




# Infrastructure development recommendation for traditional market to promote economic growth: A case study of Landungsari traditional market

Aulia Indira Kumalasari <sup>a,1</sup>, Rizki Amalia Tri Cahyani <sup>a,2,\*</sup>

<sup>a</sup> Department of Civil Engineering, Faculty of Engineering, Universitas Muhammadiyah Malang, Jl. Raya Tlogomas 246, Malang, East Java 65144, Indonesia

<sup>1</sup> auliaindira@umm.ac.id; <sup>2</sup> rizkiatcahyani@umm.ac.id\*

\* Corresponding author

ARTICLE INFO	ABSTRACT
<p><b>Article history</b>            Received: 2023-06-04            Revised: 2023-09-11            Accepted: 2023-10-01            Published: 2023-10-02</p> <p><b>Keywords</b>            Economic growth            Infrastructure development            Traditional market</p>	<p><i>The Landungsari Traditional Market is intended to serve as a major economic engine for the local area. This community service aims to assist in assessing the conditions of infrastructure and facilities in the Traditional Market of Landungsari since the availability and quality of infrastructure and facilities play a significant role in supporting the sustainable growth of the traditional market. The factors in question include the physical state of the buildings, the availability of utility infrastructure, the availability of essential public facilities, and the market's accessibility. The study's findings were presented as suggestions for infrastructure improvement that could be used as a guide for the local government to further enhance the market's physical features. Visual assessment revealed that while the market's structure is generally in good condition, several of its components require maintenance and repair. This market needs to make improvements in terms of utility systems since it only satisfies around 25% of the standard requirements. Furthermore, as only 71% of the market's essential public facilities have been provided, additional facility development was necessary. Even though the market's building and facilities have been given adequate access, it is recommended to perform improvements in terms of wider market aisles, the addition of wheelchair-accessible pathways, and the provision of public transportation services to achieve a higher level of market accessibility.</i></p>
<p><b>Kata Kunci</b>            Pasar tradisional            Pengembangan infrastruktur            Pertumbuhan ekonomi</p>	<p><b>Rekomendasi pengembangan infrastruktur pada pasar tradisional untuk mendorong pertumbuhan ekonomi: Studi kasus Pasar Landungsari.</b> Pasar Landungsari diharapkan dapat menjadi roda penggerak ekonomi bagi daerah sekitarnya. Ketersediaan dan kualitas prasarana dan sarana sangat berperan dalam mendukung pertumbuhan pasar tradisional yang berkelanjutan, sehingga perlu dilakukan pendampingan untuk menilai kondisi prasarana dan sarana di Pasar Landungsari. Aspek yang dinilai mencakup kondisi fisik bangunan, ketersediaan prasarana utilitas, ketersediaan fasilitas umum yang vital, serta tingkat aksesibilitas pasar. Hasil studi berupa rekomendasi perbaikan infrastruktur yang dapat digunakan sebagai panduan bagi pemerintah daerah untuk meningkatkan performa sarana dana prasarana Pasar Landungsari. Observasi visual menunjukkan bahwa secara umum struktur bangunan pasar masih dalam kondisi yang baik, namun pemeliharaan dan perbaikan dibutuhkan di beberapa komponen bangunannya. Utilitas pasar perlu dibenahi kembali karena hanya memenuhi sekitar 25% dari standar persyaratan. Selain itu, diperlukan penambahan fasilitas umum di Pasar Landungsari karena hanya 71% ketersediaan fasilitas utama yang telah terpenuhi. Pasar Landungsari telah memiliki akses yang memadai, namun disarankan untuk melakukan peningkatan aksesibilitas pasar dengan memperluas lorong pasar, memberikan akses yang memadai untuk mobilitas kursi roda dan menyediakan layanan transportasi umum.</p> <p style="text-align: right;">Copyright © 2023, Kumalasari, et al            This is an open access article under the <a href="https://creativecommons.org/licenses/by-sa/4.0/">CC-BY-SA</a> license</p> <div style="text-align: right;">  </div>

*How to cite:* Kumalasari, A., & Cahyani, R. A. T. (2023). Infrastructure development recommendation for traditional market to promote economic growth: A case study of Landungsari traditional market. *Journal of Community Service and Empowerment*, 4(3), 536-544. <https://doi.org/10.22219/jcse.v4i3.26774>

## INTRODUCTION

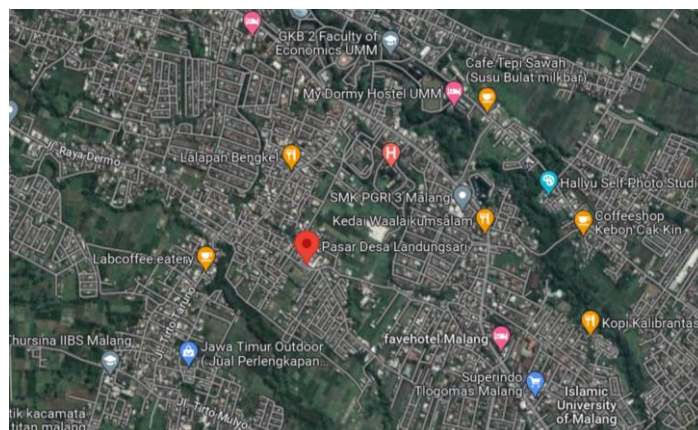
The traditional market plays a significant role in the local community as a place to hold trading activities to meet their daily needs (Saragih & Meak, 2022). Furthermore, this trading place has been used to accommodate social interaction and maintain the local culture. Hence, the traditional market has the potential to empower economic growth and regional development by providing a trading platform for numerous small traders and transporters (Ujianti & Dewi, 2021; Yulia & Oktaviani, 2018). This vision is recognized as the 8<sup>th</sup> goal of the Sustainable Development Goals (SDGs), which is to encourage sustained economic growth and promote full and productive employment (Aji & Kartono, 2022; Raharjo, 2015). However, despite its unseparated existence from the local community, traditional markets in Indonesia tends to experience difficulties in their operations due to internal issues, such as the market's poor facility and infrastructure and less well-ordered management which can contribute to the decrease in the number of visitors (Soelistiyono et al., 2018).

The traditional market is expected to have sustainable growth with the availability of infrastructures that are comfortable, healthy, safe, and friendly both to the environment and society (Lutfi & Syaifullah, 2020; Siregar et al., 2021). To ensure great shopping experience, traditional market need to accommodate buyers' interests of a clean and neat market with adequate facilities (Kistanti & Karsinah, 2020). The Traditional Market of Landungsari, which is situated in Malang Regency, is designated to promote the social and economic activities of the local communities (Latifah & Jati, 2021). Due to its advantageous position, this market is constantly busy with activity. Like the typical traditional market in Indonesia, the Traditional Market of Landungsari has a large open area to hold several stalls and booths that are opened by traders. Even though this market has enough space to lodge hundreds of traders, it still lacks public facilities to support convenient trading activities. Moreover, some of its infrastructure requires to be renovated and undergo maintenance. The limited space of aisle between the traders' booth or stalls and puddles that formed in sinking pavers may pose a threat to a comfortable shopping experience.

The Traditional Market of Landungsari is designed to be one of the driving forces of the region's economic development. The market must be able to function properly, efficiently, and effectively to accomplish that purpose. Since the availability and quality of infrastructure and facilities contribute greatly to supporting the sustainable growth of the traditional market, this community service aims to provide assistance in determining the conditions of infrastructure and facilities in the Traditional Market of Landungsari. The aspects in question are the building condition, the availability of utility infrastructure, the availability of essential public facilities, and the market's accessibility which measure the convenience of access provided for engaging in trading activities around the market. The analysis result from this program can be used as input and direction for the government to enhance the physical quality of the Traditional Market of Landungsari. A thriving market will greatly aid in boosting the local economy and serve as an effort to meet the 8<sup>th</sup> Sustainable Development Goals (SDGs), which include supporting economic growth and promoting full and productive employment.

## METHOD

The Traditional Market of Landungsari is located in Malang Regency, East Java, Indonesia. This market, which lies within 6,100 m<sup>2</sup> area, supplies everyday necessities and fresh goods for the local populations. The Traditional Market of Landungsari falls under the jurisdiction of Landungsari Village and plays an important role in the development of the local economy. As shown in **Figure 1**, this market is surrounded by dense residential areas. Hence, the Traditional Market of Landungsari has huge potential to be the center of economic activity and is expected to support the village to grow sustainably. In order to reach the full potential of the market, the local government has a plan to improve its physical aspects, which includes expansion of the market area, addition of public facilities, and enhancement of the market's infrastructure. However, this development plan needs some sort of guide aid to identify the physical aspects that need to be enhanced. A team that consists of structural engineers and undergraduate students from the Civil Engineering Department of Universitas Muhammadiyah Malang (UMM) seeks to help by offering the required direction (**Figure 2**).



**Figure 1.** The strategic location of the Traditional Market of Landungsari



**Figure 2.** The team from Civil Engineering Department of UMM with the representative of the Traditional Market of Landungsari

This study employs a qualitative research approach with the objective of identifying flaws and analyzing a way to improve them based on information and data observed in the field (Royadi et al., 2019). The study implemented involve several steps including data collection, data analysis, and reporting the results (Busetto et al., 2020). The methods used to obtain qualitative data include document analysis, observation, and interviews. Document study refers to the review of the materials depicting the physical aspect of infrastructure and facilities in the Traditional Market of Landungsari. Observations employed to gain insight of the physical conditions of infrastructure and facilities in the Traditional Market of Landungsari. During the observations, the observer conducts market space measurements, takes notes on the situations, and takes photos for documentation. Other data was collected using qualitative interviews with the representative of the Traditional Market of Landungsari. This step provides an overview of the problems faced by the market in terms of their physical aspects.

The data collected was then summarized and categorized based on the Indonesian standard guidelines about the traditional markets, SNI 8152:2015 (Paryatno et al., 2020; Suprpto & Raden, 2022). This standard serves as a benchmark in deciding the quality of the existing infrastructure and facilities in the Traditional Market of Landungsari (Fadjarwati et al., 2021). The category under analysis includes the building condition, the utility infrastructure, the public facilities, and the market's accessibility. The study's findings were presented as recommendations for infrastructure development that could be used as a guide for the local government to further improve the market's physical aspects.

## RESULTS AND DISCUSSION

### *Building Condition Assessment*

Assessment of the building's condition is crucial to ensuring that the maintenance plan is effective in meeting service requirements (Gouda Mohamed & Marzouk, 2021). It helps to show the needed maintenance program to keep the building and its component in the original state. This procedure begins with an evaluation of the physical condition of the building's elements, followed by any necessary action to improve the building's performance (Wahida et al., 2012)

Building is makes up by several elements: structural or primary elements, secondary elements, and finishing elements (Wahaj, 2019). The structural elements are the load bearing components like beams and columns. The secondary elements consist of elements that do not provide load bearing capacity to the building, such as walls and floors. The finishing elements are the completing finishes like plastering, paints, ceiling, and roof covering. These types of elements were used to categorize the building components that were assessed in this study.

The building's structural elements in the Traditional Market of Landungsari are generally in good shape, however some of them require maintenance. The market stalls' structural steel, which are depicted in **Figure 3**, are affected by corrosion damage. It can be caused by exposure to the environment and inadequate corrosion protection. The severe corrosion damage on a steel structure can reduces its loading capacity, even leading to structural collapse (Luo et al., 2020). Since the steel structure itself is still in good condition, the preventive measures can be taken by remove corrosion using sand blasting, followed by applying a protective coating on the steel section.

The visual inspection discovered that most of the market's stall walls have no significant damage that could affect its strength and stability. However, some of it needs to be fixed. **Figure 4** shows a brick wall with a sizable opening on top that was likely built to accommodate roof beams. This kind of damage can be easily repaired by rebuilding the section of the wall that has the opening.

The Traditional Market in Landungsari has two different types of flooring: paver brick flooring for the aisle between the market stalls and plastered floors in the market stalls. Visual assessment revealed that the majority of the plastered floors are in decent condition. However, some sections of the paver on the aisle sunk down, causing a tripping hazard, and forming puddles of water (**Figure 5**). Typically, poor installation, soil erosion, or a drainage problem cause pavers to sink

(Hening et al., 2021). It may also indicate that the base was not properly compacted during construction. Since sinking pavers caused problems, both aesthetically and structurally, it is recommended to repair the pavers by reinstalling them after thoroughly identifying the underlying issues.



Figure 3. The corroded structural steel



Figure 4. Market stall's wall with large opening



Figure 5. The sunken pavers at the market aisle



Figure 6. The damaged ceiling in market stalls

The finishing elements that require immediate attention is the ceiling. In some areas of the market stalls, the damage is quite severe as the ceiling has collapsed while other parts are sagging (**Figure 6**). A sagging ceiling poses an immediate hazard since it could collapse and put both the buyer and seller at risk. The common cause of saggy ceilings is water damage, inadequate support, or simply wear out with age (Z et al., 2019). Another factor is the lack of maintenance provided. It is suggested to replace the ceiling with a new one since the damage is severe. Additionally, it is advised to inspect for potential water damage and add new support under the ceiling.

#### *Availability of Utility Infrastructure*

Utilities infrastructures supply utility services to the public and considered to include electricity, gas, water, sewage, drainage, and life-safety system. In the Traditional Market in Landungsari, traders have proper access to electricity and clean water. The water is accessed using bore, either provided by the market or by the trader itself (**Figure 7**). However, bore water not be preferable for drinking or cooking without properly tested or treated (Shyamala et al., 2008). Therefore, it is advised to evaluate the quality of the groundwater in this market area.

The Traditional Market in Landungsari has adequate drainage and sewage system, but it is suggested to expand the sewer capacity. In this market, the wastewater is discharged into the river without treatment. The main purpose of the sewage treatment process is to eliminate numerous pollutants before being released into streams and lakes. This step is of great importance for the environment and for public health (Prinajati, 2020; Salvi & Patil, 2021). Hence, a wastewater treatment facility is required. In order to maintain cleanliness in the market area, this market provides temporary waste dump sites (TPS) along with the equipment needed to transport the waste. Unfortunately, there aren't enough trash bins in the market area, which leads to piles up of garbage in some locations.

Traditional markets are one of the public facilities most vulnerable from fire. The loss of life, destruction of property and the environment, interruption of business operations, and job losses are all consequences of fire events in traditional markets. Despite the significant risk, traditional markets typically have subpar fire protection systems (Hatmoko & Larassati, 2021). The lack of firefighting supplies like water hydrants and fire extinguishers at the Landungsari Traditional Market makes it susceptible to fire. It is also required to provide an evacuation route to ensure public safety during emergencies. **Table 1** displays the market's compliance with the standard requirements based on SNI 8125:2015 in terms of utility systems. The Traditional Market in Landungsari only meets 25% of the required standards and needs to make further improvements.



Figure 7. Access to groundwater using a bore

Table 1. Standard requirements for utility systems in a traditional market

Criteria	Standard Requirements	Standard Compliance
Clean water testing	Yearly	Not Provided
Liquid waste testing	Yearly	Not Provided
Availability of trash bin	At each stalls/booth and near public facilities	Not Provided
Garbage transportation equipment	Provided	Provided
Temporary waste dump sites (TPS)	Provided	Provided
Fire extinguishers	Provided	Not Provided
Water hydrant	Preferably provided	Not Provided
Evacuation route	Provided	Not Provided

#### Availability of Public Facilities

Public Facilities are essential facilities that need to be provided to ensure a convenient trading experience at the Traditional Market of Landungsari. **Table 2** shows the availability of required public facilities in Traditional Market of Landungsari with SNI 8125:2015 as the reference. The facilities are categorized into primary and secondary one. According to analysis result, this market has provided about 71% and 33% of the required primary and secondary facilities, respectively. The market must provide 100% required primary facilities to satisfy the grade assessment. Hence, further development is for immediate consideration.

**Table 2.** Standard requirements for public facilities in a traditional market

Criteria	Standard Requirements	Standard Compliance
<b>Primary Facilities</b>		
Parking area	Proportional to market's area	Provided
Management office	Inside the market's area	Provided
Bathrooms	At least four bathrooms (two for women and two for men) that provided in two different locations	Provided but not separated by genders
Prayers room	Provided	Provided
Common room	Provided	Not Provided
Security office	Provided	Provided
Green area	Provided	Not Provided
<b>Secondary Facilities</b>		
Loading and unloading area	Provided	Provided
Handwashing facilities	At least provided in two different locations	Provided
Breastfeeding room	Provided	Not Provided
Healthcare facility	Provided	Not Provided
Smoking area	Provided	Not Provided
Disinfection Room	Provided	Not Provided

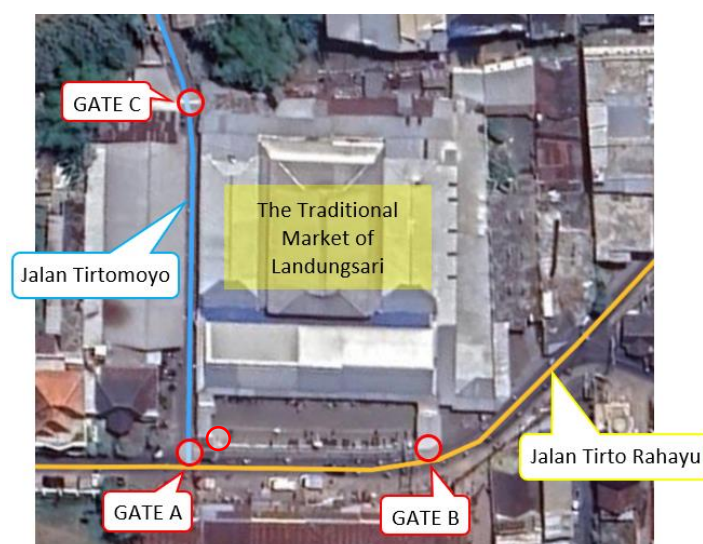
### Market Accessibility

Indonesian standard guidelines about the traditional markets, SNI 8152:2015, defines accessibility as the convenience for vehicles, people, and the disabled to access the market and its facilities inside the market's building. Anggraini et al. (2017) have developed several assessment indicators according to SNI 8152:2015 to evaluate the accessibility of a traditional market which was then adopted in this study. These assessment indicators are shown in **Table 3**.

**Table 3.** Assessment indicators to evaluate the market's accessibility level

Assessment Indicators	Accessibility Levels		
	Easy	Normal	Difficult
Distance from the primary road to the market's building	< 100 m	100 – 300 m	> 300 m
Number of the access door(s)	3 doors	2 doors	1 door
Width of the access door(s)	> 2.0 m	1.8 – 2.0 m	< 1.8 m
Width of the market's aisle	> 1.8 m	1.5 – 1.8 m	< 1.5 m
Wheelchair access	Provided	Provided	Not Provided
Number of available public transportation	> 2 modes	1 – 2 modes	Not Provided

The Traditional Market of Landungsari has provided adequate access to the market's building. There are two roads that lead to the market, Jalan Tirto Rahayu and Jalan Tirtomoyo (**Figure 8**). However, as can be seen from **Figure 10**, the road width of Jalan Tirto Rahayu is not wide enough for two cars to pass (only about three meters wide). Moreover, the other access from Jalan Tirtomoyo is only suitable for motorcycles and pedestrians (**Figure 11**). Jalan Tirto Rahayu, the main road, has two main entrances to the market (Gate A and B), while Jalan Tirtomoyo has one back entrance (Gate C) (**Figure 8**). Three corridors serve as the entrance and exit points for the market's building (**Figure 9**). With a width of about 3.5 meters, these corridors are wide enough to accommodate the trading activities of the market. However, observation revealed that there was no public transportation available around the market and the majority of the market's visitors uses motorcycles as the transport mode. Lack of access to public transportation may impede accessibility and discourage residents of wider areas from visiting the market (Berg & Ihlström, 2019; Widayanti & Supriyatno, 2020).

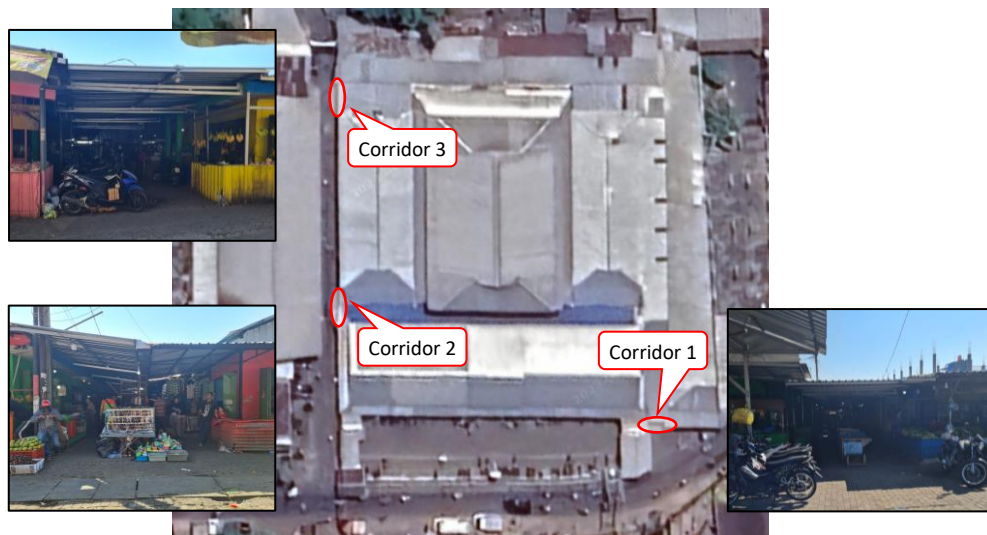


**Figure 8.** Access to the market from Jalan Tirto Rahayu and Jalan Tirtomoyo

According to the standard, the aisle between the two stalls in the market must be at least 1.5 meters in width to ensure the ease of the people walking around the market. This requirement has not been met as the market's aisle is around one meter in width (Figure 12). This narrow corridor leads to congregated and overcrowded people in some areas during the rush hours. The inadequate space in the aisle not only threatens the shopping convenience but also poses a danger in case of emergencies. A market with high accessibility needs to provide wheelchair access to all parts of the market. The Traditional Market of Landungsari has a narrow aisle with rugged and uneven paver floors, which is not suitable for wheelchair mobility. Additionally, there are no disabled facilities, such as toilets and parking spaces designed for people with mobility impairments. The evaluation result of the Landungsari market's accessibility is summarized in Table 4.

**Table 4.** Evaluation of The Traditional Market of Landungsari accessibility level

Assessment Indicators	Observation Results	Accessibility Levels
Distance from the primary road to the market's building	5.0 m	Easy
Number of the access doors	3 doors	Easy
Width of the access doors	3.5 m	Easy
Width of the market's aisle	1.0 m	Difficult
Wheelchair access	Not Provided	Difficult
Number of available public transportation	Not Provided	Difficult



**Figure 9.** Three corridors as the entrance and exit points for the market's building



**Figure 10.** Jalan Tirta Rahayu, the primary road access to the Landungsari Market



**Figure 11.** Jalan Tirtomoyo's narrow width restricts traffic to only motorcycles and pedestrians



**Figure 12.** Narrow aisle between two stalls in Landungsari Market

From Table 4, it is found that there are three indicators that must be improved to increase the market's accessibility: the width of the market's aisle, accessible space for wheelchair mobility, and the establishment of public transportation services. Since the ease of accessing the market and its facilities contributes greatly towards the market's sustainable growth, it is preferable to address this problem in the market's development plan.

## CONCLUSION

Traditional market has the potential to empower economic growth and regional development. This vision is recognized as the 8<sup>th</sup> Sustainable Development Goals (SDGs), to encourage sustained economic growth and promote full and productive employment. This community service aims to provide assistance in determining the conditions of infrastructure and facilities in the Traditional Market of Landungsari as the availability and quality of the infrastructure contribute greatly to the market to grow sustainably. The result from the study shows that while the market's building has no major physical deficiencies, some of the building components need to be repaired and maintained. Evaluation of the market's utility infrastructures found that the market only satisfies 25% of the standard requirements and suggested further improvements. In the case of public facilities, as the market only provides 71% of the required essential public facilities, the additional facility development is for immediate consideration. Landungsari Traditional Market has adequate access to its buildings and facilities, however it is suggested to improve three indicators to achieve a higher level of accessibility: the width of the market's aisle, adequate access for wheelchair mobility, and the availability of public transportation services. These findings serve as recommendations for infrastructure development in the Traditional Market of Landungsari to accommodate the market's sustainable growth.

## REFERENCES

- Aji, S. P., & Kartono, D. T. (2022). *Kebermanfaat adanya sustainable development goals*. 1(April), 507–512.
- Anggraini, G., Amalia, D., Hermawan, F., & Ismiyati. (2017). Standarisasi Penataan Pasar Tradisional di Indonesia (Studi Kasus Pasar Tradisional di Kota Semarang). *Konferensi Nasional Teknik Sipil*, 11(1), 111–120.
- Berg, J., & Ihlström, J. (2019). The Importance of Public Transport for Mobility and Everyday Activities among Rural Residents. *Social Sciences*, 8(2). <https://doi.org/10.3390/socsci8020058>
- Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, 2(1). <https://doi.org/10.1186/s42466-020-00059-z>
- Fadjarwati, N., Midiyanti, R., Sastrawan, J., & Wulandari, D. (2021). Analisis Kinerja Aset Pasar Rakyat Kabupaten Bandung Berdasarkan SNI (Studi Kasus Pasar Rakyat Ciwidey). *Jurnal Manajemen Aset Infrastruktur & Fasilitas*, 5(1), 61–70. <https://doi.org/10.12962/j26151847.v5i1.8734>
- Gouda Mohamed, A., & Marzouk, M. (2021). Building condition assessment using artificial neural network and structural equations. *Expert Systems with Applications*, 186(May), 115743. <https://doi.org/10.1016/j.eswa.2021.115743>
- Hatmoko, J., & Larassati, D. (2021). *Reviewing Fire Disasters at Traditional Markets: Causes, Impacts, and Remedies*. January. <https://doi.org/10.4108/eai.17-7-2020.2303033>
- Hening, D., Satriyo, H., Program, M., D4, S., Dan, K., Kerja, K., Vokasi, S., & Kedokteran, F. (2021). *Analisis Kontur Paving Block yang Memberi Dampak Bagi Pengendara di Jalan Universitas Sebelas Maret*.
- Kistanti, N. R., & Karsinah. (2020). The Existence of Traditional Markets After Revitalization in Semarang Municipality. *Efficient : Indonesian Journal of Development Economics*, 3(3), 972–982. <https://doi.org/10.15294/efficient.v3i3.43516>
- Latifah, S. W., & Jati, A. W. (2021). Pendampingan tata kelola Bumdes Tirta Desa Landungsari Dau Malang. *Unri Conference Series: Community Engagement*, 3, 303–309. <https://doi.org/10.31258/unricscs.3.303-309>
- Luo, L., Xie, X., & He, W. (2020). Overview of Mechanical Behaviour of Corroded Steel Structures. *IOP Conference Series: Earth and Environmental Science*, 571(1). <https://doi.org/10.1088/1755-1315/571/1/012134>
- Lutfi, M., & Syaifulloh, B. N. (2020). Analisis Kelayakan Bangunan Gedung Pasar Sukasari Bogor Melalui Pendekatan Laik Fungsi Bangunan. *Astonjadro*, 9(1), 14. <https://doi.org/10.32832/astonjadro.v9i1.2726>
- Paryatno, L., Rustiadi, E., & Tinaprilla, N. (2020). Evaluasi Kesesuaian Pasar Rakyat Kabupaten Bogor Berbasis Kebutuhan Pengguna. *Buletin Ilmiah Litbang Perdagangan*, 14(2), 305–324. <https://doi.org/10.30908/bilp.v14i2.425>
- Prinajati, P. D. (2020). DOMESTIC COMMUNAL WASTEWATER TREATMENT PLANT EVALUATION Research Methodology. *Journal of Community Based Environmental Engineering and Management*, 4(1), 31–36.
- Raharjo, S. T. R. I. (2015). *Sustainable development goals (SDGs)*. 0042, 159–167.
- Royadi, D., Susiana, N., & Khumaida, F. A. (2019). Effectiveness Management of Qualitative Research in Writing Scientific Papers. *Aptisi Transactions on Management (ATM)*, 3(1), 84–90. <https://doi.org/10.33050/atm.v3i1.848>
- Salvi, S. S., & Patil, P. (2021). *a Case Study on Sewage Treatment Plant 1*. 9(5), 4216. [www.ijcrt.org](http://www.ijcrt.org)
- Saragih, L. S., & Meak, S. V. (2022). Post-revitalization of traditional market in a marketing perspective. *Review of Management, Accounting, and Business Studies*, 1(2), 58–67. <https://doi.org/10.38043/revenue.v1i2.3737>
- Shyamala, R., Shanthi, M., & Lalitha, P. (2008). Physicochemical analysis of borewell water samples of telungupalayam area in Coimbatore District, Tamilnadu, India. *E-Journal of Chemistry*, 5(4), 924–929. <https://doi.org/10.1155/2008/152383>
- Siregar, R. W., Marisa, A., & Fachrudin, H. T. (2021). Analysis traditional market condition from functional aspects, case study Sukaramai traditional market Medan. *IOP Conference Series: Earth and Environmental Science*, 780(1).



<https://doi.org/10.1088/1755-1315/780/1/012042>

- Soelistiyono, A., Adrianto, A. T., & Kurniawati, E. (2018). Analyzing the Impact of Traditional Market Relocation in Surrounding Traders and Communities (Case Study of Demak Mranggen Markets). *Economics & Business Solution Journal*, 2(1), 35–45.
- Suprpto, H., & Raden, I. (2022). Analisis Kesesuaian Kualitas Pasar SNI 8152 Pasar Rakyat Pada 3 Pasar Di Kutai Kartanegara. *Jurnal Ekonomi & Manajemen Indonesia*, 22(1), 83–95. <https://doi.org/10.53640/jemi.v22i1.1070>
- Ujianti, N. M. P., & Dewi, A. (2021). Traditional Market Revitalization in the Perspective of Cultural Tourism Development in Denpasar City. *2nd International Conference on Business Law and Local Wisdom in Tourism*, 605(Icblt), 372–374. <https://www.atlantis-press.com/article/125965290.pdf>
- Wahaj, A. F. (2019). Architectural Elements of a Building. *Journal of Research in Infrastructure Designing*, 2(2), 1–3. <https://www.embuilding.com.au/gloss>
- Wahida, R. N., Milton, G., Hamadan, N., Lah, N. M. I. B. N., & Mohammed, A. H. (2012). Building Condition Assessment Imperative and Process. *Procedia - Social and Behavioral Sciences*, 65(January), 775–780. <https://doi.org/10.1016/j.sbspro.2012.11.198>
- Widayanti, F. R., & Supriyatno, D. (2020). Analysis of Accessibility to City Transport Performance Based on Passenger Perception with Case Study: Tambak Osowilangun Terminal Route. *Journal of Physics: Conference Series*, 1569(4). <https://doi.org/10.1088/1742-6596/1569/4/042016>
- Yulia, Y. A., & Oktaviani, A. (2018). The Role of Traditional Market in Supporting Economic Development in Surakarta : Case Study on Klewer Market in Surakarta. *International Seminar on Education and Development of Asia*, July, 16–19.
- Z, I., Wardono, S., & Mulyadi, W. H. (2019). Perbaikan sarana dan prasarana Belajar Mengajar dan Pelatihan Instalasi alat-alat Listrik Rumah Tangga di Madrasah Ibtidaiyah Mibtahul Ulum, Desa Leuwi karet, Kecamatan Klapa Nunggal Kabupaten Bogor. *Mitra Akademia: Jurnal Pengabdian Masyarakat*, 1(2), 1–7. <https://doi.org/10.32722/mapnj.v1i2.1352>