Social Sustainability of Kamponds in the Transit-Oriented Development Area of Yogyakarta

Ardhya Nareswari¹, Sekar Ari Utari²

¹Department of Architecture and Planning, Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, INDONESIA
²Master of Architecture and Planning, Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, INDONESIA

¹nares@ugm.ac.id

Abstract. In many cities in South East Asian developing countries, informal settlements (also known as kamponds) exist in accordance with the development of the city centre. Support and mutual relations between the facilities and settlements have been studied by many researchers. At present, these relations have been brought into alignment with the rationale of transit oriented development (TOD), which emphasises the effectiveness of urban functions in optimising urban mobility in the surrounding area of a railway or bus station. The application of TOD started to be implemented in Tugu Railway Station of Yogyakarta, Indonesia. The current investigation presents case studies of three kamponds, namely Badran, Gandekan and Jogoyudan, all of which are within walking distance of the station. This study examines the relation between the inhabitants of the kampong and the Tugu Railway Station. The results show that most of the inhabitants who worked in informal sectors remain working in the surrounding areas although a new regulation and management system to formalise all the activities at the Tugu Railway Station based on the national policy established. It is found that the changes merely shifted the type of job, but not the location of the job, or even the area of living. The social engagement within the settlement is found to be an influential factor for this condition. This strong engagement could guarantee the sustainability of social relationships in each kampong and also support towards the success of TOD.

1. Introduction

Yogyakarta is a city of 422,700 inhabitants, located in the central part of Java Island, Indonesia. One of the transportation links among cities in this island is railway transport. The largest railway station in Yogyakarta is Tugu Railway Station, which has been operating since May 12, 1887. The areas around the station have been being utilised as settlements and public facilities. During its development, its major function has been enhanced by the presence of various commercial functions. Nevertheless, this has not reduced the existence of settlements that have a relationship to the station. For decades, the inhabitants of the settlements have been become formal or informal workers in or around the station and they do not have to use a vehicle to travel to their place of work. In transit oriented development (TOD), these conditions relate to one of the principles of the developments, while the inhabitants in the dense area surrounding the railway minimise their mobility and support the existence of the station in terms of providing employment [1].
Starting from 2011–2012, as published in *Rencana Induk Perkeretaapian Nasional* (National Masterplan on Railways), a new management was established to operate the railway stations in Indonesia that was related to alterations in physical passenger access to the stations. These alterations affected the informal facilities and activities carried out by the surrounding inhabitants by shifting to formal ones. They eliminated informal jobs, including those of street vendors, ticket brokers, parking attendants, porters, motorcycle taxi drivers and so on. This change raises several important questions regarding whether the relationship between the railway station and the inhabitants as a resource of employment still exists, the nature of the relationship and the influential factors.

It is essential to evaluate the situation in the settlement areas after the regulation changed, because the ongoing TOD development is expected to bring up considerations in accommodating the living and working of inhabitants to support the successfulness of the implementation of TOD.

2. Theoretical Framework

Three classifications of zoning exist in the TOD area: core, neighbourhood and support area. The core is within a 400 m radius from the station, equivalent to a ~5 min walk. The neighbourhood is within a 400–800 m radius of the station or a ~10–15 min walk. The support area is adapted to the environmental condition of each station and is a ~20 min walk. All three zones relate to the station [2].

In Yogyakarta, most inhabitants of the settlements in the core and neighbourhood zones work in or around the station to minimise their transportation budget. This matches with the rationale of the TOD area, i.e., allowing the inhabitants to be close to their workplace or public transport facilities [3]. It was stated that there is a need for a positive impact on the private sector by increasing access to labour pools. This statement supports the continuing occupation of the community according to people's work. Some economic and social issues on TOD are related to how many and what types of jobs are created and whether households are able to significantly reduce transport expenditures [3].

There is a mutual relationship between the railway station and surrounding settlements while inhabitants could reside in the settlement whilst simultaneously becoming the employee of the railway station. The implementation of TODs emphasises the existence of these social relations, which need to be maintained [4].

In accordance, a conceptual framework for social sustainability seeks to enhance the protection of people, regardless of colour, origin, culture or socio-economic status, against risk by fostering the adaptation of just and equitable social, economic and environmental policies [5]. These conditions should be highlighted as they need to be considered in realising social sustainability in TOD.

3. Methodology

Tugu Railway Station is surrounded by settlements in the core, neighbourhood and support area zones, which are widely known as kampongs. A kampong is commonly defined as an uncontrolled and spontaneous development settlement, scattered around public facilities or in disaster-prone marginal areas, usually with limited infrastructure [6]. Although slums and poverty are frequently related to kampongs, they also represent areas that are compact, integrated and have high solidarity among the inhabitants. Thus, social cohesion in kampongs is the major strength for development in these neighbourhoods, with the density itself often determining their activities and social characteristics [7].

This research observed dense settlements around Tugu Railway Station, i.e., Kampong Jogoyudan, Kampong Badran and Kampong Gandekan, which are located in the core zone of Tugu Railway Station. The variables were the type and place of work of inhabitants before and after the change in station management as part of the TOD, in order to understand the relationship between the station and the surrounding settlements. The other variables were access to facilities and amenities, to understand the mobility of the inhabitant; and length of habitation and community participation, to understand the engagement between the inhabitants and the settlements.

A purposive sampling method was implemented to gather information on what and where the previous informal sector workers work after the implementation of changes in the management system of Tugu Railway Station. The research procedure was carried out by the method of physical observation.
and questionnaires submitted to 52 respondents. There were 16 respondents from Badran (2 women and 14 men), 11 respondents from Gandekan (6 women and 5 men) and 25 respondents from Jogoyudan (7 women and 18 men).

| Kampong    | Populations | Men       | Women    | Respondents |
|------------|-------------|-----------|----------|-------------|
| Badran     | 3274        | 1614      | 1669     | 16          |
| Gandekan   | 1007        | 497       | 510      | 11          |
| Jogoyudan  | 1894        | 945       | 949      | 25          |

Figure 1. Tugu Railway Station (1), Malioboro area (2), Kraton Yogyakarta (3) and case studies: Badran (A); Gandekan (B); Jogoyudan (C).

4. Results

4.1. Job types and workplace area

It was found that there are many different types of jobs in the three kampongs. The highest number of jobs in Badran involves private employees. Other professions include porters, parking attendants, motorcycle taxi drivers, rickshaw drivers, railway station administrators, shop owners in the railway station and train drivers, which are all related to the station. Historically, Badran was a kampong for railway station workers. These professions remained after many changes at the station. The six respondents who work as porters transitioned from their previous jobs as mobile vendors. The motorcycle taxi has also been formalised through the existence of the railway station motorcycle taxi cooperative.

Gandekan inhabitants’ professions are hotel employees and other informal sector jobs such as motorcycle taxi drivers, taxi drivers and parking attendants. In the past, Gandekan was a kampong where its inhabitants mostly worked as abdi dalem (palace maids) in the Palace of Yogyakarta. After the dynamic change of the social culture and development in the surrounding settlement, the inhabitants also changed their employment into various types of jobs.

Circumstances were different when we considered the inhabitants in Jogoyudan, who mostly work in Malioboro Commercial Street, adjacent to the railway station. The types of Jogoyudan inhabitants’ job are dominated as retail traders, private store employees and food sellers around the railway station and Malioboro. In Figure 2, the job variation is spread both in formal sectors marked in orange and informal sectors marked in grey.
The distribution of job location, based on the questionnaire, is shown in Figure 3. It shows that most respondents work in Tugu Railway Station, followed by Malioboro Commercial Street and then respondents who work in other areas.

Besides the similarities, there are also differences among the kampongs. While Badran inhabitants predominantly work at the railway station, Gandekan inhabitants work in the railway station area and the area around them, and Jogoyudan inhabitants mostly work in the Malioboro area. This shows that each kampong has its own internal community engagement.

Figures 2 and 3 show that the inhabitants tend to work and have activities in the geographical area that is in proximity to their residence. This is in accordance with the TOD principle, as stated in the Ministerial Regulation, which discusses the need to structure the effective function of the surrounding area to reduce daily mobility [4]. The existing area is sufficiently compact to accommodate residential and other facilities.

It is identified that the interaction between the railway station and surrounding settlement is very closed. The station is a workplace for the inhabitant. Changes that dynamically occurred due to the development of existing public facilities certainly have an impact on the type of job. As a result of the changes in the station, the Badran people (who previously worked primarily in the informal sector at the
station) were forced to change their jobs because the changes in the management system do not make it possible to accommodate informal sectors anymore. People who are able to keep interacting with public facilities will choose to participate in the process of job formalisation, such as being a porter, parking attendant or a formal motorcycle taxi driver for Tugu Railway Station.

Meanwhile, for those who no longer had the opportunity to stay due to various new regulations, they tended to move their jobs to the location where they live or other public facilities around their residency. There are several cases that occurred in the community. Some people who originally worked as food sellers in the station changed their location to sell food in their own homes or managed to build home-based enterprises, such as mini-grocery stores or boarding houses. The changing of the management system shifted the job type without moving into other far areas. When there are various dynamics and changes in their working areas, they still want to live in the same location. They prefer changing their work rather than moving.

This condition has been established since the first settlements were created. Inhabitants tended to work near their settlement, notwithstanding that they had to change their type of work. The change in railway station management made their work formal without moving their work location.

4.2. Access to Facilities and Amenities
In daily life, mobility is not just about going to work, it is also about access to education facilities, health care facilities, local markets for daily goods and amenities. From the respondents, it is found that most inhabitants meet their needs from the surrounding areas near the settlement, as displayed in Figure 4.

Figure 4 shows that the respondents' needs can be fulfilled within a radius of one to two kilometres from their houses. These respondents show a movement pattern that tends to be dominant at a point below two kilometres, which means that people do not require much mobility to meet their needs. Their movement pattern tends to be dominant at a short-range distance.

![Figure 4. Inhabitant access to amenities and facilities.](image)

4.3. Length of habitation
Their flexible responses are examined from how they managed to adjust themselves with the condition and dynamically change along the development of the area around the station and public facilities. There are people who can be creative, elastic and flexible in dealing with changes.

This is closely related to how they actually have lived for so long in their settlement, their ease of accessing facilities based on the principle of closeness and the social ties among residents in the settlement. Figure 5 describes the length of habitation. Engagement in the place was already established. Their desire to stay and continue working in their current workplaces and in the settlements where they live is clearly visible. Data from the respondents showed that the dominance of duration of stay is 20 years. It explained that most of the respondents have spent living in the environment. They lived in the kampong for a long time so this condition explains the strong relationship between them and the environment where they live. The inhabitants are reluctant to move and already found their comfort zones. They also reluctant to lose access to amenities, facilities and neighbourhood character, which give them a sense of a connection with an area and the past [8].


4.4. Participation in community activities

Besides the duration of their habitation, respondents also reported on the social interaction and participation on the community that occur in all locations.

Their participation in community activities does not change and is a manifestation of the social character of the community. A specific social engagement already had occurred in kampong and influence them to stay. Despite the change in station management, they continue to work at the station and keep trying to stay in their kampong.

5. Discussion

It is obvious that the physical developments include not just form and space, but also social condition. A reciprocal relationship has indeed occurred between public facilities and the surrounding settlements. In many cases, the public facilities serve as both facilities (i.e. transportation and service) and workplaces of the inhabitants simultaneously [9]. This shows the need to focus on maintaining or maximising existing human resources to be able to strengthen connections with TOD. Certain jobs that were in place for the first time are not only a place of work for people around the TOD site, but serve also as the potential for TOD.

How TOD gives opportunities and positively impacts the surrounding community needs to be considered so that the development does not give an impact of job loss or unfavourable economic
impact. The positive character of a kampong that has strong social connection between the inhabitants can become an opportunity to reduce the impact of the changes.

The social relationship between the inhabitants becomes a strong factor to support this condition. They tend to live in their settlement rather than to move because they have already inhabited the settlements for decades. The strong connection of the inhabitants in the settlement becomes a factor that supports social sustainability. Social sustainability that is defined as the quality of neighbourhood able to provide and maintain social capital, quality of life, safety, cohesion and cultural integration, and participation of citizens [5], supports and accommodates activities and physical developments both internally and externally as settlement sustainability.

The development of TOD should consider the condition of the social characteristics of the community so that the development of TOD can be an inclusive development for all people. This relates to the process and goals of TOD in that TOD is a relatively recent neighbourhood development concept associated with the three dimensions of urban sustainability (environmental, economic and social). The impacts of TOD on social sustainability depend to a great extent on the context [10].

Due to the actual responses of the inhabitants above, in the context of the development of TOD, it has to consider to social sustainability. Specific social-economic characteristic of the inhabitants has to be understood [11] in terms of sustaining the quality of neighbourhood that is capable of providing and maintaining social quality of life, safety, cohesion, cultural integration and the participation of citizens. The characteristics of a compact, integrated and high solidarity among the inhabitants in the three kampongs need to be sustained to have a powerful impact on TOD planning.

6. Conclusion
The discussion in this study shows that the people who live and work around Tugu Railway Station have a strong social relationship, proven by living and working for decades and becoming active members of the community in community activities. This encouraged them to stay and work in the area, despite external changes. The social conditions of settlements around Tugu Railway Station will maintain sustainability and support the success of the region as a TOD area. It is not about the physical aspect of the settlements; rather, it is the social engagement that should be maintained and kept in the area.

The social conditions of each community may differ from one area to another, so the technical implementation of TOD needs to consider the social conditions of the community where TOD is developed specifically. The form of settlements around a TOD area can be changed into a new form but the values that develop in the community need to be considered to ensure the successful development of social sustainability in an inclusive TOD for all people.

References
[1] Calthorpe P, 1993, The Next American Metropolis: Ecology, Community and the American Dreams, Pricento Architectural Press, New York, USA.
[2] Griffin KW, 2004, Building Type Basics for Transit Facilities, John Wiley and Sons Ltd, New York
[3] Curtis C, John R and Bertolini L, 2009, TOD - Making It Happen, Ashgate, Surrey, UK.
[4] Ministry of Agrarian Affairs and Spatial Planning, 2017, Guidelines of Transit Oriented Development, number 16.
[5] Eizenberg E and Jabareen Y, 2017, Social Sustainability: A New Conceptual Framework, Sustainability.
[6] Budiharjo E, 1992, Sejumlah masalah permukiman kota, Alumni.
[7] Guinness P, 1986, Harmony and hierarchy in a Javanese kampung, Oxford University Press, Oxford and New York.
[8] Rice, Janet, 2009, There Goes the Neighbourhood? Or Saving the World? Community Views about Transit Oriented Development. ISBN: 978-0-7546-9100-6, Transit Oriented Development – Making It Happen, (2)172-183, Ashgate Publishing.
[9] Jones P, 2017, Formalizing the Informal: Understanding the Position of Informal Settlements and Slums in Sustainable Urbanization Policies and Strategies in Bandung, Indonesia, ISSN 2071-1050, Sustainability, 9 1436, MDPI.
[10] Fernandez M and Blanca, 2015, How participatory planning processes for transit-oriented development contribute to social sustainability, J of Environmental Studies and Sciences. – ISSN 2190-6491 (online). - 6 3. - pp. 520-524. - DOI: 10.1007/s13412-014-0217-5.
[11] Jafari F and Ghorbani R, 2013, Urban Density and Social Sustainable Development on Neighborhoods. Case Study: Tabriz, Iran. ISSN 2090-4304. J. Basic. Appl. Sci. Res., 3 8 457-467, TextRoad Publication