Proceeding of
The Sunan Ampel International Conference of Political and Social Sciences (SAICoPSS)
Faculty of Social and Political Sciences UIN Sunan Ampel Surabaya
Volume 2, Desember 2024, 105-114
DOI: https://doi.org/10.15642/saicopss.2024.2.1.105-114

SDGS NUMBER 11: CANDIREJO VILLAGE AS STARTING POINT FOR SURABAYA SUSTAINABLE CITY

Nadia Devina Fathimatuz Zahra[1], Tasya Rachmadila Ramadhani[2]
[1]Universitas Islam Negeri Sunan Ampel Surabaya, Jawa Timur, Indonesia
nadiadevinafathimatuzzahra@gmail.com
[2]Universitas Islam Negeri Sunan Ampel Surabaya, Jawa Timur, Indonesia
tasyarachma366@gmail.com

ABSTRACT

This study investigates the implementation of Sustainable Development Goal (SDG) 11, focusing on sustainable cities and communities, in Candirejo Village, Surabaya. We explore how Candirejo Village can serve as a model for urban sustainability in Surabaya, aligning with SDG 11 objectives. Using qualitative research methods based on direct observations in Candirejo Village, we identified key components supporting sustainability, employing the urban resilience approach from the Brundtland sustainability concept. Notable initiatives include the recycling of household wastewater for catfish cultivation, hydroponic systems, and herbal plant cultivation. These practices not only demonstrate environmental sustainability but also generate marketable products, contributing to household incomes in the village. By showcasing these local-level sustainability efforts, this research aims to provide insights into how grassroots initiatives can contribute to the broader goal of transforming Surabaya into a sustainable city and community, in line with SDG 11. The findings suggest that focusing on village-level sustainability practices could be an effective strategy for achieving city-wide sustainable development in Surabaya. The study underscores the importance of village-level environmental security and sustainability practices as effective strategies for achieving broader urban sustainability goals, even in densely populated city centers.

Keywords: Sustainable, Candirejo, Surabaya, Enviroment security

INRODUCTION

To achieve a better life and ensure that all inhabitants of the planet can enjoy an adequate quality of life, the United Nations has created a set of sustainable goals known as the Sustainable Development Goals (SDGs). One such goal is SDG 11, which focuses on the development of safe, resilient and sustainable cities and settlements (BPPN, 2024). The success of SDG 11 is measured through several key dimensions. First, productivity, which evaluates how well the economy functions in cities and settlements. Second, infrastructure which includes access to clean water, electricity, and sanitation, as part of

people's basic needs. Third, quality of life which is analyzed based on factors such as safety, health and access to basic services. Fourth, social inclusion, which assesses equality in social participation, including women's participation and poverty alleviation efforts. Fifth, governance, which looks at spending efficiency and partnerships between the public and private sectors in city management. Finally, environmental sustainability focuses on important aspects such as air quality, waste management and maintenance of green areas to ensure a healthy and sustainable environment for the community (UNHSP).

One of the most important aspects of Sustainable Development Goal (SDG) 11 is environmental sustainability, which is directly related to environmental security. Environmental security includes protection against various threats, such as climate change, pollution and resource scarcity. These threats not only have the potential to damage ecosystems, but can also trigger conflicts and affect social and economic stability at both local and global levels. Therefore, maintaining environmental security is crucial to prevent wider negative impacts, such as infrastructure damage, reduced quality of life and demographic shifts that can exacerbate social instability. The UN itself defines environmental security as protecting against issues such as climate change, pollution and resource shortages that can trigger conflict. In its view, actions to mitigate climate change and adapt to its impacts are crucial to protect people from potential economic risks and population displacement. The UN emphasizes that effective mitigation and adaptation strategies are not only essential for environmental sustainability, but also for ensuring future social and economic stability (UN, 2021).

SDG 11 plays an important role in environmental security through its emphasis on the development of inclusive, safe, resilient and sustainable cities and settlements. This directly creates sustainable urban efforts that will have a direct impact on environmental protection and disaster resilience. SDG 11 seeks to create sustainable urban environments by reducing the negative impacts of human activities on the environment. This includes addressing issues of pollution, waste management and climate change, all of which can affect people's quality of life and health (UN).

According to Zeng et al., waste management is one of the key factors in enhancing urban environmental resilience. Effective waste management helps reduce pollution and negative impacts on ecosystems, which in turn improves public health. It explains that the implementation of sustainable waste treatment systems, including reduction, recycling, and reuse, can decrease the volume of waste sent to landfills and minimize greenhouse gas emissions. This not only strengthens urban resilience to environmental disasters but also supports the creation of a safe and inclusive environment, thus contributing to the achievement of SDG 11 (Zeng, 2022).

There are several villages in Indonesia that implement SDGs and focus on environmental sustainability and security, including; first, in the village of Kedungbanteng Sub-district, the implementation of Village SDGs focuses on sustainable environmental management. Villages in this area seek to utilize natural resources wisely,

for example through reforestation to restore degraded forests and the application of environmentally friendly agricultural techniques. Efforts to improve access to clean energy, such as the installation of solar panels, are also part of the village's strategy. The importance of clean water and sanitation is also accommodated with the construction of adequate infrastructure, such as wells and sanitation facilities. The village is also working on waste management by implementing recycling and reducing the use of plastics. In addition, they are committed to protecting biodiversity by maintaining natural habitats and educating the community on environmental protection. Meanwhile, to deal with climate change, these villages develop adaptation strategies, such as improving infrastructure for disaster resilience and using agricultural techniques that are resistant to extreme weather. All of this is done by involving the community in environmental programs and raising their awareness about the importance of sustainability. Although the implementation is not yet optimal, these villages have tried to implement it only that they need to collaborate more with stakeholders, especially to optimize the role of the village government in implementing sustainable development goals in the village (Azzahro, 2023).

Secondly, in Batu Into Green village, environmental sustainability and safety are the main focus in the development of the village. The village was originally a slum area, but since 2015, the community and local government have worked together to transform it into a healthier and more environmentally friendly ecological village. To improve environmental safety and sustainability, the village adopted several important measures. They built houses with designs that utilize natural ventilation and lighting from the sun, thereby reducing electricity use. The building materials used are sourced locally, which reduces the carbon footprint from transportation. The village also focuses on water resource management. They collect rainwater and utilize water from a nearby river for daily needs, such as drinking and agriculture. This water management system helps reduce dependence on external water sources and reduces waste. In addition, although the village has limited land, it is trying to increase green space by creating parks along the roads and vertical gardens in front of houses. This helps improve air quality and provides recreational space for residents (Saria, 2024).

Based on initial observations, Candirejo Tile Village can be categorized as a sustainable village, even though it is located in the middle of the city which shows a striking contrast with the surrounding slum areas. This research focuses on environmental safety by choosing Genteng Candirejo Village as the object of study because this village maintains a clean and well-maintained environmental quality, while the surrounding area does not. This phenomenon leads to the question of how Candirejo Tile Village can contribute to the achievement of SDG 11, which focuses on sustainable cities and settlements, given the environmental challenges that surround it. This research aims to identify the factors that allow Candirejo Tile Village to maintain its environmental quality and explore how the sustainable practices implemented in this village can serve as an example for other villages in Surabaya to improve their environmental quality. In addition,

this analysis will use Brundtland's concept of sustainability as a basis to understand how this village can be a model for a sustainable Surabaya city in accordance with SDG 11 indicators.

METHOD

This research employs a qualitative approach with both primary and secondary data collection methods. For primary data collection, we conducted direct observations in Genteng Candirejo Village, Surabaya, to obtain an in-depth understanding of the conditions on the ground. Additionally, we carried out interviews with several local residents and the Head of the Neighborhood Association (Ketua RT) of Genteng Candirejo Village, to gather information and perspectives from individuals with direct knowledge of the issues being researched. Secondary data was obtained through literature review from various relevant sources to support the findings obtained from the field. This methodology combines field research (observation and interviews) with desk research (literature review), which is a common and effective approach in qualitative studies. It allows for a comprehensive understanding of the subject by combining first-hand observations and stakeholder insights with existing knowledge from relevant literature.

RESULT & DISCUSSION

A. Result

Genteng Candirejo Village is located at Jalan Genteng Candirejo RT 03 RW 08, Genteng Sub-district, Genteng District, Surabaya. The village is situated in the heart of Surabaya city. Genteng Candirejo Village measures 150 meters in length and 50 meters in width, with 60 out of 75 total households residing in the area. 10% of Genteng Candirejo Village residents are native to Surabaya. Despite its central location in Surabaya with high population density (Nasir, 2016). The environment in Candirejo village is very beautiful and clean. Genteng Candirejo village is also located close to a market, which typically poses a high risk of becoming a slum area. In 2016, Genteng Candirejo village was visited by UN Habitat delegates. It was one of 14 villages in Surabaya selected for this visit, as it met the criteria set by the Preparatory Committee for Habitat III (Prepcom 3) (Effendi, 2016). Additionally, Genteng Candirejo village has repeatedly won the rotating trophy from Surabaya city as the cleanest village in Surabaya.

Many components can be found in Genteng Candirejo village that are not present in other villages. One of these is "Pandora," a water recycling system owned by Genteng Candirejo village. Pandora aims to clean dirty household liquid waste, such as wastewater containing detergent from laundry. Local residents believe that household waste can harm the environment and that there's a responsibility to process this waste. Thus, Pandora was created in collaboration with and assistance from the Sepuluh November Institute of Technology and Pegadaian. The Pandora water system begins with a well that collects all

household waste from every home in Genteng Candirejo village. This wastewater then undergoes various filtration processes, one of which involves using catfish as indicators to determine if the water is clean enough to support life. Catfish are used as indicators because they are the most resilient fish; if the catfish die, it means the water still contains toxins unsuitable for discharge into rivers. The final product of this wastewater filtration is not potable but is suitable for discharge into rivers as a form of community responsibility. Residents also use this water for watering plants.

In Genteng Candirejo village, there is also a catfish cultivation pond created and managed by local residents. This cultivation pond can produce up to 20 kg of catfish in a single harvest, which is typically distributed to residents and sold to the general public. The filtered water from the catfish pond is also used to irrigate hydroponic systems. The hydroponic systems in Genteng Candirejo village grow several types of vegetables in rotation, such as lettuce and bok choy. These hydroponics once produced a single bok choy plant as large as a human head, demonstrating the success of the correct hydroponic system. The produce from the hydroponics is not usually sold but directly distributed to residents, ensuring that the various systems in Genteng Candirejo village are created, managed, and returned to benefit the residents directly. As a result, residents experience the benefits firsthand.

Candirejo Village has seven main pillars that encompass the environment, economy, nutrition, sanitation, IT, and education, which are structured based on the local community's needs in various aspects of life. These pillars were born out of an awareness of the importance of improvement in the economic, cultural, and educational sectors as the foundation for village development. Each of these pillars reflects efforts to achieve sustainable development in line with SDG 11 indicators, which focus on creating inclusive, safe, resilient, and sustainable settlements.

a. Adequate housing (Target Indicator 11.1.1)

Genteng Candirejo Village is a livable area, even though most of the houses in Genteng Candirejo Village are old homes, mostly built during the colonial era, they have managed to endure through generations and remain well-maintained and habitable. The residents consider Genteng Candirejo Village a comfortable place to live because of its lush environment. The air is cool due to the numerous plants and trees in each home, and the area remains clean and unpolluted despite being located in the city center and near a market that is somewhat rundown. Genteng Candirejo Village also has good sanitation, with a wastewater management system (PANDORA) that processes household wastewater safely before it is discharged into the river. This reflects the community's responsibility towards preventing environmental pollution. From our observations, we also found well-cared-for animals such as cats, fish, and butterflies in the village, indicating that the environment is not only suitable for humans to live in but also for animals.

b. Accessible public transportation (Target Indicator 11.2.1)

Communities in Genteng Candirejo village have easy access to public transportation. Although the area is narrow and not too large, small vehicles such as motorcycles can still be used in the area. while other large vehicles such as cars, can still reach the area. however, large vehicles are not to be used in the area because there are not enough large vehicles to access the large vehicles.

c. Area and population density (Target Indicator 11.3.1)

Candirejo Tile Village is 150 meters long and 50 meters wide with 60 households living on-site out of a total of 75 households. 10% of the residents of Genteng Candirejo Village are Surabaya natives. According to Bappenas (National Development Planning Agency) standards, an area is called densely populated if the density exceeds 200 people per hectare. Based on this calculation, Genteng Candirejo Village has a population density of 320 people per hectare, making it a densely populated area.

d. Civil society participation in development (Target Indicator 11.3.2)

Candirejo Genteng Village is helped by civil society participation in development through the involvement of various agencies and their various programs. For example, the health department through the posyandu program which is tasked with monitoring the growth and development of infants and toddlers, the environment department through waste collection facilities, and the library and archive department which provides services for residents of Candirejo tile village who have the need to take care of government administration such as family cards, ID cards, etc. The municipal government built city lights in Candirejo roof tile village.

e. Expenditure of funding by funding source (public or private) for the preservation, protection, conservation of all cultural and natural heritage and level of government (national, regional, local)

Candirejo roof tile village has never received assistance in the form of funding, but assistance from programs provided by the government / private / university as follows;

Institution	**Type of Institution**	**Program**
Institut Teknologi Sepuluh November (ITS), Pegadaian	State University, Government	PANDORA Water system
Unilever	Private Company	Waste Bank
Bank Indonesia	Government	Library

Universitas Surabaya (UBAYA)	Private University	Books for library
Surabaya Government	Government	City lamps

f. Death caused by disaster (11.5.1)

No disasters that result in death.

g. Unemployment caused by disaster (11.5.2)

No job loss due to disasters.

h. Infrastructure damage due to disaster (11.5.3)

No infrastructure damage due to disasters.

i. Inorganic waste management (11.6.1)

Inorganic waste management was once running under the waste bank program initiated by PT Unilever but is no longer active since the pandemic. Residents of Candirejo roof tile village also sort organic and inorganic waste independently from each house. Organic waste can be processed into compost while inorganic waste is separated to be given to scavengers or waste management officers properly.

j. An open area that is accessible to all ages, men and women and people with disabilities (11.7.1)

There is no public open space in candirejo roof tile village. children, the elderly and people with disabilities socialize in the main alley which is free of vehicles.

k. Number of victims of violence in the last 12 months (11.7.2)

No victims of violence in the last 12 months, safe neighborhood.

For Target 11.a: Supporting positive economic, social, and environmental relationships between urban, suburban, and rural areas by strengthening national and regional development planning. For Target 11.b: By 2020, substantially increasing the number of cities and settlements that adopt and implement integrated policies and plans aimed at inclusion, resource efficiency, climate change mitigation and adaptation, disaster resilience, and developing and implementing comprehensive disaster risk management at all levels, in accordance with the Sendai Framework for Disaster Risk Reduction 2015-2030. For Target 11.c: Supporting developing countries, including through financial and technical assistance, in building sustainable and resilient structures using local materials that cannot be detected in the existing components in Genteng village, Candirejo.

Although the implementation of SDG 11 targets in Candirejo Tile Village is not yet clearly visible in all its components, Brundtland's principle of sustainability can be a relevant analytical tool. In his book Our Common Future, Brundtland argues that the concept of sustainability aims to maintain a balance between meeting the needs of the current generation without compromising the ability of future generations to meet their needs. This intergenerational thinking is an important basis in ensuring that the use of natural resources and ways of survival do not have a negative impact on the future. These sustainability principles can be applied in analyzing whether Candirejo Tile Village is a sustainable village.

First, Brundtland emphasized the existence of ecological limitations, where the environment has limits in supporting human life. Natural resources are not infinite, so their use must be done wisely and responsibly so that they remain available for future generations. Candirejo Tile Village shows awareness of these limitations through the practice of cultivating plants with hydroponic methods and environmentally friendly catfish, which reflects efforts to maintain a balance in the use of natural resources. Secondly, the concept of sustainability underscores the importance of long-term anticipation, which involves considering the impact of current actions on the future. Candirejo Tile Village applies this principle by treating water so as not to pollute the river and managing dry waste, actions that not only preserve the environment, but also maintain the long-term quality of life for the community. Furthermore, sustainability according to Brundtland emphasizes the interconnection between humans and nature. Candirejo Tile Village realizes the importance of maintaining this balance, as evidenced through water treatment efforts to prevent river pollution, because environmental pollution will have a direct impact on the lives of local people. Finally, intergenerational justice is one of the crucial aspects in the concept of sustainability. Candirejo Tile Village carries out cultivation as a form of responsibility to ensure that future generations can enjoy access to the same natural resources enjoyed by the current generation (UN, 1987).

Thus, based on the analysis of Brundtland's sustainability concept, Candirejo Tile Village can be categorized as a sustainable village because it has implemented sustainability principles, such as wise resource utilization, maintaining ecological balance, and ensuring intergenerational justice.

B. Discussion

The success of Genteng Candirejo Village in implementing values aligned with Sustainable Development Goal (SDG) number 11 has made it an exemplary model for other villages in Surabaya. This achievement serves as evidence of the residents' commitment to sustainable development and demonstrates great potential for broader urban transformation in Surabaya. Genteng Candirejo Village has successfully gained formal and informal recognition for its implementation of values consistent with SDG 11

indicators. This success is not limited to initial implementation but also includes maintaining and enhancing sustainability values over time. This achievement should serve as inspiration and guidance for other villages in Surabaya to follow suit.

Key aspects of Genteng Candirejo Village's success that can be exemplified include effective environmental management through innovative waste management systems, tree planting, and maintenance of green open spaces. Active community participation also plays a role in involving residents in decision-making and implementing sustainability programs. By emulating these two aspects, other villages in Surabaya can begin their journey toward sustainability while adapting strategies to their respective local contexts.

Genteng Candirejo Village can also become the Starting Point for a Sustainable Surabaya. The proven success of Genteng Candirejo Village, which has endured for years, should not be seen merely as an isolated achievement but also as a catalyst for broader transformation in Surabaya. This village can be considered a "living laboratory" for sustainable development practices that can be applied throughout the city. It can function as a training center and knowledge exchange hub for city officials, environmental activists, and residents from all over Surabaya. The success of Genteng Candirejo Village provides concrete evidence that sustainable development can be achieved in the local context of Surabaya, and by making Genteng Candirejo Village a model, Surabaya can enhance its image as a city committed to sustainable development. To maximize the potential of Genteng Candirejo Village as a starting point, the Surabaya city government needs to develop a comprehensive strategy to disseminate best practices and support similar initiatives throughout the city.

However, despite the impressive success of Genteng Candirejo Village, the fact that surrounding villages have not successfully emulated or implemented similar practices raises important questions that need further investigation. The challenges in replicating this success in neighboring villages indicate the need for a more holistic and strategic approach in disseminating sustainable practices. With further research and collaborative efforts from various stakeholders, Surabaya can harness the potential of Genteng Candirejo Village as a catalyst to realize the vision of a truly sustainable city.

CONCLUSION

Sample body text sample body text sample body text sample body text sample body text sample body text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus a ligula mollis, bibendum ipsum blandit, vulputate sem. Maecenas faucibus nibh sit amet volutpat tristique. Suspendisse semper, justo vitae vehicula hendrerit, turpis enim scelerisque nisi, id mattis justo lectus in sem. Pellentesque mi dolor, molestie ac pulvinar sed, sagittis sit amet ex. Integer auctor suscipit lorem ut accumsan. Morbi risus metus, eleifend eu lectus dapibus, dignissim cursus nisi. Phasellus sem quam, fermentum in velit et, viverra eleifend dui. Morbi ornare velit ipsum, sit amet auctor metus tempus

nec. Curabitur nisl eros, pretium vel lectus non, pharetra ultrices quam. Aliquam erat volutpat.

REFERENCES

Badan Perencanaan Pembangunan Nasional. SDGs Indonesia. Retrieved September 29, 2024, from https://sdgs.bappenas.go.id/

United Nations Human Settlements Programme (UN-Habitat). SDG goal 11 monitoring framework: A guide to assist national and local governments to monitor and report on SDG goal 11 indicators. Local 2030. https://www.local2030.org/library/60/SDG-Goal-11-Monitoring-Framework-A-guide-to-assist-national-and-local-governments-to-monitor-and-report-on-SDG-goal-11-indicators.pdf

United Nations. (2021, November 9). Secretary-general calls for renewed global solidarity to overcome 'the massive divide' between urban, rural areas, marking world urban forum opening session. United Nations Press. https://press.un.org/en/2021/sgsm20596.doc.htm

United Nations. Sustainable development goals: Goal 11. Sustainable cities and communities. United Nations Sustainable Development. https://www.un.org/sustainabledevelopment/cities/

Zeng, X., Yu, Y., Yang, S., Lv, Y., & Sarker, M. N. I. (2022). Urban resilience for urban sustainability: Concepts, dimensions, and perspectives. Sustainability, 14(5). https://www.mdpi.com/2071-1050/14/5/2481

Azzahro, F., Ardhanariswari, R., Amalia, S. D., Haryanto, T., Wardaya, M. K., & Asyik, N. (2023). Sustainable Development Goals (SDGs) Desa program: Implementation and obstacles in Kedungbanteng, Banyumas. In Proceedings of the 3rd International Conference on Law, Governance, and Social Justice (ICoLGaS 2023). Atlantis Press. https://doi.org/10.2991/978-2-38476-164-7_12

Saria, H. R., Yusrana, Y. A., Wulandari, L. D., Santoso, J. T., & Nordin, J. (2024). Sustainability evaluation of the 'Batu Into Green' village based on the United Nations Sustainable Development Goals (SDGs). Civil and Environmental Science Journal, 7(1). https://civense.ub.ac.id/index.php/civense/article/view/409/114

Nasir, U., & Wibowo, S. (2016). "Dampak Lingkungan Pasar Tradisional Terhadap Kondisi Sanitasi di Wilayah Sekitarnya." Jurnal Kesehatan Masyarakat, 11(1), 57-63.

Effendi, Z. (2016, Juli 15). Mengintip persiapan Kampung Genteng jelang PrepCom III UN Habitat. Detik News. https://news.detik.com/berita-jawa-timur/d-3254036/mengintip-persiapan-kampung-genteng-jelang-prepcom-iii-un-habitat

United Nations. (1987). Our common future: Report of the World Commission on Environment and Development. https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf