
EXPLORING THE CONCEPT OF SOCIAL SUSTAINABILITY IN TRADITIONAL JAVANESE SETTLEMENTS IN SELOPAMIORO VILLAGE, BANTUL, YOGYAKARTA

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ABSTRACT

This study examines the social sustainability of traditional Javanese settlements in Selopamioro Village, Bantul, which maintains its architecture, culture, and natural environment amidst urbanization in Yogyakarta, using descriptive qualitative methods with field observations, in-depth interviews with residents, traditional leaders, and village officials, and secondary document analysis. The results of the study indicate that social sustainability is based on the philosophy of *Hamemayu Hayuning Bawana* (maintaining human-nature harmony) which is manifested through: (1) minimal high fences (80% of houses) which reflect security based on social capital and communal interaction; (2) *pendopo* as an inclusive space for access to public services, deliberation, and the economy; and (3) adaptability based on local wisdom, such as conserving teak trees as wedding dowries and building materials. The original contribution of the study lies in the social architecture model that integrates physical design (semi-public space) with community cohesion, as well as the reinterpretation of Javanese philosophy as an operational framework for climate adaptation. These findings offer practical implications for inclusive tourism village planning, culture-based conservation policies (e.g. integration into Village SDGs), and architectural education that emphasizes the principle of "security without fences" to reduce the individualism of modern settlements. Thus, this study confirms that local wisdom is not just a heritage, but a concrete solution to global sustainability challenges.

KEYWORDS: Javanese House, social sustainability, traditional house vernacular architecture

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Penelitian ini mengkaji keberlanjutan sosial permukiman tradisional Jawa di Desa Selopamioro, Bantul, yang mempertahankan arsitektur, budaya, dan lingkungan alamnya di tengah aruh urbanisasi Yogyakarta dengan menggunakan metode kualitatif deskriptif melalui observasi lapangan, wawancara mendalam terhadap warga, tokoh adat, dan perangkat desa, serta analisis dokumen sekunder. Hasil penelitian menunjukkan bahwa keberlanjutan sosial bertumpu pada filosofi Hamemayu Hayuning Bawana (menjaga harmoni manusia-alam) yang diwujudkan melalui: (1) pagar tinggi minimal (80% dari rumah) yang mencerminkan keamanan berbasis modal sosial dan interaksi komunal; (2) pendopo sebagai ruang inklusif untuk akses layanan publik, musyawarah, dan ekonomi; serta (3) adaptabilitas berbasis kearifan lokal, seperti konservasi pohon jati sebagai mahar perkawinan dan material bangunan. Kontribusi utama dari penelitian terletak pada model arsitektur sosial yang mengintegrasikan desain fisik (ruang semi-publik) dengan kohesi komunitas, serta reinterpretasi filosofi Jawa sebagai kerangka operasional adaptasi iklim. Temuan ini menawarkan implikasi praktis bagi perencanaan desa wisata inklusif, kebijakan konservasi berbasis budaya (misal integrasi ke SDGs Desa), dan pendidikan arsitektur yang mengedepankan prinsip "keamanan tanpa pagar" untuk mengurangi individualisme permukiman modern. Dengan demikian, penelitian ini menegaskan bahwa kearifan lokal bukan sekadar warisan, tetapi solusi konkret bagi tantangan keberlanjutan global.

KATA KUNCI: Rumah Jawa, keberlanjutan sosial, rumah tradisional, arsitektur vernakular

INTRODUCTION

Indonesia, with its rich culture and local wisdom, provides a unique response in environmental management. Indigenous communities integrate geographical, political, historical, and situational contexts into creative solutions to manage natural resources (Kartawinata, 2011). Indigenous communities, in particular, demonstrate strong motivation and incentives to protect ecosystems through social cohesion and traditional practices (Mawardi, 2012). However, traditional Javanese settlements such as Selopamioro Village face pressures from urbanization, climate change, and environmental degradation.

Selopamioro Village in Bantul, Indonesia, was chosen as a unique case study for several reasons:

- Cultural and Environmental Significance:
 - ❖ Designated as a National Village and Cultural Village, Selopamioro maintains Javanese customs and traditional settlement patterns. Its local wisdom is reflected in the Santri Forest Program, a community-based forest rehabilitation initiative that combines ecological and cultural values.
 - ❖ Previous studies have examined the environmental conservation strategies of Islamic boarding schools (Nahdi, 2009), participatory tourism models (Mashruhan, 2016), and forest management (Sudrajat, 2011). However, none have examined social sustainability within the framework of sustainable architecture, creating a research gap.
- Vulnerability and Resilience:

The village faces dual pressures from climate change (soil erosion, flooding) and urban expansion. Its lowland topography and dependence on agriculture increase its vulnerability to environmental shocks, making it an ideal example for the study of adaptive resilience of traditional settlements.
- Unique Socio-Architectural Context:

The traditional Javanese settlement of Selopamioro emphasizes communal living, spatial equity, and harmony with nature—principles that are in line with social sustainability. Architectural features such as shared courtyards, vernacular materials, and zoning of sacred spaces reflect adaptability and collective identity.
- Policy Relevance:

As Indonesia prioritizes climate-resilient development, the Selopamioro grassroots initiative provides insights for integrating local wisdom into the national policy framework.

With a focus on Selopamioro, this research bridges cultural heritage, climate adaptation, and

social justice, while also serving as a model for sustainable development for similar contexts.

Although Selopamioro Village has been the subject of several previous studies, there is an academic gap that underlies the importance of this study:

- Lack of Focus on Social Sustainability in Sustainable Architecture:

Previous studies in Selopamioro, such as the *pesantren* environmental conservation strategy (Nahdi, 2009), community-based forest management (Sudrajat, 2011), and participatory tourism (Mashruhan, 2016), have emphasized ecological and economic aspects. However, there has been no research that specifically examines social sustainability in the context of traditional Javanese architecture, especially in facing the pressures of climate change. In fact, the social dimension is a key pillar in integrated sustainable development (Handoko & Subroto, 2022).

- Lack of Structured Social Variable Analysis:

Previous studies have not linked local wisdom practices to measurable social sustainability variables, such as security, equity, adaptability, social inclusion, and quality of life (Ly & Cope, 2023). For example, although the Santri Forest Program has been successful in rehabilitating forests, its impact on community cohesion or equity of resource access has not been explored.

- Disconnection from Contemporary Policy:

Research on Selopamioro has not explicitly linked local wisdom to national or global policy frameworks related to climate change, such as the Sustainable Development Goals (SDGs) or Indonesia's Nationally Determined Contributions (NDC) document. In fact, integrating local practices into formal policies is crucial for replicating sustainability models in other regions.

- Architectural Context Abstraction:

Although the traditional Javanese settlement in Selopamioro has unique architectural characters, there has been no in-depth analysis of how physical elements (e.g. spatial planning, materials, sacred zoning) interact with social dynamics to create climate resilience. Studies on sustainable architecture in rural Indonesia are still dominated by technical approaches, while aspects of community participation and cultural values are often neglected.

This research investigates how the concepts and practices of social sustainability are realized in the traditional Javanese settlement of Selopamioro Village and identifies the architectural factors that influence social sustainability within this context.

This research aims to analyze the social sustainability framework in the Selopamioro traditional settlement and to identify architectural elements that contribute to social sustainability, focusing on five variables: security/protection, equity,

adaptability, inclusion/social cohesion, and quality of life (Ly & Cope, 2023).

Literature review

Climate change has become a serious threat to global environmental, social, and economic sustainability. Human activities have been identified as the main drivers of this crisis (Hardy, 2003). Communities in densely populated, low-income, and low-lying areas in Africa, Asia, and tropical islands are particularly vulnerable due to limited adaptive capacity (Mann, 2023). To address climate challenges, sustainable settlement development has emerged based on three dimensions: environmental-technological, economic, and social sustainability (Handoko & Subroto, 2022). Social sustainability is crucial because it offers a pathway to inclusive and equitable climate resilience.

Social Sustainability



Figure 1. Conceptual model of social sustainability
(Source : Ly & Cope, 2023)

As part of the pillars of sustainable development, social sustainability is a process that seeks effective management and allocation of social capital as a constitutive resource, and confrontation with controllable and uncontrollable risks such as natural disasters and climate change (Ly & Cope, 2023). Social sustainability is shaped in such a way that nature and its reproductive capacity are maintained over a long period of time so that the normative demands of social justice, human dignity and participation are met (Littig & Griessler, 2005).

An important element in social sustainability is social capital. Social capital is a collective resource “that resides in the social structure of human relationships” in a particular society and is the most direct form of support and empathy-driven behavior by the solidarity of a particular society (Bourdieu, 1986). There are 3 forms of social capital, namely 1) trust and reciprocity within the group, 2) information channels, 3) effective normative rules. (Isham & Kahkonen, 1999). The concept of social capital has

enormous potential to facilitate a sense of social sustainability and intensify the importance of humanity and the benefits of cooperation and collective action (Ly & Cope, 2023).

There are 5 key dimensions in social sustainability, namely 1) Safety and security, 2) Equity or justice, 3) Adaptability, 4) Inclusion and social cohesion, and 5) quality of life (Ly & Cope, 2023). In order for a society to be sustainable, aspects of security, equality, and social inclusion are not the only elements that must be considered, but adaptation and adaptability to external changes in the community environment are also important to strive for as in Figure 1.

Five dimensions of social sustainability according to (Ly & Cope, 2023) can be explained as follows:

- **Sense of safety and security**

The fundamental basis for social sustainability is the right to be protected, to have security and to feel safe. A sense of security and safety can be created by the role of social capital in a society. The perception of security can be measured from the feeling when walking alone in the dark, feeling safe from crime, feeling safe from disturbances by children and adolescents. One of the architectural elements that functions to create a sense of security is a fence, on the other hand the existence of a high fence indicates a feeling of insecurity towards the environment, while the absence of a fence indicates a feeling of security towards the environment (Siregar, Tanaka, & Marthin, 2021). Thus, in this study, the sense of security is measured by the presence or absence of a fence in a residential home.

- **Equity or justice**

Injustice is the root of instability. Justice here can be divided into 3 dimensions, namely accessibility, justice policy, and intergenerational justice. Accessibility is the first benchmark in measuring the level of equity. This accessibility includes accessibility to the built environment and intangible opportunities in mastering and accessing social capital such as economic access, legal access, educational access and participation access. Justice policies are needed to pay attention to the principles, rules, and social, economic and environmental impacts on different, vulnerable and marginalized social groups. Intergenerational justice can be interpreted as justice in the allocation of resources between the current generation and future generations. Measuring justice can be done by measuring the accessibility of several community groups to the natural resources where they live. Thus, equity can be measured by the existence of public facilities that can be accessed by all levels of society.

- **Adaptability**

Adaptability is the resilience of individuals and communities and the ability to respond and change appropriately and creatively. This adaptability is the

process of building on what already exists and learning from it and building experiences both from within and outside the community. One of the qualities of adaptation is the capacity for learning and independence in organizing. Adaptation can also be understood as the utilization and application of innovation in moving towards social sustainability. Measuring this resilience or adaptation can be done with 2 sides, namely subjective resilience in the form of community perceptions of their ability to face and prepare themselves for risks, and objective resilience in the form of changes in community capacity over time to respond to change, develop innovations for their own future, and develop and implement community-centered plans. Therefore, adaptability can be measured by the existence of innovations by the community in architecture by utilizing the resources around it.

- Inclusion and social cohesion

To create justice is to ensure the improvement of the lives of marginalized communities, one of which is by having a balance that creates social cohesion and inclusion by increasing public participation and involvement. Some of the ways to do this include increasing social trust, strengthening the image of the community both in the physical environment and the collective values of the community, strengthening communities and sustainable communities by encouraging connectivity by providing processes, systems and structures not only within, but also outside the community at the informal, formal and institutional levels. The level of inclusion and social cohesion can be measured, among others, from the level of community participation in communal activities, and collective networks in the community and the level of integration and involvement of various groups in the institutional community organization, the extent to which the community decision-making process involves diverse perspectives and reflects cultural differences. From an architectural perspective, inclusion and social cohesion can be seen from the use of public and semi-public spaces that increase public participation.

- Quality of life

Quality of life here is not limited in terms of economy, but also in the dimension of social welfare so it must also be seen in terms of family, health, education and social relationships and also the level of happiness including mental happiness, lack of stress, self-confidence and social status. Binding social capital through self-help and informal assistance and social circles can help create a safe place, physically and mentally. From an architectural perspective, quality of life can be reflected in the use of public and semi-public spaces that can be used by the community to improve economic levels, social welfare, health education and social relationships.

The five social continuities proposed by Ly & Cope (2023) are important to study as benchmarks for social sustainability, especially in terms of physical architecture that forms patterns of activity and interaction in a community.

Recent studies have focused more on community-based climate adaptation (Mann, 2023) and SDGs integration (Cayarini et al., 2022), but have not specifically linked the social dimension to architectural elements. For example, Cayarini et al. (2022) assessed the sustainability of traditional Osing villages using SDGs, but did not touch on public space or physical structure as variables. Recent studies also still show research gaps, namely:

- There is a lack of studies measuring the five dimensions of Ly & Cope (2023) in the context of traditional architecture.
- The dominance of ecological and economic approaches in research on the sustainability of traditional settlements (Nurlaelih et al., 2005), while socio-architectural aspects such as spatial planning and public participation are less explored.

Local Wisdom in Traditional Settlements

The local wisdom carried by many traditional settlements in Indonesia is an example of social sustainability that has been carried out as a hereditary tradition. Research on social sustainability in traditional settlements has been carried out, among others, on environmental conservation based on local wisdom in the Baduy community (Suparmini, Setyawati, & Sumunar, 2013). Meanwhile, other research on traditional villages in Kampung Galudra, Kampung Burakeng, Kampung Cibakung Kulon in Cianjur, West Java shows the level of sustainability of the three locations at a good start towards sustainability where the central area shows the highest value especially in the ecological and spiritual aspects while the social and spiritual character of the community shows a fairly strong Sundanese-Islamic cultural pattern which is assessed using the Community Sustainability Assessment (PKM) or Community Sustainability Assessment (CSA) issued by the Global Ecovillage Network (GEN) (Nurlaelih, Arifin, & Arifin, 2005). Another study on the socio-economic sustainability of the traditional Osing village in Kemiren Banyuwangi has been conducted in relation to the New Normal era based on the SDGs criteria showing that the community has shown signs of sustainability (Cayarini, Giriwati, Azis, & Kusdiwanggo, 2022).

Deepening the concepts of social sustainability in a traditional settlement is important to study because the erosion of modernization has the potential to eliminate valuable lessons for sustainability. Research on sustainable architecture, especially in traditional

settlements with the theme of social sustainability, has not been widely conducted, so it is important to conduct such research.

Javanese Architecture

Javanese architecture in the *Serat Balewarna* written by Mas Sasrasudirja written in 1926 is divided into 2 categories, namely Javanese architecture in urban areas and Javanese architecture in rural areas. Javanese architecture in urban areas in Mas Sasrasudirja's view is ideal Javanese architecture with a rational-universal character that refers to durability, maintenance, health insurance, and the beauty of the arrangement that refers to Dutch and foreign houses, while Javanese architecture in rural areas is considered irrational because it relies on the compatibility of "petungan" which is usually practiced by Javanese people so that Javanese houses in rural areas are short and ugly according to him. The writings in the *Serat Balewarna* show that there has been a thought to discard Javanese knowledge and replace it with universal rational knowledge taken from the West (Priyotomo, 2004).

In fact, Javanese people in rural areas actually have a unique socio-cultural life, including upholding togetherness, one of which is the *sambatan* tradition, namely the tradition of helping neighbors build houses, liking partnerships, prioritizing politeness, being experts in terms of seasons, having religious considerations, high tolerance, respecting leaders, living in resignation, loving art and being close to nature (Purwadi, 2010).

Javanese society has a philosophical concept, namely *Hamemayu Hayuning Bawana*, which is a form of the noble ideals of Javanese society based on culture. This philosophy can be interpreted that to achieve an atmosphere of peace or a life of society that is disciplined in acting must be reflected in a peaceful and serene life in relation to the relationship with God, humans and nature (Ainia, 2021). The concept of *Hamemayu Hayuning Bawana* is a broad concept that can be described in seven aspects, namely water, forest, ocean, air, land, culture and humans that demand harmony, balance and alignment (Nugroho & Elviandri, 2018).

Traditional Javanese houses always pay attention to and respect the potential of the surrounding area which has a character that is more like a "place" where space is greatly influenced by the dimensions of time and ritual (Kartono, 2005). Traditional Javanese settlements have a very complex basis for consideration, including aspects of Javanese cultural beliefs, social conditions, aspects of continuity-harmony with nature, aspects of protection schemes and not just functional considerations and individual interests alone (Santosa, 2016). Traditional Javanese settlements also have the principle of preservation in

maintaining the potential of nature and buildings to balance the relationship between the microcosm and macrocosm so that there is no "nature's anger" (Rejeki, 2006). Settlements for Javanese society have several dimensions, namely dimensions as expressions of 1) residence, 2) status symbol, 3) position, existence or location, 4) socio-cultural status relationships (Rejeki, 2006).

The pattern of traditional Javanese activities and spaces, especially those located on mountain slopes, has 3 main components, namely the configuration of the center of the mountain area, the orientation of concentric houses and Islamic and Javanese ritual activities at that location. Various rituals held in traditional villages also shape the spatial character of the village, such as the traditions of *suronan*, *saparan*, and *resik desa* (Refranisa, 2019).

In the current era, it is certainly a common phenomenon that there are differences between Javanese people in urban areas and Javanese people in rural areas in building their houses as written in *Serat Balewarna* so that there is an extermination of Javanese architecture. Of course, this extermination can be avoided by re-placing Javanese architecture in the present by exploring the values of local wisdom.

Santosa's (2016) and Rejeki's (2006) studies still predominantly discuss philosophical and ecological aspects, while analysis of the relationship between physical structures and social variables (e.g. adaptability through material innovation) does not yet exist. The study shows that there are still research gaps, namely:

- There is no conceptual model that links Javanese philosophy (e.g. *sambatan*) with social dimensions such as inclusion or quality of life.
- There is a lack of studies on how modernization affects the adaptability of traditional architecture (e.g. use of local vs. modern materials).

METHODS

This study uses a descriptive qualitative method to describe the concept of social sustainability and the architectural factors that influence it in the traditional settlement of Selopamioro Village, referring to the five social sustainability variables of Ly & Cope (2023): sense of security, justice, adaptability, social inclusion, and quality of life. Data collection was carried out through field observations in the residential area, Pesantren Trend Ilmu Giri, and Hutan Santri to map house plans and socio-ecological interactions. In-depth interviews were conducted with the Village Head, five people of various ages and professions, and the Head of the Pesantren, with structured questions based on research variables, such as "Does the house fence reflect a sense of security?" or "What are the architectural innovations to deal with climate

change?" Secondary data include village maps, photos of traditional activities, and archives of the Hutan Santri Program, collected in December 2023.

Data analysis followed three stages of Miles & Huberman (1994). First, data reduction by grouping interview transcripts, observation notes, and documents into five variables. For example, statements about "low fences" are categorized as a sense of security, while participation in sambatan falls into social inclusion. Second, data presentation in the form of a comparative matrix of field findings and theory. For example, 80% of houses without high fences according to the theory of Ly & Cope (2023) which states that high fences reflect insecurity. Third, verification through triangulation of sources (comparing the perceptions of the community, village heads, and leaders of Islamic boarding schools) and methods (confirmation of interviews with physical observations). Each variable is measured operationally:

- A sense of safety and security, seen from the presence or absence of a fence because the presence of a fence can be interpreted psychologically as reflecting the insecurity of an environment.
- Equity or justice, seen from the existence of public facilities that can be accessed by all levels of society.
- Adaptability, seen from the existence of innovation by the community in architecture by utilizing the resources around them.
- Inclusion and social cohesion, seen from the existence of public and semi-public spaces used by various levels of society in a variety of traditional, social and cultural activities.
- Quality of life, seen from the use of public and semi-public spaces that can be used by the community to improve economic levels, social welfare, health education and social relations.

Limitations of the study include the short duration of data collection (December 2023) and limited generalizability, but the depth of context is a major strength of this qualitative study. This study contributes methodologically by combining ethnographic approaches and spatial analysis to reveal the multidimensional relationship between traditional architecture and social sustainability.

RESULTS AND DISCUSSION

Social and Cultural Uniqueness of Selopamioro Village

Selopamioro Village, which consists of 18 hamlets, has its own uniqueness compared to other villages in Yogyakarta. These uniquenesses include the traditional ceremonies such as: 1) *Jodhangan* (figure 1), which is a traditional ceremony of *merti dusun* as a

manifestation of gratitude, usually using *jodhang* as a symbol of the event and also an art performance, which is held after the harvest season once a year on Sunday *Pahing*, 2) *Wiwitan* and *Gumbregan* as a form of gratitude for the rice harvest, 3) *Kenduri Suran* every 10th day of the month of *Muharram*, 4) *Kenduri Muludan* every 12th day of the month of *Rabiul Awwal*, 5) *Kenduri Ruwahan* every 15th day of the month of *Ruwah*, 6) *Kenduri selikuran* every 21st day of the month of *Ramadhan*.



Figure 2. Jodhangan Tradition
(Source: Syarifudin, 2019)

In addition, life cycle ceremonies are still held in each hamlet such as: 1) *Mitoni*, as a form of gratitude and prayer for pregnant women which is held in the seventh month of pregnancy, 2) *Brokohan*, *Bancakan*, *Mendhem ari-ari*, *Puputan*, *Tedhak siten*, *Nyapih*, *Tetesan*, *Khitanan* as a form of gratitude and prayer for babies and children, 3) Javanese traditional wedding ceremonies, 4) Traditions after death (*Ngrukti Laya*, *ngesur tanah* ceremony, *tlusupan/brobosan* ceremony, seven-day *Slametan*, 40-day *Slametan*, 100-day *Slametan*, 1-year *Slametan*, 2-year *Slametan*, 1000-day *Slametan*) as a form of prayer and respect for residents who have died.

Various traditional arts are still performed today, including *gejog lesung*, *jathilan*, *wayang*, *kethoprak*, *macapat*, *bregada tani*, *sendratari*, and others. The children of Selopamioro Village still play various traditional games, including *benthik*, *gobag sodor*, *ingklung*, *dakon*, *egrang*, and *Jamuran*. These cultural activities are inseparable from the arts organizations in each hamlet. In addition to performing arts, there are also several wooden horse statue craft industries, *Jumputan Selokaton batik*, furniture and painting.

Cultural heritage sites located in Selopamioro Village are *Petilasan Roro Mendut*, *Petilasan Walisongo*, *Gua Cerme*, Tomb of Kyai Wonodoyo, *Petilasan Sendang* and *Wonosari*. Folk stories related to these sites are still known by the community to this day. Accompanied by various other natural potentials, it is no wonder that Selopamioro Village has transformed into a tourist village managed by the local community.

Social Capital of Selopamioro Village

The concept of social sustainability in traditional Javanese settlements in Selopamioro Village is based on the social capital of community groups that are able to mobilize their communities. Social capital that supports social sustainability in traditional Javanese settlements in Selopamioro Village is the existence of the Selopamioro Cultural Village Management, the Nationality Village Management / *Pesan Trend Budaya* Ilmu Giri, the Tourism Awareness Group (*Pokdarwis*), and traditional arts groups in each hamlet in Selopamioro. One of the strong social capitals in Selopamioro Village is spiritual norms, which are based on Islamic teachings and Javanese culture that form an eco-religious concept that applies the principle of "*Hamengku Bumi*" which is the principle of human obligation to protect, care for and preserve the environment (Sudrajat, 2011). The cultural values of the Selopamioro community are one of the social capitals that give rise to the identity, characteristics, and uniqueness of Selopamioro Village. Social capital that functions as a channel for community information is shown by the functioning of the Kethoprak Group which performs arts as well as educating the community about various things from culture to agriculture.

Strong trust and reciprocity among the people of Selopamioro Village also become strong social capital so that various preservation of rituals, culture and preservation of nature and the environment can survive. As stated by Gus Nas, the caretaker of the Kebangsaan Ilmu Giri Village, that the trust and reciprocity of the Selopamioro community is like the relationship between students and kyai, so that when needed, it is enough to hit the gong, then the entire community will gather at the activity location. The active role of the community with motivational encouragement from the kyai shows their success in channeling water from Kedungjati Hamlet to Nogosari Hamlet and then conserving the forest in Nogosari Hamlet and Kajor Kulon Hamlet. Social capital in Selopamioro Village can mobilize the community in the sambatan tradition in building houses, for example, the community's mutual cooperation activity in rebuilding residents' houses that were severely damaged by the tornado disaster in 2022.

Architectural Factors of Traditional Javanese Settlements in the Formation of Social Sustainability

Selopamioro Village has 25 Joglo houses and 250 limasan houses spread across each hamlet. Some of them are used for traditional activities, including the *Pendopo Kalurahan* (figure 3), Kalidadap 1 hamlet hall, Kalidadap 2 hamlet hall, Kajor Kulon hamlet hall. Other rituals are held in the Selopamioro field, the Siluk three-way intersection, and in the Kebangsaan Ilmu Giri Village area. Several new pendopos with Javanese

architecture were built, including the *Pendopo Poghe* Homestay (figure 4), and the Siluk 2 hamlet hall. Private houses owned by residents still maintain Javanese architecture with the main construction of wood or those that have been modified with the addition of brick walls as in figures 5 and 6. The spatial and building patterns of several houses in Selopamioro still show traditional Javanese architecture that has an orientation towards the south as in figures 7 and 8.



Figure 3. Selopamioro Village Hall
(Source: selopamioro.bantulkab.go.id, 2020)



Figure 4. Poghe Homestay Hall
(Source: selopamioro.bantulkab.go.id, 2020)



Figure 5. Hall in West Kajor
(Source: Author's document, 2023)



Figure 6. Joglo owned by Selopamioro residents
(Source: Author's document, 2023)



Figure 7. Configuration of Javanese houses in Kalidadap Hamlet, Selopamioro
(Source: Google maps, 2023)



Figure 8. Configuration of Javanese houses in Srunggo Hamlet, Selopamioro
(Source: Google maps, 2023)

Social sustainability in traditional Javanese settlements in Selopamioro Village can be described in 5 dimensions (Ly & Cope, 2023) that is:

- **Sense of safety and security**



Figure 9. House configuration in Srunggo hamlet, Selopamioro
(Source: Google maps, 2023)

To create a sense of security and safety in the Javanese settlement in Selopamioro using the concept

of Javanese house protection. To create security not all houses use fences but use a house configuration based on kinship by prioritizing social interaction as in figures 9 and 10. With the absence of fences between houses, social interaction is created which becomes social capital that can function to create a sense of security and safety. As stated by Gus Nas, the caretaker of Kebangsaan Ilmu Giri Village, that residents are not worried about losing items that are simply placed outside the house without supervision.



Figure 10. Home territory in Srunggo hamlet, Selopamioro
(Source: Author's document, 2023)

- **Equity or Justice**



Figure 11. Traditional House Hall in Kajor Kulon Hamlet
(Source: Author's document, 2023)



Figure 12. Socialization at the Pendopo of Selopamioro Village Hall
(Source: selopamioro.bantulkab.go.id)

Pendopo in the Selopamioro community has a strategic role in creating equity in the form of wide accessibility for all levels of society. There is a private

pendopo that is used for social and cultural interactions as seen in Figure 11, *Pendopo* is also used as a place for the community to access information and public services as in Figure 12, *Pendopo* also functions as a socio-educational infrastructure as in Figure 13, and *Pendopo* is also used as a place to hold cultural events as in Figure 14.



Figure 13. A public hall used as a Qur'an reading hall
(Source: Author's document, 2023)



Figure 14. Cultural activities at the village hall
(Source: selopamioro.bantulkab.go.id)

- **Adaptability**



Figure 15. Wooden Joglo in Selopamioro
(Source: Author's document, 2023)

The adaptability of the Selopamioro Village community in maintaining traditional Javanese settlements is one of them by preserving the forest as

a resource to meet needs. Planting teak trees (*Tectona grandis*) by the community and conservation of *santri* forests are used by the community as their traditional building materials and for daily needs that still maintain cooking using firewood. 40 Teak wood seeds are used as a dowry in marriage in Selopamioro to preserve nature as well as a means of saving for the future of the family. As seen in Figures 15 and 16, traditional Javanese houses made of wood are still maintained by planting teak trees around the house.



Figure 16. Limasan made of wood in Kajor Kulon, Selopamioro
(Source: Author's document, 2023)

- **Inclusion and Social Cohesion**



Figure 17. Satellite image of Selopamioro Field and Selopamioro Village Hall
(Source: Google maps, 2023)



Figure 18. Traditional ceremony at Selopamioro field
(Source: selopamioro.bantulkab.go.id)

Inclusion and social cohesion in the Selopamioro community are also created from the built

environment in the form of pavilions used for traditional activities, including the *Kalurahan Pendopo* (figure 3), Kalidadap 1 hamlet hall, Kalidadap 2 hamlet hall, Kajor Kulon hamlet hall and open spaces in the form of fields and intersections, namely in the Selopamioro field (figures 17 and 18), the Siluk three-way intersection, and in the Kebangsaan Ilmu Giri Village area which is shaded by shady trees (figures 19 and 20). Social cohesion does not only arise from ritual and cultural activities that are accommodated in public spaces such as pendopos and fields but also because of social interactions between neighbors that are accommodated in the pendopos and wide house terraces as in figures 21 and 22.



Figure 19. Satellite image of the National Science Giri Village, Nogosari Hamlet
(Source: Google maps, 2023)



Figure 20. Traditional arts and cultural activities in Ilmu Giri National Village, Dukuh Nogosari
(Source: selopamioro.bantulkab.go.id)



Figure 21. Social activities at the Village Hall
(Source: selopamioro.bantulkab.go.id)



Figure 22. Cultural activities at the pendopo Sanggar Ismoyo Siluk
(Source: selopamioro.bantulkab.go.id)

• Quality of Life



Figure 23. Hall for learning activities in Dukuh Nawungan
(Source: Author's document, 2023)

The influence of traditional Javanese settlement layout on the quality of life of the community in Selopamioro Village can be seen in several aspects in terms of economy, so the use of the pendopo as an area for art activities can increase tourist attractions as in Figure 22. The use of the pendopo can also function as an educational infrastructure as in Figure 23. The front yard of the hamlet hall can be used for drying rice to support the economic activities of the community as in Figure 24.



Figure 24. Utilization of the field in front of the Dukuh Hall to dry rice
(Source: Author's document, 2023)



Figure 25. Satellite image of Selopamioro Village
(Source: Google maps, 2023)

Satellite imagery of Selopamioro Village shows that the forest in Selopamioro is still preserved, which has an area of 261 Ha. The people's forest is known as the Santri Forest, which was initiated by *Pesantren Ilmu Giri* as an effort to conserve nature based on religion and culture in Nogosari Hamlet. The conservation effort succeeded in maintaining the sustainability of the forest on Dermo Hill, and was followed by other hamlets.

Table 1. Architectural phenomena and social sustainability of Selopamioro Village

Social Sustainability Aspects	Architectural Phenomenon Selopamioro Village
Sense of safety and security	In this environment most people do not use fences.
Equity or justice	Public spaces in the form of pavilions used by the community to gain access to information and public services. There are at least 18 hamlet halls, 25 pavilions used by the community.
Adaptability	Utilization of teak wood planted in the yard as house material. There is still a tradition of using 40 teak tree seedlings as a wedding dowry.(Nahdi, 2009)
Inclusion and Social Cohesion	There are public spaces in the form of village fields and courtyards of each hamlet's pavilion which are used by the community to carry out various traditional ceremonies and social activities.
Quality of life	economic, social and health activities such as integrated health posts for toddlers and the elderly in hamlet halls community learning activities by utilizing the pendopo Environmental conservation with the existence of the Santri Forest Cultural ritual events such as the Jodhangan hamlet celebration, life cycle related rituals, and religious rituals based on Javanese traditions are still held. Cheap market before the holidays The development of natural tourism managed by village communities

Sense of Safety and Security

A sense of security is a key aspect of social sustainability in the traditional Javanese settlement of Selopamioro Village. The absence of high fences in 80% of the houses reflects a high level of social trust,

where interactions between residents and the communal patrol system replace physical security structures (Santosa, 2016). As expressed by a traditional figure:

"The fence is just a symbol, what protects us is togetherness. Whoever tries to disturb us, the whole hamlet will take action." (Gus Nas, Traditional Figure).

Table 2. Contrast of Sense of Security: Traditional vs. Modern

Aspect	Selopamioro (Traditional)	Modern Settlement
Fence	Low/none (80%)	High (90%)
Security System	Patrol/communal, social trust	Technology, privatization
Social Interaction	Intense (daily)	Minimal (isolated)

The clustered settlement pattern with house orientation facing the main road also creates natural surveillance, in accordance with the principle of "protection through community" in Javanese architecture (Santosa, 2016). This is in contrast to modern settlements that rely on high fences, CCTV, and security guards as a form of individualized security (Ly & Cope, 2023).

Equity or Justice

Equity is realized through semi-public spaces such as the pendopo and front yard that are accessible to all levels of society. Traditional Javanese architecture hierarchically designs these semi-public spaces for communal activities, such as village deliberations or traditional markets. The Village Head explains:

"The Pendopo does not belong to the government, but to the residents. Here, all voices are heard, from young people to elders." (Head of Selopamioro Village).



Figure 26. Accessibility of Communal Facilities
(Source: Author's document, 2023)

This concept is different from modern houses that emphasize privacy, eliminating the transition space between private and public. Ly & Cope's study (2023) shows that semi-public spaces such as terraces can increase access equity by up to 40%, which is in line with findings in Selopamioro where 78% of residents feel that public facilities are easy to reach as in figure 26.

Adaptability

The adaptability of the community is reflected in the practice of teak tree conservation. Each family plants 40 teak seedlings as a wedding gift, which will later be used for home renovation or sold as economic capital. A wood craftsman explained:

"This teak is my life savings. If my children get married, this tree will be their new home." (Mbak Siti, Craftsman).

This wisdom not only ensures the sustainability of building materials, but also anticipates demographic and economic changes. This practice is in line with Ly & Cope's (2023) concept of adaptive resilience, but is unique because it is bound by cultural norms, not just technical strategies.

Table 3. Function of Teak Trees in Adaptability

Function	Contribution
Economy	Source of income (timber, crafts)
Ecology	Soil conservation, erosion prevention
Social	Symbol of family heritage

Inclusion and Social Cohesion

Public spaces such as fields and pendopo become a vehicle for inclusion through *sambatan* (mutual cooperation) activities, village merti rituals, and *pengajian* (Islamic study groups). The participation of 85% of residents in these activities shows strong social cohesion. A mother stated:

"Here, there is no such thing as an 'outsider'. When it comes to sambatan, everyone works together, both young and old." (Mrs. Tari, PKK Member).

This concept reinforces Ly & Cope's (2023) theory of public space as a catalyst for cohesion, but adds cultural dimensions such as rituals that deepen collective identity. Unlike cities that rely on digital media for inclusion, Selopamioro maintains face-to-face interaction as the core of engagement as shown in figure 27.

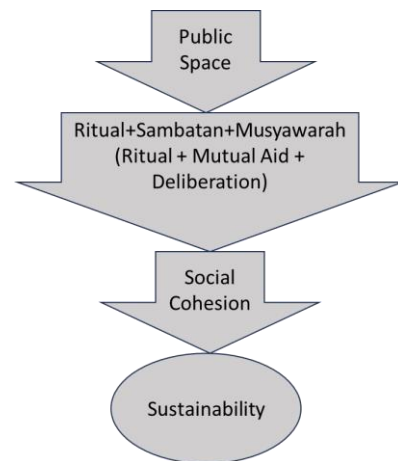


Figure 27. Social Cohesion Cycle through Public Space
(Source: Author's document, 2023)

Quality of Life

The quality of life in Selopamioro is based on the philosophy of *Hamemayu Hayuning Bawana* (maintaining harmony between nature and humans). The Hutan Santri program, in which residents and students work together to rehabilitate the forest, reflects the balance between material and spiritual needs. A village elder explains:

"The forest is not just wood, but the breath of life. Caring for it is worship." (Mbah Kromo, Village Elder).

The village merti ritual (village cleaning) not only cleans the environment but also strengthens social relationships. This finding expands Ly & Cope's (2023) definition of quality of life by including the spiritual dimension, which is often overlooked in urban studies.

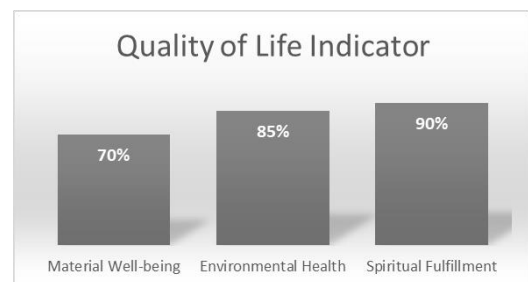


Figure 28. Quality of Life Indicators
(Source: Author's document, 2023)

The perception of the quality of life of the people of Selopamioro Village is based on Javanese philosophy, where the quality of life will be achieved by having a good reciprocal relationship between humans and God, humans and other humans, also humans and nature. Conservation of community forests in Selopamioro which is known as Hutan Santri by the Selopamioro community shows local wisdom with strong social capital in traditional Javanese settlements based on the philosophy of "*Hamemayu Hayuning Bawana*" can improve environmental quality. Cultural rituals of the Selopamioro Village

community such as Merti Desa are one of the things that reflect the perception of the quality of life of the Selopamioro Village community which is not only about fulfilling physical needs but also spiritual needs which are not only fulfilled from material but also spiritual as reflected in the quality of life indicator in Figure 28.

The research findings confirm that social sustainability in Selopamioro is built through the integration of local wisdom, adaptive architecture, and social capital. Ly & Cope's (2023) five dimensions are not only fulfilled, but enriched by the unique cultural context:

- Community-based security vs. technology-based security.
- Equity through inclusive semi-public spaces.
- Adaptability based on ecological heritage (teak tree).
- Social cohesion through rituals and mutual cooperation.
- Holistic quality of life (material-spiritual).

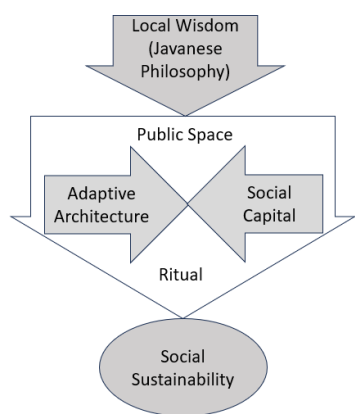


Figure 29. Conceptual Model of Social Sustainability of Selopamioro Village
(Source: Author's document, 2023)

Figure 29 illustrates a conceptual model of social sustainability rooted in the local wisdom of the Selopamioro Village community, especially the Javanese philosophy of life. This local wisdom is the main foundation that influences two key aspects: adaptive architecture and social capital. Adaptive architecture refers to the ability of the built environment to adapt to the social, cultural, and environmental needs of the local community. Meanwhile, social capital reflects the strength of social networks, shared values, and mutual cooperation practices that exist in the community. The interaction between adaptive architecture and social capital strengthens social cohesion or ties between residents, which ultimately forms the basis of the village's social sustainability. This model emphasizes that social sustainability is not only built through physical space,

but also through strengthening social relationships that originate from long-rooted local values.

These findings have several important policy implications for village development based on social sustainability. First, the preservation of semi-public spaces such as *pendopo*, *lumbung*, and community halls needs to be prioritized as social inclusion assets that support interaction between residents and strengthen social cohesion. Second, the teak wood conservation technique that has been passed down from generation to generation in Selopamioro deserves to be documented and used as a model for climate adaptation based on local culture, given its effectiveness in maintaining the quality of residential spaces and the resilience of buildings to weather. Third, traditional rituals such as *slametan*, village cleaning, and community deliberations should be integrated into sustainable development programs as a means of strengthening collective identity, increasing community participation, and maintaining continuity between tradition and social transformation. These three aspects show that sustainable social development cannot be separated from the active involvement of local wisdom and social structures that have taken root in people's lives.

CONCLUSION

The results of this study have a theoretical contribution to the integration of Javanese philosophy and social sustainability. These findings enrich Ly & Cope's (2023) theory of social sustainability by including a cultural dimension through the concept of *Hamemayu Hayuning Bawana* (maintaining harmony between nature and humans). Previous studies such as Cayarini et al. (2022) and Suparmini et al. (2013) focused on ecological or economic aspects, while this study reveals how traditional architecture and local wisdom are the main drivers of social capital.

Architectural Models can be social mediators. Unlike Santosa's study (2016) which sees Javanese architecture only as a physical entity, this study proves that semi-public spatial arrangements (*pendopo*, courtyard) and the absence of fences are not merely aesthetics, but instruments for building justice, security, and social cohesion.

In practice, the Selopamioro model can be adopted in the development of tourist villages through architectural designs that maintain communal spaces, as well as national policies such as the integration of culture-based teak conservation into the Village SDGs agenda. These findings can be applied in the development of tourist villages or new settlements by prioritizing inclusive semi-public spaces, such as multifunctional *pendopo*. The government can adopt a culture-based teak tree conservation model (eg:

marriage dowry) as a strategy for climate adaptation and strengthening the local economy.

However, this study has limitations, including a geographical scope that is limited to one village with typical Javanese cultural characteristics, so that the findings may not necessarily apply to other cultural contexts. The qualitative methodology also does not include quantitative analysis to measure the economic impact of programs such as Hutan Santri. In addition, the short duration of the study did not capture seasonal dynamics or long-term changes.

For further research, it is recommended to conduct comparative studies in other traditional villages to identify universal patterns of social sustainability. Quantitative exploration is also needed to analyze the economic value of cultural practices, such as the use of teak wood as a dowry. At the application level, a prototype of Javanese architecture with semi-public spaces can be developed for tourist villages, while the philosophy of *Hamemayu Hayuning Bawana* needs to be integrated into the curriculum of architectural education and sustainable development policies. Thus, local wisdom is not only a legacy, but a concrete solution to global challenges such as social inequality and the climate crisis.

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