EFFECTS OF THE STUDENTIFICATION PROCESS ON SPACES AROUND CAMPUS: TRANSFORMING SUBURBAN AREAS

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Abstract— The move of campus from the city center to the suburbs resulted in the process of studentification. The rural landscape and native community in suburban have faced with the arrival of a massive influx of students with diverse characteristics. Various investments entered to capture the economic opportunities that arise because of the significant needs of students. Changes in the area around the campus called studentification vary depending on the local context. What happens in suburban areas, with agrarian communities, is essential to be investigated because they relate to changes in the character of the region and changes in approach in projecting infrastructure needs. The purpose of this study is to identify what transformations have taken place during the studentification process at the Tembalang Undip campus in 40 years to date. This transformation is examined based on the perspective of the people who see, feel, and experience changes in the Tembalang area since the process of land acquisition, construction, and operation of the campus. The process of developing the surrounding area observed, recorded, and confirmed through in-depth interviews with informants. The results of this study indicate that the transformation due to studentification began since the process of transfer of land ownership, continued with the migration of residents (in and out), economic changes, increased changes in built-up land, changes in the function and condition of buildings, shifting social interactions and changes in the environmental landscape. Transformation occurs in physical and non-physical aspects. The indigenous people who adapt and take the opportunity in studentification, still survive, and can improve their welfare — people who are unable to adapt pushed out to move outside the area. Studentification shows symptoms of propagating out, as long as there are no physical or natural obstacles. Communities that are better prepared have better opportunities to benefit from studentification.

Index Terms— area, campus, changing aspects, local people, studentification, suburbs, transformation

1 INTRODUCTION

A university is a place where a large number of students concentrated, which then drives economic power and ultimately causes the surrounding region to undergo various forms of transformation. This process is called studentification, a term that was first coined by Smith in 2002 (1) and, to this day, followed up with much research on studentification. Studentification is a form of gentrification, a process that occurs when a proportion of the student population becomes significant in an area, influencing the surrounding environment to transform to be different from before (2),(3).

The relationship between the existence of the campus and the development of the city is widely known (4),(5). The campus, which in parallel grows together with the development of the city, is usually located in the city center (6),(7),(8),(9). Nevertheless, some campuses develop first and then followed by developments in the surrounding area (10), so that the campus is in the middle of an area that has urban characteristics. In a city that has many campuses, its development can lead to an "education city" with the characteristics of many students living in the city, many houses or rooms for rent could be more expensive living costs, cosmopolitan features are apparent, and many jobs are related to student needs and education in general (11).

The campus which is in the center of the city, it becomes more challenging to expand the area due to limited land. The existence of a campus in the city center also has the potential to cause urban problems, such as traffic jams and environmental problems (12). Studentification is a process that is more responsive to real stimulus and not intended to improve the quality of an area in a long time. It is possible at the beginning of the studentification process, seen as improved environmental quality, but what happens next is degradation, both physical and non-physical (13). The government arranged for the development of the university to directed to suburban areas to avoid environmental problems. The problem that then arises is that the suburbs are not only vacant land and plants, but some indigenous people have lived there for a long time. Campus development and the arrival of students, lecturers, administrative staff, and activities will indeed intersect with the local native community. The university has a mission to elevate the public interest through education. The aim is to advance social mobility, produce new technology, contribute to the continuity of culture and creativity, inform the scope of its field, and prepare citizens to participate in such progress (14). In Indonesia, on old state university campuses, the number of students is increasing in line with the need to improve the quality of education of the younger generation. Based on the record of higher education in Java, in 1949, the University of Gajah Mada (UGM) Yogyakarta was established. The city of Yogyakarta is in Java on the southern side. This campus is a place for young people in Java, especially in Central Java Province and Yogyakarta Special Region Province, to study. However, the students even came from all over Indonesia. Of course, it is not enough, so to get an educational seat at UGM becomes a very fierce competition. In 1957, Diponegoro University (Undip) was built in the center of Semarang to facilitate the young generation in the northern regions of Java in particular and Indonesia in general. The development of various fields of science is very rapid and the high interest of
students to continue their education at Undip, encouraging the availability of adequate learning facilities and, of course, requires considerable land. In 1978, the development plan for the Undip campus was carried out in the Tembalang region, a suburb of South Eastern Semarang. Since then, construction and removal of Undip campus carried out in stages and continues to the present. Every year, the Undip campus accepts around 10,000 new students. While the number of active students on campus every day is around 30,000 students. The main trigger for studentification is the demand for housing for students and investors and the public respond massively (6), (15). The area around Undip becomes a very high economic value, which then raises the phenomenon of gentrification (16). These characteristics have been seen from the increasing number of migrants, both permanent and temporary migrants, who move the indigenous population out of or moved from the Tembalang area (17). Residents who are still living have also changed their way of thinking, knowing that their houses and land can be a valuable source of income. Many existing homes have changed their appearance and function as dwellings and businesses (18). Another impact of the existence of this campus is growing in various sectors, including trade and services, housing, public infrastructure, and access to transportation (19). This study examines studentification that occurs in the area around the Diponegoro University campus, which is in the suburbs of Semarang. The natural characteristics and agrarian population must deal with the arrival of students and migrant residents who have various characters. The initially quiet environment became frenzied by various activities and increased use of transportation. Indigenous people feel stuttered and shocked by the emergence of massive new types of economy. The land value continued to climb high, encouraging landowners to sell their land. The land that was rice fields and gardens turned into buildings. Suburb areas turn into suburban areas. Facilities initially only served the local area became facilities that served the city. This condition raises the question, what happened during the surrounding area after the Diponegoro University campus moved to the Tembalang region? How does the studentification process take place? What transformations occur? What happened to the indigenous people? Is there a difference in the impact of studentification, on areas that are directly attached to campus and areas that are not directly attached to campus?

2 METHODS

In addition to using the observation method, this research explores from the perspective of the local people who directly see, feel, and experience the studentification process. The reviewed literature becomes the basis for an in-depth examination of aspects of the transformation. Smith stated that studentification gave rise to social, cultural, economic, and physical transformations, which differed in cities with universities in them (2). Orどり et al. added that the process affected the housing and business environment in the region (20). The aspects presented by Smith and Orどり et al. serve as a guide for researchers to explore the transformation process that began with campus development. As an old and large state university campus in Central Java Province, the

The next stage, collecting secondary data to complete the observations of the aspects studied, are: Physical aspects include land ownership, the shifting of open space into built space, as well as changes in the shape and function of buildings. The social aspects include population migration and community interaction. The interaction is between indigenous people and between native people and new people who come. Economic aspects include the utilization of commercial space and people’s livelihoods. The results of these observations and secondary data are described and strengthened by in-depth interviews conducted with 6 (six) sources. Three informants were the Village Chief (in Tembalang, Bulusan, and Kramas), who understood the process of area development administratively. The other three people interviewed were the Chairperson of the Agency for Community Empowerment (in
Kelurahan Tembalang, Bulusan, and Kramas), who represented the community in that three villages. As a note to strengthen the reasons for the selection of speakers, the first, the Head of the Bulusan village, is a senior employee of the Semarang city government, who has participated in the process from land acquisition to the construction stage of the Undip campus. Secondly, the Chairperson of the Agency for Community Empowerment in Tembalang Village is the son of one of the indigenous people whose family-owned land was bought by Undip. People experienced firsthand from the very beginning of the existence of the campus to its influence on the development of the current Tembalang region. The main question addressed to the informants was how was the process of developing the Undip campus, and what changes had occurred in the surrounding area. The in-depth interviews were recorded, transcribed, and coded. The results of interviews were analyzed using the software tools NVivo plus 12. Then, researchers grouped the results of the analysis based on the order of events, causes, and transformations that occurred after the construction of Undip.

3 RESULTS AND DISCUSSION

Since the land acquisition process in 1979 followed by the construction of the Undip campus began in 1982, changes in the surrounding area have begun to occur. The development of universities in areas that not yet developed or even inland will have an impact on income and employment for the local community and its surroundings (21). At the moment, Undip’s campus area is 135.2 hectares, as a result of land acquisition and building construction carried out in stages. The land that location of the Undip campus, was originally part of an agricultural field owned by the natives. In the past, this area was famous for producing "durian" and "rambutan.” Aside from being a farmer, the work of indigenous people also trades "durian" and "rambutan." Due to the change in ownership of land from the indigenous people to Undip, they changed their livelihoods because of they no longer own fields. The campus development process requires much workforce. Besides using the much-experienced workforce, the builders involved some local people. Due to the lack of expertise in construction, residents can only work as laborers with limited income. On the other hand, the arrival of a large number of workers requires transportation, shelter, and food. This need led to motorbike rental services, private transportation, rental houses, and the emergence of cheap food stalls. Changes in land use, physical buildings, and new types of livelihoods have caused the Tembalang area to leave its rural character slowly. Subsequently, from 1983 to the present, education activities gradually on the old Undip campus were moved to the new campus in Tembalang. Large numbers of students concentrated in one place raise new needs and problems. The provision of commercial accommodation, transportation, consumption, and learning support facilities are new needs that did not previously exist. These needs are responded to by the community and investors by conducting business activities. Purchases or leases of land owned by indigenous people by people from outside the area and used for commercial activities, change the characteristics of the area. This transformation occurs following what Smith calls studentification (2).

3.1 Land Ownership

The existence of the Undip campus is like a magnet that attracts investment into the Tembalang area, followed by the high demand for land as a location to do business. New economic activity has attracted investors to invest capital. This situation pushed the price of land and houses to increase dramatically. This condition shows that universities play a role in influencing the transformation and price of urban land (22). Changes in ownership are based on land sales/purchases or renting. Individuals, the private sector, housing developers, government agencies, campsuses, and the Indonesian national army are the owner of observer land. The indigenous people were willing to sell the land at first only to the government for campus development. However, the opportunity to do business in the Tembalang area has caused many investors to come to buy or lease land. The success stories of investors making profits from businesses in the area around the campus, encouraging indigenous people to do the same. They sell part of the land as initial capital money for businesses. The lack of knowledge of doing business in a modern way causes them to choose low-risk businesses, for example, providing housing or renting rooms for students (23). The offer of available land can be a driving force for the massive wave of purchase of land owned by local communities in the Tembalang area. Transfer of land ownership takes place efficiently and quickly. The value of land has increased dramatically in line with the increasing demand for land. For local people who are unable to adapt to a rapidly changing environment, it will not take long to consider, and they will sell land and move to other areas that are quieter and with larger land sizes. The high selling value causes parents to sell their land, and then the money is distributed to their children or bought lands in other areas that are wider as an inheritance.

Examples of the ease of obtaining economic benefits apart from farming, shown by others, affect the perspective of the local young generation in choosing work. They are reluctant to continue the same work with their parents as farmers or planters. In the case of elderly parents and children no longer want to take care of their fields, the choice is to sell their land. As happened in Area II and Area III, these extensive lands later became housing built by the developer.

3.2 Population Migration

One characteristic of the causes of studentification, the concentration of students in large numbers so that it becomes dominant in an area (8),(13),(24),(25). There are a demographic change and population restructuring within the student environment (15), there is a population density of students and an imbalance with the population of the local community (26), the population changes become dominant at a young age (10), old residents choose to leave, sell houses because the dominance of the population changes (23),(15), the number of native residents is decreasing (15). The population is getting denser (27). A large number of students are a very potential market for various types of commodities. To run the commodity business, many people from outside the region came to the Tembalang area as workers. Based on the pattern of settling, administratively, the people...
living in the Tembalang area are divided into residents and migrants. Residents are people who live and have a National Identity Card issued by a government office in the Tembalang area as an official identity. The so-called migrants are students and business people who only stay for a while. In 2019, the population in the three research areas statistically recorded as 18,601 people, but it estimated that the number of unregistered migrants reached more than 30,000 people.

Population migration from 2010-2018, both coming and moving, shows a different tendency. In area I that is attached to the campus, the trend shows that the population who come tends to decrease (range 75 to 146 people per year, the highest number happened only in 2015 attain 485 people), while the population who move shows symptoms increasing (range 53 to 122 people per year). This migration pattern shows that, first, the location for residence is no longer widely available. Second, this area is no longer attractive as a place to live even though there is still land available. On the other hand, more and more indigenous people have moved out to other locations. In area II, which not directly attached to campus, the number of people who come tends to decrease (range 96 to 215 per year), but people who move out show a sharp upward trend (range of 10 to 86 people per year). That is, area II turned out to be far less attractive to be a residence than the area I.

In area III, an area farther from campus shows a declining trend in people who come (range 50 to 136 people per year). However, what is interesting is that the trend of locals moving out also decreases (range 26 to 64 people per year). In area III, there are three housing complexes which indicate that its capacity has fulfilled. Not many indigenous people moved, meaning that not much land sold.

### 3.3 Economy

Studentification will encourage the emergence of things such as new urban facilities that did not exist in that place, the emergence of new types of work based on student knowledge, the arrival of creative classes, and the development of a competitive and diverse economy (6). Soon, retail outlets will come, more and more diverse business opportunities, and the creation of services that meet the needs of a large student population (20).

Another feature of studentification in the economic aspect is that economic growth is increasing, as indicated by the increasing number of businesses that appear around the university environment (27). The construction of the Undip campus and the arrival of large numbers of students significantly changed the characteristics of the Tembalang area. Commercial functions for student housing are proliferating, such as boarding houses, both those who united with houses (HMOs), or specifically for student rentals (PBSA, Purpose-Built Student Accommodation), homestays and lodging with low price. Various business opportunities arise related to the needs of students, such as for consumption (food stalls, restaurants, cafes), daily necessities (laundry kiosks, hair salons, tailors, motorcycle/car repair shops, cellphone counters, photocopies, study guides, shops computers, photo studios, convenience stores, places for massages, gas stations), and other environmental facilities (clinics, post offices, bank offices, doctor's practices, midwife practices, churches, mosques, boarding schools). These business opportunities target students and their associated business chains as the primary market. These business activities are far different from the original type of business in the Tembalang region as an area with an agrarian suburban character. Unfortunately, investors and migrants show speed and agility, capturing this opportunity compared to indigenous people. The original inhabitants, who were initially farmers or planters, have turned mainly to business activities related to the existence of the campus, after noting the opportunity for success to gain economic benefits from the development of the region. Adults who have cooking skills open a food stall or other culinary business. On the other hand, residents who still have enough land then add space to provide rental rooms for students. However, not all indigenous people are interested in starting and developing a business. Local young people with secondary education, some choose to work on the Undip campus as administrative, cleaning, and security personnel.

Interestingly, during the many job changes, there are still indigenous people in Area III who actually maintain their fields and still make it their primary source of income. They are not interested in changing jobs. It can understand that the modern economy that revolves around the majority of the campus does not originate from the local community, but from capital owners or people from outside the region who invest in the Tembalang region. Various franchises, ranging from small capital and using carts to international restaurant franchises, exist in this region. Owners of residential buildings for students, the majority are also not native people. There are 540 PBSA and 210 HMO in area I, while in area II, there are 234 PBSA and 78 HMO. In area III, there are 26 PBSA and 21 HMOs. As the location is closer to campus, there will be more accommodations for students (see Fig. 2), on the other hand, the number of indigenous households that are close to campus is still more than other areas (see Fig. 3).
This condition means that many indigenous people provide their homes for boarding students, and there are also many PBSA in these locations. Uniquely, the presence of students is allowed to "enter directly into the private area" of the homes of native residents. Indigenous people open themselves to the arrival of students, even though they only stay temporarily, the longest until the end of the study period. Opportunities for economic gain erode the culture of protecting the privacy of strangers. The provision of accommodation on a large scale (HMO and PBSA) and activities caused by students who reside are the main drivers of studentification. Commercial activities develop parallel with locations where student residences concentrated (25),(28),(29)(30). Types of commercial businesses are growing increasingly diverse. In area II, there are 33 types of commercial businesses, the most compared to the other two regions. The quantity of each type of business is also different. However, for the number of business units, there is precisely in area I, which is 1,415 business units, far more than in area II (727 business units) and in area III (237 business units). In locations that are closer to campus, there are a growing number of business units. However, the ease of locating this type of business is precisely in area II and area III, which still have large tracts of land. Economic turnover is swift and in large nominal numbers. The unfortunate thing is that the economic cycle has not returned in the form of direct benefits for the Tembalang region. The majority of investors come from outside the region so that capital also is taken out. It can mention, the Tembalang area is only as an object to obtain economic benefits for investors from outside.

With the presence of studentification, besides being exposed to unfavorable experiences, some of the indigenous people who still live believe that the presence of the Undip campus, directly and indirectly, has helped improve family welfare. The reason is that there are many open opportunities to earn income through a variety of businesses. Revenue becomes more certain from before, and its nominal value can be estimated. In one year, a minimum of 10 months is the time that can maximize to work to earn money, whereas the other 2 months' income decreases because it is when students take a vacation and return to their hometowns. The two months used to rest, prepare the business, collect or bring in goods for resale, and even use it to improve the business space to be cleaner and more attractive.

### 3.4 Land Change

Studentification does not only affect changes in housing and economy but also directly influences changes in the landscape around the campus (31),(32),(33),(34),(35). For areas that previously had much green open space, rice fields and fields, campus development and studentification processes have very quickly pushed the land into a built-up space. Change in the landscape means a change in the culture and livelihoods of people who were previously agrarian in character. Between 1990 and 2018, space was built in the Tembalang area from 12,765 Ha to 103,209 Ha (see Fig.4). The change of open space into a vast built-up area was initially for the construction of the Undip campus. It followed by individual housing developments and housing clusters conducted by the developer, as well as for the construction of commercial purposes. In area I and area II, the built space meets almost all of the land surface. Building density is very high, with an average Building Coverage of more than 90%. The cause of the acceleration of the change of land into a built space occurred as several faculties in Undip were completed, then lectures were moved to the new campus and followed by students who were increasingly moving to the Tembalang area. The studentification process takes place in tandem with the increasing amount of open space-changing into built-up land.

### 3.5 Physical Building

The fundamental characteristics of buildings in the Tembalang area in 1980-1990 were under the local culture of the
community, namely typical rural houses, simple, with wood, bamboo, or half brick walls (see Fig.5). The density of the building is also very low; the mass layout of the building is spread out and interspersed with the fields. Building houses with an original form at this time is not much anymore. Many houses of the indigenous people who became HMOs or other businesses resulted in the changing of the building shape, the number of floors increased, and space expanded. Many native-owned lands bought by migrants have been rebuilt and functioned as places of business (see Fig.6). These characteristics clearly show physical transformation due to the studentification process. There has been a change in facilities, changes in the completeness of facilities expected by students (24), also changes in the ownership system due to the pressure of the property market (13) as well as changes in the physical building and surrounding environment, which emphasizes the availability of excellent services to create a decent life for student (36). In the study area, besides the existence of HMO houses with standard facilities, there are also more exclusive PBSA with more luxurious and complete facilities (see Fig. 7). The drive to use every land and building to provide economic benefits harms the environment. Studentification encourages neglected building conditions and poor environmental quality due to the over-supply of housing for students. Many properties owned by investors or people who live in other locations so that management left to other parties. Management and maintenance of buildings and the environment that are not running well, both in terms of the building structure, physical and open environment (26), can ultimately cause a decrease in the quality of the surrounding environment and deterioration of the image as a prime service asset (7). Particularly in several locations in the Tembalang district, conditions have already appeared slum. Land use made as much as possible so that the layout of the environment becomes disorganized, as well as high building density due to sporadic and unplanned addition of space.

3.6 Social

The indigenous people of the Tembalang area must face a massive influx of students and other arrivals. The agrarian character of indigenous people faced with students who come from all over Indonesia and have a variety of cultural characters. Indigenous people who have close family roots to each other with a culture of mutual help, courtesy, dealing with students and foreigners who are strangers to one another, being ignorant of each other, lacking respect for the local community and no sense of connection with the place (37),(38). Indigenous people who do not get a high enough formal education are dealing with more educated students. At the beginning of the arrival of students and the development of the regional economy by migrants, there arose jealousy from indigenous communities due to differences in lifestyle and differences in the ease of spending money (39),(23). Not all indigenous people have a positive and open attitude towards changes in the Tembalang region. Some communities can accept the situation by participating in adapting and opening a business that is related to the needs of students and migrants. They also take advantage of opportunities to earn income and improve family welfare. However, it also caused jealousy from other parts of the community, who did not open a business. A manifestation of jealousy is shown by not being willing to participate in cooperation activities or community service. Community service work is an activity that carried out once a month, usually done on Sundays when residents have free time. They work to clean or improve environmental facilities together. Long before many students and migrants, the bond of brotherhood was still firm, the community service activities could carry out whenever needed. Ignorance that then occurs, both between students, migrants, and between local communities, decreases awareness of potential criminal events. Do not know each other between residents and fellow residents of the boarding house, opening opportunities for perpetrators of crime to freely take action by pretending to be one of the students or migrants. Most occurrences were theft of goods or motorized vehicles belonging to students and mugging on the road. This situation requires security forces to intervene more intensively.

On the other hand, the central role of native community leaders is still obeyed and is very useful when there is tension between citizens.

3.7 Surrounding Environment

This physical change due to studentification causes a decrease in environmental conditions, depending on the local context (2). Allinson reinforces that physical transformation due to studentification can cause environmental quality to
4 CONCLUSION

The construction of a university campus with a large number of students (up to 40,000 active students) gave rise to studentification that affected the transformation of land ownership, economy, land use, building changes, social conditions and the environment of the suburbs, where the campus located. The large concentration of students raises the need for accommodation, consumption, transportation facilities, and infrastructure, as well as the completeness of daily needs. Changes in land ownership from indigenous communities to migrants (investors, outside communities, and students) triggered the physical and non-physical transformation that took place. The transformation can be positive, shown by better building quality, smooth surface roads, more and varied job opportunities, better social attitudes, more complete environmental facilities, land values also become more expensive, which means value owner’s assets increase. The negative side that then emerged was that indigenous people who were unable to adapt to changes in the Tembalang area would choose to move to another place. Higher land values and more significant opportunities for economic benefits have led to maximized land use. Building density is very high, which in turn causes slums and vulnerability to stand water. Not all people are accepting of the transformation. They remain in their original dwellings but retain their jobs and original way of life even though the surroundings have changed. However, many local people are adaptive. They survived, adapted themselves, participated in the transformation that took place, and many enjoyed the increase in welfare from the creation of economic opportunities. In areas that are attached to the campus, indigenous people experiencing the most rapid changes. The people who live in these locations are less quick to adapt to the arrival of economic functions, environmental and social changes, and the coming wave of student accommodation. A character of village people, who are friendly and easy to accept others, led to the beginning of many HMOs in this area. In a relatively short time, transformation occurs so quickly. However, people in area III, which are relatively far from campus, have enough time to understand what is happening in the area next to it. Communities in area III are more critical and do not easily give up land for sale. They prepare themselves to receive better studentification propagation. HMOs and PBSA in this region are better than in area I and III, the environment is also better prepared. Some communities still have fields, but also have other income from the studentification process that occurs. As an example, families who have a home still have fertile fields, but the Head of the family also owns a motorcycle and car repair shop business in another location, which not integrated with the house. The workshop serves the needs of students to repair their vehicles. Campus development in suburban areas that have an agrarian character is very likely to get rid of native communities. The role of community leaders to bridge and ask the community to defend the land, even though it is narrow, and to participate in the studentification process by taking economic opportunities, will be able to maintain the sustainability of their lives. Studentification and its impact on the development of an area must address carefully and thoughtfully. Urban planners are often unaware of the amount of investment coming in and the rapid development of the area around the campus before the area eventually grows out of control. Projected provision of needs for environmental facilities can not only calculate from statistics on the number of people registered. However, it must calculate the number of "shadow" residents whose numbers can be 4-5 times that of the official residents with ID cards. The real needs of clean water, electricity, road width, waste products are very different from projections calculated based on statistics. In the regional spatial plan, the campus masterplan will be much better if it is integrated with the regional masterplan so that the area around the campus directed, controlled, and integrated into its future developments. From the aspect of the survival of the indigenous people, they must prepare with the changes that occur. Diversification of skills, carefulness in seeing job opportunities, guaranteeing children’s education, and ongoing assistance from the government is urgently needed. The aim is that they not eliminated from their birthplace can see the region develop, and can benefit from the studentification process.
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