

## Social sustainability in Yogyakarta’s slum areas: a scoping review

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**Abstract:** Compared to the environmental and economic pillars of sustainable development, social sustainability has received less attention. In urban contexts, particularly in slum areas, it plays a vital role in ensuring equitable access and community resilience. Yogyakarta’s slums, mostly located along riverbanks, face complex social challenges. Despite various upgrading programmes, a limited focus on social aspects has led to unsustainable outcomes. This scoping review identifies social sustainability in Yogyakarta’s slums through the lens of access, equity, and community sustainability. Articles were retrieved from SCOPUS, Web of Science, and GARUDA databases, yielding eight studies published between 2017 and 2024, covering 14 of 36 slum locations. These studies address five out of eight social sustainability components: social interaction, participation in community activities, residential stability, sense of place, and access to urban infrastructure. However, components such as security, access to social services, and recreational services remain unaddressed. Further research is needed to bridge these gaps.

**Key Words:** social sustainability, slum, Yogyakarta, equity of access, community sustainability.

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### Introduction

The notion of sustainable development originated from the Brundtland Report, which defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland, 1987, 17). Sustainable development includes three equally significant pillars, namely environmental, economic, and social, which must be harmonised to achieve greater sustainability (Dempsey et al., 2011; Keivani & Shirazi, 2019). However, until the beginning

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of the 2000s, the social aspect of sustainability was often overlooked and the least studied among the three pillars (Ghahramanpouri et al., 2013; Mehan & Soflaei, 2017). The Millennium Development Goals (MDGs), which represent an international consensus on sustainable development, have not prioritised social sustainability. The importance of social sustainability has only been emphasised in the Sustainable Development Goals (SDGs), where 11 of the 17 goals are linked to the social aspect (Kumari & Singh, 2023; Schroeder et al., 2019).

The definition of social sustainability to date still depends on the context in which it is used, due to the lack of consensus on what constitutes it (Afshari et al., 2022; Eizenberg & Jabareen, 2017). This poses a challenge for social sustainability measurements, as the choice of indicators is driven more by practical and political considerations rather than by theoretical rationale.

Social sustainability can be examined through functional, capital, or systems approaches; however, the functional approach is most commonly used in urban, rural, and community sustainability studies for defining and measuring it (Spangenberg & Omann, 2006). Jenks et al. (1998) in Vallance et al. (2011) stated that a city will be sustainable if people want to stay in it. Social sustainability within the context of urban sustainability refers to society's tendency to maintain sustainability or to improve the quality of social norms. However, sustainable development efforts are often hampered by society's desire to maintain living conditions as they are, which often contradicts the principles of sustainable development. Therefore, development planning, including environmental improvement, must be adjusted to the social nature of the community so that sustainable development efforts do not become counterproductive (Vallance et al., 2011)

Social sustainability, as a combination of physical and non-physical aspects, is related to community and social infrastructure. Community infrastructure is a physical component that supports community life, while social infrastructure concerns the availability of services to meet community needs and the capacity to build a sustainable community (Cuthill, 2010). In line with Cuthill's opinion, Bramley et al. (2010) define social sustainability as encompassing two key dimensions: equity of access and community sustainability. Equity of access refers to the availability of basic urban infrastructure, social and recreational services, and residents' satisfaction with housing and environmental quality. Community sustainability, meanwhile, reflects collective aspects such as social interaction, participation in communal activities, sense of place, residential stability, and security (Bramley et al., 2010).

The notion of social sustainability encompasses various aspects, from the city's physical form to its intangible socio-cultural dimensions. This also indicates that the concept of social sustainability is related to the physical and non-physical quality of the human environment (Shirazi & Keivani, 2019). Social sustainability aims to maintain harmonious and cohesive community conditions, thereby enhancing the welfare of all social groups. This goal can be achieved through development policies that are adapted to local social conditions, particularly by strengthening community participation. Therefore, settlement upgrading programmes should not focus solely on physical improvements but also encourage social development to sustain urban resilience. Social sustainability is achieved through social development aimed at strengthening solidarity and fostering community self-reliance, thereby establishing a strong foundation for society and institutions by developing community capacity to increase community participation (Kementerian Pekerjaan Umum dan Perumahan Rakyat, 2012). Therefore, we used the components of social sustainability outlined by Bramley et al. (2010) to examine the existing literature on social sustainability in Yogyakarta's slums.

Normatively, slums in Indonesia are uninhabitable settlements characterised by irregular buildings, high building density, and substandard building quality and infrastructure (Presiden Republik Indonesia, 2011). Slum communities are typically low-income communities with livelihoods in the informal sector. Slums often lack land tenure, making it difficult for them to obtain their rights as citizens, such as access to basic services. In addition, slum communities are also characterised by poverty, limited access to basic services, poor health, dominance of the informal economic sector, vulnerability to disasters, degradation, the emergence of bad stigma, exclusion in social and economic interactions, high unemployment rates, and low levels of education (Mohanty, 2020; Trindade et al., 2021). Differences in the social and spatial characteristics of slums compared to other areas create social exclusion for slum communities (Chhetri, 2022; Dempsey et al., 2011; Jones, 2017). Exclusion undermines social cohesion by creating divisions within society, leading to increased social tension and reduced trust and solidarity among community members, which hinders efforts to achieve social sustainability and sustainable development in general (Dempsey et al., 2011).

Yogyakarta, the administrative centre of the Yogyakarta Special Region Province, is also recognised as a cultural hub, a major tourism destination, and a city of education, all of which drive urbanisation (Faizah & Hendarto, 2013). Massive land-use change due to urbanisation in 1959-1996 resulted in environmental deterioration and the conversion of several residential areas into slums, especially along the banks of the Winongo, Code, and Gajahwong rivers. Poor environmental quality, low community environmental awareness, and relatively affordable land prices compared to other areas contribute to slum formation in these areas (Marwasta & Rahayu, 2020; Rachmawati et al., 2018; Ritohardoyo & Sadali, 2017). Stagnation of the urbanisation rate in Yogyakarta in the present, compared to 1959-1996, does not automatically alleviate slums (Lasuardi & Muta'ali, 2014).

According to Mayor's Decree No. 216 in 2016, slum areas in Yogyakarta are located in 36 of 45 villages (*kelurahan*), covering a total area of 264 hectares. Their problems and spatial distribution cluster into the following areas: the Winongo riverbank, the Code riverbank, the Gajahwong riverbank, the Belik riverbank, and the non-riverbank cluster. These clusters generally lack adequate waste disposal and drainage systems, putting population health at risk. Riverbank clusters are also prone to various natural disasters, especially flooding and landslides, which are triggered by volcanic activities (Sadali et al., 2019). Yogyakarta City Government has tried to improve living conditions through various programmes, such as the Kampung Improvement Programme (KIP), the Urban Poverty Alleviation Programme (P2KP), and the City Without Slums (KOTAKU) (Gunardo, 2007; Kumorotomo et al., 2016; Setiawan, 1998). Despite these efforts, a lack of consideration for the social aspect and community participation makes the results unsustainable (Hasanawi, 2019).

The conditions of social sustainability in Yogyakarta's slums remain unclear. For this reason, a scoping review is conducted to map information on social sustainability and identify gaps in social sustainability research in Yogyakarta slums. Concepts of social sustainability will be discussed and linked to slum conditions in Yogyakarta. For this purpose, the following research question was formulated: what is the condition of social sustainability in Yogyakarta's slums based on equity of access and community sustainability?

## Methodology

This scoping review is carried out using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) framework (Sav et al., 2017). Our search was guided by the PRISMA flow diagram (Page et al., 2021) that covers two stages as illustrated in Figure 1:

- (i) *Initial search.* We collect articles from SCOPUS, Web of Science, and the Garuda database for their extensive collections of high-quality, peer-reviewed articles. Articles were collected according to the following criteria: the study was conducted between 2017 and 2024, published in English or Indonesian, and aligned with the social sustainability concept proposed by Bramley et al. (2010). Articles are searched using Boolean operators for the following terms: “social sustainability” OR “social equity” OR “accessibility” OR “community sustainability” OR “social interaction” OR “participation” OR “pride” OR “satisfaction” OR “security” OR “safety” AND “Yogyakarta slum”.
- (ii) *Screening.* Screening is done by removing duplicates, which excluded 15 duplicate records. We further screened articles by skimming titles and abstracts, and excluded 10 records. The final step was full-text screening, from which we selected 8 studies for inclusion in this study. These eight studies are selected because they explicitly describe the state of social sustainability components in one or more slum areas in Yogyakarta. Characteristics of the selected articles, including related social sustainability components and study areas, are presented in Table 1.

Table 1. List of articles included

Author (year)	Related social sustainability component(s)	Study area (village/keurahan)	Cluster
Hutama (2018)	Social interaction	Kotabaru	Code riverbank
Bawole (2019)	Participation in communal activities	Karangwaru, Suryatmajan, Ngampilan, Gowongan, Keparakan	Code riverbank, Winongo riverbank
Firianti (2019)	Participation in communal activities	Pakuncen	Winongo Riverbank
Purbadi & Lake (2019)	Access to urban infrastructure	Karangwaru	Winongo riverbank
Damanik et al. (2020)	Participation in communal activities	Ngampilan, Pakuncen, Suryatmajan, Karangwaru, Pandean	Code riverbank, Winongo riverbank, Gajahwong riverbank
Nareswari & Utari (2020)	Residential stability Sense of place Social interaction	Bumijo, Pringgokusuman, Jogoyudan	Code riverbank, Winongo riverbank
Hawa et al. (2023)	Sense of place	Muja Muju	Gajahwong riverbank
Raharjo & Bawole (2022)	Participation in communal activities; Sense of place; Access to urban infrastructure	Ngampilan, Cokrodiningratan, Tegalpanggung, Suryatmajan	Code riverbank

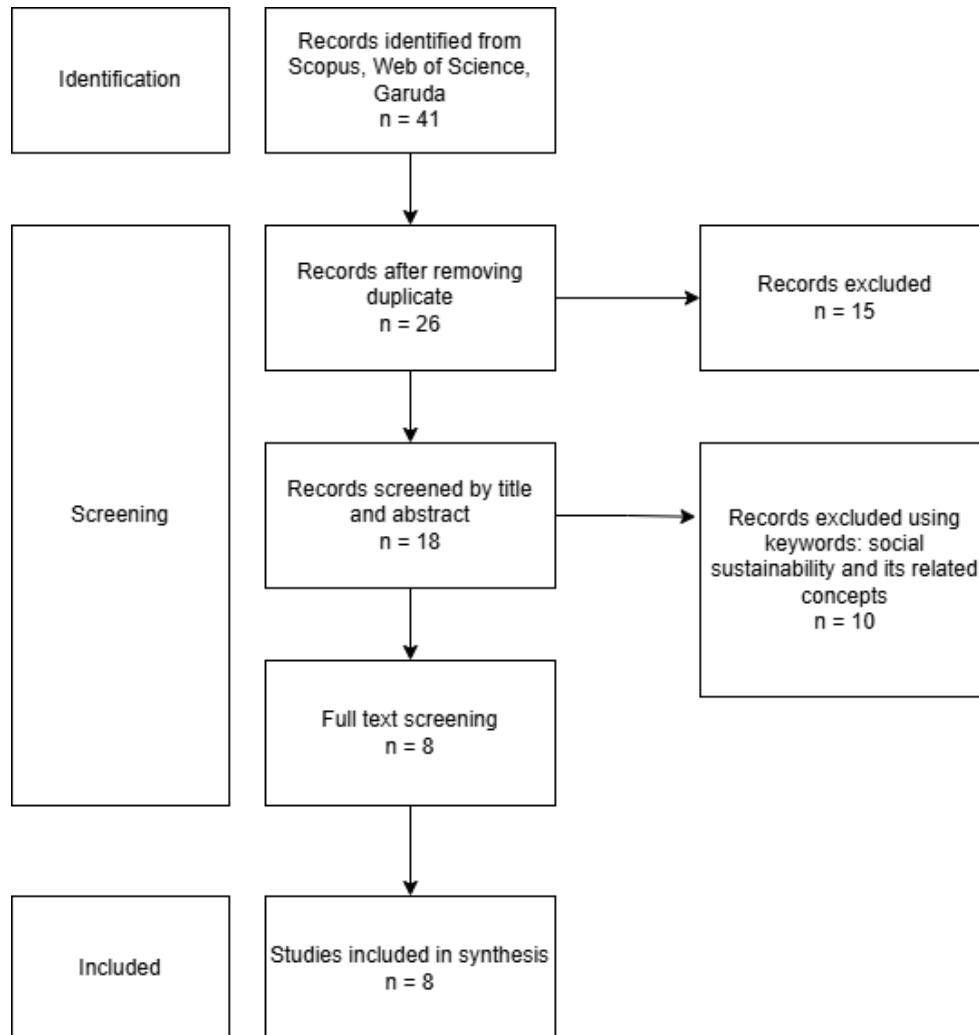


Figure 1. PRISMA flow diagram used in this study  
Source: (Page et al., 2021)

## Results

We grouped the studies by their related social sustainability elements, then described the findings for each study area. We identified two articles on social interaction, four on participation in communal activities, one on residential stability, three on sense of place, and three on access to urban infrastructure. In contrast, none of them is related to security, access to social services, or access to recreational services.

### *Social interaction*

Social interaction is defined as a dynamic and evolving sequence of social actions that occurs between individuals or groups, who adjust their actions and reactions in response to their interaction partners (Heatherton & Walcott, 2009). Positive social interaction is integral to maintaining social capital, which is important for avoiding social exclusion. Positive social interaction can benefit residents of slum areas by fostering attachment to their neighbourhood, thereby positively impacting residential stability and a sense of place (Williams et al., 2010).

Social interaction observed in Kampung Code, Kotabaru, occurs in public and semi-public spaces. Public spaces are places accessible to anyone, such as streets, parks, and community places, while taverns, terraces, yards, and neighbourhood stores are examples of semi-public areas shaped by laws and the general consensus of the community (Hutama, 2018). Social interactions in Kampung Code mainly took place in semi-public spaces, small open spaces, and mosques, in the form of necessary activities (work-related and daily necessities), social activities (playing, chatting, and sports), and religious activities. Most of these social interactions occur on riverbanks, house terraces, streets and alleys, and in community buildings (Hutama, 2018). The use of house terraces for social interaction, even without the presence of the homeowners, is interesting because they are considered semi-public spaces owned by individuals. Streets, alleys, and taverns are also important in connecting dwellers, as they usually chat upon encountering each other. The presence of semi-public spaces in Kampung Code serves as a social medium which contributes to forming positive social interaction (Hutama, 2018).

Social interaction in Bumijo, Pringgokusuman, and Jogoyudan is observed in Kampong Badran, Kampong Gandekan, and Kampong Jogoyudan, respectively. The three kampongs are located within walking distance of the rail station, leading to a high proportion of residents employed in informal railway-related occupations. In recent years, the railway management has undertaken efforts to formalise these informal workers. Those who were unable to transition into formal workers were pushed to seek the nearest alternative employment. Despite these changes, dwellers' patterns of social interaction remain unchanged. Most of them participate frequently in community activities more than 3 times per month, indicating a strong connection among people in these areas (Nareswari & Utari, 2020).

### *Participation in community activities*

Participation in community activities in Ngampilan and Pakuncen, which are associated with the Winongo River, is facilitated by Forum Komunikasi Winongo Asri (FKWA), a community formed by riverscape residents (Firianti, 2019). They submitted proposals for kampong improvement projects through Development Planning Deliberations (Musrenbang). Their efforts resulted in several upgrades in their area, including the creation of public spaces to facilitate social interaction. Communities are actively involved in planning and carrying out projects. Through clear communication between the community and government, they seamlessly created new public spaces, established a wastewater treatment system, and improved street conditions. These efforts are regularly maintained by local communities through *gotong royong* (joint bearing of burdens done in Javanese communities), resulting in the upgrade of social and environmental conditions as they have a new place to interact and are not directly disposing of wastewater into the river (Bawole, 2019; Raharjo & Bawole, 2022). High rates of participation in community activities carried out by residents of Ngampilan and Pakuncen also strengthened resilience

against natural disasters. This is also influenced by the length of stay of their residents, with an average of more than 20 years (Damanik et al., 2020).

Similar results are observed in Cokrodiningratan, Tegalpanggung, and Suryatmajan, which are associated with the Code and Gajahwong rivers. Strengthening community institutions by involving them in regional planning generates positive impacts in environmental sustainability. The development of "integrated ecotourism" on the Gajahwong riverbank, proposed by the local community, aimed to maintain river biota as an alternative to green tourism. A communal wastewater treatment plant, green open spaces, and a drainage system were also constructed through community participation in planning. Furthermore, strengthening local institutions by community participation positively impacts social and environmental sustainability (Raharjo & Bawole, 2022).

#### *Residential stability*

Residential stability is regarded as a crucial factor in social sustainability. Communities characterised by high turnover and low inflow may struggle to achieve sustainability (Bramley et al., 2010). High residential stability is often associated with greater social cohesion and lower crime rates (Bramley et al., 2010). Residential stability in Kampong Badran, Gandekan, and Jogoyudan, respectively located in Bumijo, Pringgokusuman, and Jogoyudan, is directly linked to their proximity to the rail station, where most of their residents work. Residents in this area favour living close to their workplace. This area also provides access to amenities and facilities within 1-2 kilometres, despite the common overcrowding issues in slum areas. As a result, residents are reluctant to leave this area. Most of them have resided for more than 20 years, indicating a long-established engagement with the place (Nareswari & Utari, 2020).

#### *Sense of place*

People with a stronger sense of place are likely to stay in the area and actively participate in its development (Bramley et al., 2010). The sense of place in Bumijo, Pringgokusuman, and Jogoyudan is related to proximity to residents' workplaces. Their strong desire to reside in those areas is due to the accessibility of amenities, facilities, and workplaces. The fact that most residents have lived in the area for more than 20 years also adds to their strong sense of place. The author argues that transit-oriented development should accommodate socio-economic characteristics to maintain social sustainability (Nareswari & Utari, 2020). However, it is unclear how their strong sense of place impacted development in this area.

The environmental conditions in Muja Muju have improved from their original slum conditions to more ideal ones as a result of the M3K program. Residents desire to take part in this programme and take pride in their involvement, actively supporting community projects (Hawa et al., 2023). Improving the condition of riverside areas while maintaining the cleanliness of the river is likely to contribute to improving their sense of place (Hawa et al., 2023). This indicates that their living environment has positively influenced people's attitudes towards environmental sustainability. Most respondents reported a heightened awareness of maintaining the river's cleanliness after participating in this programme (Hawa et al., 2023). This shift in people's mindset indicates a growing sense of place.

A study conducted by Raharjo & Bawole (2022) finds similar results. Slum upgrading through the M3K programme in Ngampilan, Cokrodiningratan, Tegalpanggung, and Suryatmajan shows that residents' shift in attitude towards their environment indicates a growing sense of place. In the past, they treated the river as a dumping ground, throwing trash directly into it and bathing there. Initiatives carried out by various programmes

resulted in a change in residents' mindset. Residents began to realise that the river was an invaluable asset that they must protect. The creation of various urban infrastructure, such as clean water, waste disposal systems, and green open spaces, and their subsequent maintenance through community activities in the form of gotong royong, indicate a growing sense of place (Raharjo & Bawole, 2022).

#### *Access to urban infrastructure*

Social sustainability involves equitable access to urban infrastructures and services. Disparity in access to urban infrastructure can lead to social inequities (Guo et al., 2024). The study by Purbadi and Lake (2019) details the transformation of the Karangwaru Riverside area from a former slum to a more habitable and developing tourism area. Access to urban infrastructure is improved by constructing a public building named Omsimas (Omah Sinau Masyarakat – communal learning centre), which is used for cultural and artistic performances. However, the author mentions that even after its improvement, Karangwaru Riverside still lacked communal clean water infrastructure, with residents primarily relying on dug wells.

Furthermore, the street lighting network was described as inadequate and dependent on residents' individual initiatives. This study illustrates that the initial state of informal settlement in Karangwaru has not yet enabled access to urban infrastructure, such as clean water and street lighting. The lack of lighting is considered an issue in the development of tourism areas, as it compromises their safety (Purbadi & Lake, 2019).

A study by Raharjo & Bawole (2022) states that access to urban infrastructure along the Gajahwong and Code riverbanks has greatly improved after the implementation of the M3K programme. This programme involves establishing a piping system, communal wastewater treatment plants, repairing the rainwater drainage system, setting up a hydrant network, setting up a waste collection facility, and creating new green open spaces to facilitate social interaction and support environmental quality. These improvements are the result of their residents' willingness to improve their living conditions. Community representatives proposed activities to improve their neighbourhood. Participation in community activities effectively maintains these efforts (Raharjo & Bawole, 2022).

## **Discussions**

While studies have explored the social impacts of slum upgrading programmes in Yogyakarta, there has been no comprehensive synthesis of how these factors collectively contribute to overall social sustainability in Yogyakarta's slums. We identified a concentration of research on specific social sustainability elements: social interaction, participation in community activities, sense of place, and access to urban infrastructure. However, we found a stark contrast between the two key dimensions of social sustainability. Evidence for community sustainability is strong and well-documented, characterised by social interaction in public and semi-public spaces, high participation in community activities such as gotong royong, and a strengthened sense of place driven by community-based programmes. In contrast, the evidence of equity of access is minimal. Some areas show improved infrastructure, whilst access to clean water, street lighting, and social services is reported as inadequate or unreported.

We identified a pattern across all studies that community participation in slum upgrading programmes directly improves access to infrastructure. Active community participation in programmes like M3K and local initiatives directly improves access to infrastructure tailored to local needs (Firianti, 2019; Raharjo & Bawole, 2022). These

infrastructures, in turn, became new spaces to strengthen social interaction (Hutama, 2018; Purbadi & Lake, 2019), ultimately strengthening residents' sense of place and attachment to their community and neighbourhood (Hawa et al., 2023; Nareswari & Utari, 2020). This review also identifies a lack of literature concerning three elements: access to social and recreational services, housing satisfaction, and security.

Many kampongs exhibit social cohesion, participation in communal activities, and residential stability, all strong indicators of community sustainability. However, some kampongs show that social sustainability depends on institutional support, which requires strong management capabilities alongside community participation to achieve long-term goals (Ceptureanu et al., 2018; Purbadi & Lake, 2019).

Despite its positive impacts, a study by Firianti (2019) and Purbadi & Lake (2019) shows that infrastructure inadequacy still exists in some areas. Lack of street lighting in Pakuncen induces negative behaviour such as underage drinking and dating, which is deemed as inappropriate according to local norms (Firianti, 2019). Kampong streets are often considered public spaces, so it is important to provide adequate lighting to strengthen perceived safety (Hutama, 2018; Sunjoto, 2025).

Purbadi and Lake (2019) claim that a lack of capacity building is also observed in the Karangwaru riverside area. A waste management team in Karangwaru is already established, but the lack of public awareness of its importance means it is not yet optimal. The waste management team collects waste; however, the waste is not recycled. Instead, the waste is disposed of by burning (Purbadi & Lake, 2019). This indicates that waste management in Karangwaru riverside has not yet complied with sustainability principles.

We acknowledge that this scoping review has some limitations. First, the inclusion criteria were restricted to open-access articles, potentially excluding relevant studies published in subscription-based journals. We also do not include unpublished studies, such as dissertations and government and NGO reports, due to a lack of peer review. This limitation makes it challenging to assess the credibility of the findings. The review identified a lack of robust conceptualisation of social sustainability across the included studies. This poses challenges for synthesising findings, as very few of the articles we use explicitly mention social sustainability. The absence of studies conducted across all 36 locations and of comparative studies between slum and non-slum areas also hinders us from concluding the condition of social sustainability in Yogyakarta's slum areas.

## **Conclusions**

This review identifies social sustainability in Yogyakarta's slum areas using Bramley et al. (2010)'s definition. Based on eight studies conducted in Yogyakarta's slums, we find that they focus primarily on five components: social interaction, participation in community activities, residential stability, sense of place, and access to urban infrastructure.

Social interaction occurs in public and semi-public spaces. In the Code riverbank cluster, semi-public spaces like terraces and taverns serve as important places that foster interaction among residents.

Participation in community activities is studied in Ngampilan, Pakuncen, and Suryatmatan, which is facilitated through a local initiative organisation named Forum Komunikasi Winongo Asri (FKWA). The community actively participate in planning and maintaining built infrastructure through self-help activities such as *gotong royong*, which positively impacts both environmental and social sustainability.

Residential stability is evident in the Winongo riverbank cluster, including Bumijo, Pringgokusuman, and Jogoyudan, where most residents have lived in the same area for

more than 20 years due to place attachment to the rail station as their workplace. This long-term residence is associated with a strong sense of community and place attachment.

A sense of place is evident among residents, who show pride and increased environmental awareness following community improvement initiatives such as the M3K programme. This shift in perception indicates a strengthening emotional connection to their living environment. Access to urban infrastructure has improved in several areas, particularly following the implementation of the M3K programme. However, some areas, like Karangwaru, still face challenges, particularly in access to clean water and street lighting, reflecting inadequate infrastructure that must be addressed.

Despite the progress, challenges remain. In some cases, the creation of new public spaces has inadvertently encouraged socially negative behaviours, while limited capacity-building has hindered the sustainability of slum-upgrading programmes. Low community awareness in waste management also highlights the need for stronger institutional support to maintain ideal conditions.

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### References

- Afshari, H., Agnihotri, S., Searcy, C., & Jaber, M. Y. (2022). Social sustainability indicators: A comprehensive review with application in the energy sector. *Sustainable Production and Consumption*, 31, 263–286. <https://doi.org/10.1016/j.spc.2022.02.018>.
- Bawole, P. (2019). Meningkatkan Kapabilitas Masyarakat Melalui Proses Pembangunan Infrastruktur Kampung Kota Di Yogyakarta. *MEDIA MATRASAIN*, 16(1), Article 1. <https://doi.org/10.35793/matrasain.v16i1.25284>.
- Bramley, G., Brown, C., Dempsey, N., Power, S., & Watkins, D. (2010). Social Acceptability. In *Dimensions of the Sustainable City*. Springer.
- Brundtland, G. H. (1987). *Our Common Future: Report of the World Commission on Environment and Development*. United Nations General Assembly.
- Ceptureanu, S. I., Ceptureanu, E. G., Luchian, C. E., & Luchian, I. (2018). Community Based Programs Sustainability. A Multidimensional Analysis of Sustainability Factors. *Sustainability*, 10(3), 870. <https://doi.org/10.3390/su10030870>.
- Chhetri, B. (2022). Assessing the urban sustainability of the slum settlements in the hill resorts of India: A case study of Darjeeling town. *GeoJournal*, 88(2), 1807–1828. <https://doi.org/10.1007/s10708-022-10728-y>.
- Cuthill, M. (2010). Strengthening the ‘social’ in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development*, 18(6), 362–373. <https://doi.org/10.1002/sd.397>.
- Damanik, I. I., Setiawan, B., Roychansyah, M. S., & Usman, S. (2020). Aspek Komunitas dan Institusi dalam Resiliensi Kampung Kota Yogyakarta. *RUANG: Jurnal Lingkungan Binaan (SPACE: Journal of the Built Environment)*, 7(1), 29–42. <https://doi.org/10.24843/JRS.2020.v07.i01.p04>.
- Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development*, 19(5), 289–300. <https://doi.org/10.1002/sd.417>.

- Eizenberg, E., & Jabareen, Y. (2017). Social Sustainability: A New Conceptual Framework. *Sustainability*, 9(1), Article 1. <https://doi.org/10.3390/su9010068>.
- Faizah, A. N., & Hendarto, M. (2013). Analisis Difusi Keruangan di Sekitar Kawasan Perkotaan Yogyakarta. *Diponegoro Journal of Economics*, 2, 1–9.
- Firianti, W. R. (2019). Penataan Kawasan Sungai Winongo Berbasis Partisipasi Masyarakat di Pakuncen Yogyakarta. *Jurnal Pemberdayaan Masyarakat: Media Pemikiran Dan Dakwah Pembangunan*, 3(1), Article 1. <https://doi.org/10.14421/jpm.2019.031-10>.
- Ghahramanpouri, A., Lamit, H., & Sedaghatnia, S. (2013). Urban Social Sustainability Trends in Research Literature. *Asian Social Science*, 9(4), Article 4. <https://doi.org/10.5539/ass.v9n4p185>.
- Gunardo, G. (2007). Evaluasi Program Pengentasan Kemiskinan di Kota Yogyakarta. *Geomedia: Majalah Ilmiah Dan Informasi Kegeografian*, 5(2), Article 2. <https://doi.org/10.21831/gm.v5i2.14065>.
- Guo, C., Zhou, W., Jing, C., & Zhaxi, D. (2024). Mapping and measuring urban-rural inequalities in accessibility to social infrastructures. *Geography and Sustainability*, 5(1), 41–51. Scopus. <https://doi.org/10.1016/j.geosus.2023.11.004>.
- Hasanawi, A. (2019). Improvement of Community Governance to Support Slum Upgrading Programs in Indonesia. *Indonesian Journal of Development Planning*, 3. 10.36574/jpp.v3i3.88.
- Hawa, N. I., Antriyandarti, E., Martono, D. N., & Maulana, R. A. (2023). Improvement of Environmental, Social, and Cultural Attributes in the Slum Settlements on the Riverbanks of Yogyakarta City under the Sultan's Rule. *Sustainability*, 15(11), Article 11. <https://doi.org/10.3390/su15118974>.
- Heatheron, A. T., & Walcott, V. A. (Eds.). (2009). *Handbook of social interactions in the 21st century*. Nova Science Publishers.
- Hutama, I. A. W. (2018). The Hidden Structure of Organic Informal-like Settlements in Jogjakarta City: An Investigation of Socio-Spatial Relationship in an Urban Kampung. In H. D, B. T, F. F.Z, B. E, & W. H (Eds.), In *IOP Conference Series: Earth and Environmental Science* (Vol. 158, Issue 1). Institute of Physics Publishing. <https://doi.org/10.1088/1755-1315/158/1/012003>.
- Jones, P. (2017). Formalizing the Informal: Understanding the Position of Informal Settlements and Slums in Sustainable Urbanization Policies and Strategies in Bandung, Indonesia. *Sustainability*, 9(8), 1436. <https://doi.org/10.3390/su9081436>.
- Keivani, R., & Shirazi, M. R. (Eds.). (2019). *Urban social sustainability: Theory, practice and policy*. Routledge, Taylor & Francis Group.
- Kementerian Pekerjaan Umum dan Perumahan Rakyat. (2012). *Pedoman Teknis Kegiatan Tridaya (Sosial, Ekonomi, dan Lingkungan)*.
- Kumari, A., & Singh, M. P. (2023). A journey of social sustainability in organization during MDG & SDG period: A bibliometric analysis. *Socio-Economic Planning Sciences*, 88, 101668. <https://doi.org/10.1016/j.seps.2023.101668>.
- Kumorotomo, W., Darwin, M., & Faturrochman, F. (2016). The Implementation of Slum and Squatter Improvement Programs in the River Basins of Yogyakarta. *Populasi*, 6(2). <https://doi.org/10.22146/jp.11457>.
- Lasuardi, A. L., & Muta'ali, L. (2014). Dinamika Spasial Proses Urbanisasi Perkotaan YOGYAKARTA Tahun 2000-2010. *Jurnal Bumi Indonesia*, 3(4), 228640.
- Marwasta, D., & Rahayu, T. D. K. (2020). Spatial distribution of slums and its association with disaster vulnerability in Yogyakarta City. In *E3S Web of Conferences*, 200, 03011. <https://doi.org/10.1051/e3sconf/202020003011>.
- Mehan, A., & Soflaei, F. (2017). Social sustainability in urban context: Concepts, definitions, and principles. In *Architectural Research Addressing Societal Challenges*

- Volume 1: Proceedings of the EAAE ARCC 10th International Conference (EAAE ARCC 2016), 15-18 June 2016, Lisbon, Portugal* (pp. 293–299). Chapman and Hall/CRC.
- Mohanty, M. (2020). Squatter Settlements and Slums and Sustainable Development. In W. Leal Filho, A. M. Azul, L. Brandli, P. G. Özuyar, & T. Wall (Eds.), *Sustainable Cities and Communities* (pp. 1–12). Springer International Publishing. [https://doi.org/10.1007/978-3-319-71061-7\\_49-1](https://doi.org/10.1007/978-3-319-71061-7_49-1).
- Nareswari, A., & Utari, S. A. (2020). Social Sustainability of Kampongs in the Transit-Oriented Development Area of Yogyakarta. In *IOP Conference Series: Earth and Environmental Science* (Vol. 532, Issue 1). In IOP Publishing Ltd. <https://doi.org/10.1088/1755-1315/532/1/012010>.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>.
- Presiden Republik Indonesia. (2011). *Undang-undang Republik Indonesia Nomor 1 Tahun 2011 tentang Perumahan dan Kawasan Permukiman*.
- Purbadi, Y. D., & Lake, R. C. (2019). Konsep Kampung-Wisata Sejahtera, Kreatif, Cerdas dan Lestari Berkelanjutan. *EMARA: Indonesian Journal of Architecture*, 5(1), 12–23. <https://doi.org/10.29080/eija.v5i1.641>.
- Rachmawati, R., Prakoso, E., Sadali, M. I., & Yusuf, M. G. (2018). Riparian planning in Yogyakarta City. *IOP Conference Series: Earth and Environmental Science*, 148, 012009. <https://doi.org/10.1088/1755-1315/148/1/012009>.
- Raharjo, W., & Bawole, P. (2022). Changing People's Attitude towards Urban River in Yogyakarta: The Case of Mundur-Munggah-Madhup Kali. In D. Rukmana & S. Roitman (Eds.), *Routledge handbook of urban Indonesia*. Routledge.
- Ritohardoyo, S., & Sadali, M. I. (2017). Kesesuaian Keberadaan Rumah Tidak Layak Huni (Rtlh) Terhadap Tata Ruang Wilayah Di Kota Yogyakarta. *TATALOKA*, 19(4), 291. <https://doi.org/10.14710/tataloka.19.4.291-305>.
- Sadali, M. I., Noviyanti, F., & Andika, R. (2019). Asosiasi Dan Distribusi Spasial Permukiman Kumuh Di Kota Yogyakarta. *Media Komunikasi Geografi*, 20(2), 173. <https://doi.org/10.23887/mkg.v20i2.21102>.
- Sav, A., Salehi, A., Mair, F. S., & McMillan, S. S. (2017). Measuring the burden of treatment for chronic disease: Implications of a scoping review of the literature. *BMC Medical Research Methodology*, 17(1), 140. <https://doi.org/10.1186/s12874-017-0411-8>.
- Schroeder, P., Anggraeni, K., & Weber, U. (2019). The Relevance of Circular Economy Practices to the Sustainable Development Goals. *Journal of Industrial Ecology*, 23(1), 77–95. <https://doi.org/10.1111/jiec.12732>.
- Setiawan, B. (1998). *Local dynamics in informal settlement development: A case study of Yogyakarta, Indonesia*, University of British Columbia. <https://doi.org/10.14288/1.0099379>.
- Shirazi, M. R., & Keivani, R. (2019). The triad of social sustainability: Defining and measuring social sustainability of urban neighbourhoods. *Urban Research & Practice*, 12(4), 448–471. <https://doi.org/10.1080/17535069.2018.1469039>.
- Spangenberg, J. H., & Omann, I. (2006). Assessing social sustainability: Social sustainability and its multicriteria assessment in a sustainability scenario for Germany. *International Journal of Innovation and Sustainable Development*, 1(4), 318. <https://doi.org/10.1504/IJISD.2006.013734>.
- Sunjoto, M. (2025). Illuminating Urban Kampung in Indonesia. *KnE Social Sciences*, 10(1), 186–192. <https://doi.org/10.18502/kss.v10i1.17868>.

- Trindade, T. C. G., MacLean, H. L., & Posen, I. D. (2021). Slum infrastructure: Quantitative measures and scenarios for universal access to basic services in 2030. *Cities*, *110*, 103050. <https://doi.org/10.1016/j.cities.2020.103050>.
- Vallance, S., Perkins, H. C., & Dixon, J. E. (2011). What is social sustainability? A clarification of concepts. *Geoforum*, *42*(3), 342–348. <https://doi.org/10.1016/j.geoforum.2011.01.002>.
- Williams, K., Dair, C., & Lindsay, M. (2010). Neighbourhood Design and Sustainable Lifestyles. In M. Jenks & C. Jones (Eds.), *Dimensions of the sustainable city*. Springer.