT/RW*) and religious events were still effectively conducted.

The regional transformation stages in Maguwoharjo village are divided into four stages based on land use change variation, as illustrated in Figure 1. The land use change variable is used to understand the stages of regional transformation since land use is one of the variables related to the concept of urban morphology.

Referring to what was stated by Smailes, 1981, in [Yunus, 2008, Yunus, 2001, Yunus, 2005, Yunus, 2007, and Yunus, 2008], it can be explained that in relation to the city morphological concept, there are four main elements continuously used as subjects of discussion, they are: (1) land use characteristics, (2) building characteristics, (3) housing characteristics, and (4) circulation characteristics.

In this study, land use change becomes the key point to illustrate the stages of regional transformation in the four studied areas. Land use is seen as articulation of human activities in a tract of land.

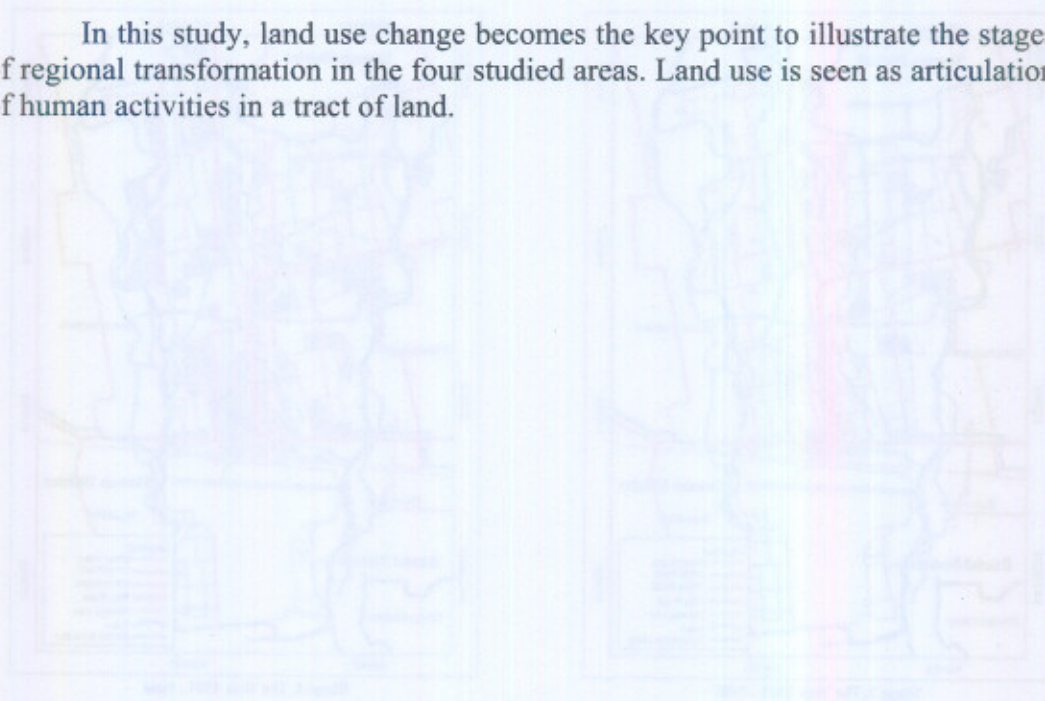


Figure 1. Regional transformation stages in Maguwoharjo village





Figure 1. Regional Transformation Stages in Maguwoharjo Village



For the reason above, by comprehending the land use change from agricultural to non agricultural use, it can be postulated that the intensity of regional development stages in a certain area works in accordance with the intensity of land use change.

As explained in the literature review and previous researches, land use change as regional transformation expression in terms of its physical dimension, will be followed by changes in social, economic, cultural and technological dimensions as well, as further impacts of infiltration of social, economic, cultural and technological values from urban areas to rural ones. Similar thing was mentioned by several experts like [Sinha ,1980; Sit, 1981; in Yunus 2008; Bryant, Russwurm and McLellan,1982; Yunus, 2001 and Yunus , 2008].

By taking into consideration the tendency of converting the land use from agricultural to non-agricultural one, the tendency of the economic, social, cultural, and technological changes in the studied areas can also be understood. The conversion of the land use is automatically followed by economic change. Say for example, the buildings of settlements and/or provision of socio-economic facilities always result in the change of the function of people's house, not only as a place to live but also as a place to earn as much money as possible.

The land use conversion can also result in social change. The more settlements built and socio-economics found in a certain area, the more likely the change in transportation mode to occur. Non agricultural land use requires wider physical accessibility than the agricultural one. On one hand, accessibility in lands used for non agricultural purposes is highly needed to speed up the flows of people, goods, and ideas/information. On the other hand, accessibility in lands used for agricultural purposes is only needed to speed up the flows of agricultural inputs and outputs.

The development of transportation modes results in ease of mobility in the areas. From that explanation, it can be postulated that ease of spatial mobility is higher in areas with non agricultural land use than those with agricultural one.

Conversion of agricultural land use to non agricultural one can also result in cultural change. The more people coming to the village from the cities, the faster the influence of urban culture on people's ways of life spreads. The practices of the old tradition and customs have been no longer as frequent as before.



The conversion of agricultural land use into non agricultural one also affects the people's attitude towards technology. Say for example, during the time when agricultural lands were still found in most places, people's attitude towards technology was still dominated by simple technology such as saving money under their sleeping mat. As more people came to the village by bringing their modern thoughts and attitude towards technology, the villagers' attitude towards technology started to change, for instance, they started to save their money in some bank.

Based on the formulated operational definition of regional transformation, it is likely that the most ideal picture to illustrate regional transformation stages is by combining all variables which are postulated to be able to represent the phenomenon of regional transformation. Yet, in this study some difficulty was found, that is the difficulty to combine those variables into a single entity in order to visualize it in the form of a graph. For that reason, there was only one variable used in this study, that is variable of land use change to visualize the stages of regional transformation and show it in a graph.

By using such argumentation, it can be postulated that land use change can also be used to describe regional transformation based on its concept as explained in the operational definition.

### **Stage 1**

From Fig 1., we can see that only little progress is made at the end of the first stage of the regional transformation in Maguwoharjo village. Regional transformation could only be seen in certain areas. At that period, the regional transformation only covered few areas. The same thing went to the transformation in areas alongside Yogyakarta-Surakarta corridor.

### **Stage 2**

At the second stage, the regional transformation in this village escalated. Some areas along Yogyakarta-Surakarta street experiencing transformation had been expanded. Some parts of the area had been united, forming some relatively bigger regional transformation. The regional transformation did not only occur along Yogyakarta-Surakarta road (main road), but also within the village itself

### **Stage 3**

At the third stage, the regional transformation in Maguwoharjo Village became more and more obvious. Ring road had been built past the village. It brought the transformation to a higher level. Parts of the village which were on the right and left sides of the ring road started to develop rapidly. As parts of the village directly bordering on the ring road developed, the areas within the village also experienced regional transformation.



#### Stage 4

At the fourth stage, the regional transformation in Maguwoharjo Village was nearly complete. The regional development along Yogyakarta-Surakarta road (main road) and the ring road had shown significant results. The transformation had touched all areas surrounding the village, not only limited to those alongside Yogyakarta-Surakarta corridor and the ring road. Significant transformation could also be seen in some areas within the villages which were connected by roads.

#### CONCLUSION

This study is evidence that regional transformations occurring in the studied areas were not instant; they underwent such long process. Spatial distribution in the stages was associated with street connections and growth areas. Some areas directly bordering on Yogyakarta-Surakarta roads have higher regional transformation intensity than villages which are distant from the streets and growth areas.

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