
Land Optimization to Improve the Economy through Attractive Tourist Destinations in Smart City Indonesia

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Abstract

Increasing urbanization and technological developments have triggered significant transformations in urban land management, especially in Indonesia's Smart City. This study aims to formulate and implement land optimization strategies by developing attractive tourist destinations in Smart City, Indonesia. This community service research method uses the ABCD (Asset Based Community Development) method, which prioritizes valuable aspects owned by a community, better known as an asset-based approach, with five stages: Discovery, Dream, Planning, Define, and Destiny. The results provide a comprehensive view to support the development of tourist destinations responsive to smart cities in Indonesia, marking an important contribution to sustainable and innovative city development. So, it is concluded that developing smart and sustainable tourist destinations is crucial in maximizing land use in Indonesia's Smart Cities. The integration of smart technology, community participation, and environmental sustainability are key elements in creating tourist destinations that are not only attractive but also contribute to local economic growth and environmental preservation.

Keywords

economy; improve; optimization; smart city; tourist destinations.



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INTRODUCTION

Increasing urbanization and technological developments have triggered significant transformations in urban land management, especially in Indonesia's Smart City (Ilmananda et al., 2022). Focusing on land optimization by developing attractive tourist destinations is becoming increasingly important in the quest for holistic solutions to address these changes. Smartly designed tourist destinations not only have the potential to be drivers of local economic growth but can also play a vital role

in maintaining a balance between sustainable urban growth and environmental preservation (Al Mustaqim, 2023); (Desembrianita et al., 2023). As a first step, this study aims to investigate the potential, challenges, and impacts of land optimization through tourist destinations in the era of Smart City Indonesia. By combining sustainability, smart technology innovation, and community empowerment, this research describes the foundation for developing concepts that can stimulate sustainable growth and improve the quality of life in Indonesia's smart cities.

This research stems from the need to optimize land use in Madiun City, Indonesia. Like many cities in Indonesia, Madiun needs help in efficient and sustainable land management. Rapid population growth and economic development triggered an increased need for land for settlement, industry, and agriculture (Nyoman & Yasa, 2017); (Akhirul et al., 2020). The risk of land degradation and loss of green open space is also increasing. This research intends to provide concrete solutions focusing on land optimization through the development of attractive tourist destinations. This approach is expected to create a balance point between urban growth and environmental preservation. Tourist destinations were chosen as the main strategy because they have the potential to have a double positive impact, namely developing the local tourism sector while caring for environmental sustainability (Nurdayanti, 2021); (Moridu et al., 2023). In addition, the development of tourist destinations can also be a catalyst to improve the welfare of the local community. Through the increase in the number of visitors, it is hoped that new economic opportunities will be created for local communities, such as micro, small, and medium enterprises (MSMEs) and community empowerment (Keeping Up with AI., 2023) (Siregar et al., 2018). Thus, this research addresses land management issues and seeks to improve the quality of life and welfare of local communities.

However, implementing tourist destinations as a land optimization strategy also faces various challenges, such as economic sustainability, wise natural resource management, and supporting infrastructure development. Therefore, a holistic approach involving active participation from the government, communities, and other stakeholders is needed to succeed in optimizing land through attractive tourist destinations in Madiun City, Indonesia.

One of the gap's previous studies was the existence of an identifiable gap in the lack of focus on integrating economic and ecological sustainability in land optimization through tourist destinations in smart cities (Angelidou et al., 2018); (Bibri & Krogstie, 2017); (Belli et al., 2020). Most studies tend to focus on economic aspects and do not consider the long-term impact on local ecosystems and natural resources

(Allcott & Keniston, 2018); (Eddyono et al., 2022); (Rachmawati, Haryono et al., 2021). Therefore, future research can explore how to establish an optimal balance between economic growth and environmental preservation in the context of developing tourist destinations. Future research can examine the extent to which local community participation is integrated into planning and decision-making related to tourist destinations, as well as how the sustainability of these projects can empower local communities. Research gaps are also evident in the need to explore the psychological and social impacts of developing tourist destinations in smart cities. How attractive tourist destinations affect local identity, community pride, and everyday social life is an aspect that needs to be detailed to understand the full impact of this project. Past research has not fully investigated the specific challenges and opportunities faced by Indonesia's smart cities in optimizing land through tourist destinations (Mu'alim & Habibussalam, 2021); (Rachmawati, Mei et al., 2021); (Firmansyah et al., 2019); (Jiang et al., 2020); (Khan et al., 2022). Local social, economic, and policy conditions may provide unique dynamics that need to be considered to formulate effective development strategies. Through in-depth research that fills these gaps, a more holistic and detailed view of how land optimization through tourist destinations can be carried out sustainably and effectively in the context of Indonesia's smart cities.

This study aims to formulate and implement land optimization strategies by developing attractive tourist destinations in Smart City, Indonesia. The main focus includes analyzing land optimization potential, designing strategies for developing sustainable tourist destinations based on smart technology, and measuring such implementations' economic, social, and environmental impacts. Thus, this research aims to improve economic welfare through the development of the tourism sector and promote environmental sustainability, local community participation, and community empowerment. The expected impact involves increasing local income, reducing negative environmental impacts, and increasing awareness and community involvement in building sustainable tourist destinations in Indonesia's smart cities.

METHODS

In this community service, the ABCD (Asset-Based et al.) method prioritizes valuable aspects owned by a community or an asset-based approach. This approach combines acting and development philosophies (Center for Research and Service, 2020). Asset-based community development has become a common strategy in community development efforts (Al-Kautsari, 2019). In this concept, communities that experience development or empowerment are identified as communities that have diverse

potentials and assets that can be used to find solutions to various problems. The process of this community service activity involves a series of in-depth stages:

a. ***Approach and Agreement***

This approach is used to identify the potentials and obstacles Madiun City faces in its efforts to become a tourist destination in an increasingly complex digital era. This approach involves interviews with leaders of the Madiun City Government. This step aims to formulate a community service program that can provide concrete solutions for the city. The results of this approach show that the main challenges faced are the need for more human resources and limited land. After that, the service team and partners agreed to cooperate and make a cooperation agreement to carry out community service programs. The agreement includes the transfer of knowledge to partners at a predetermined time.

b. ***Implementing the Program***

In this phase, the service team establishes the type of community service activities that involve the application of the Smart City concept to optimize land use efficiently and effectively. The steps set include determining the target participants, the expected number of participants, the material to be delivered, and technical details of the implementation of activities.

c. ***Implementation of Activities***

When reaching the stage of program implementation, the team carried out a community service program by applying Smart City principles in the land use optimization strategy. At the beginning of this stage, the service team surveyed downtown Madiun and conducted a question-and-answer session to identify problems that needed immediate solutions. Furthermore, the service team delivered socialization about the importance of implementing the Smart City concept in designing and utilizing land efficiently and effectively.

d. ***Evaluation***

The team reviewed aspects that needed improvement to ensure sustainability in program implementation and cooperation with partners. At this stage, the team engages in intensive discussions with partners to make corrections to each other and reflect on the results of community service activities. The whole series of community service activities can be clearly illustrated in Figure 2.

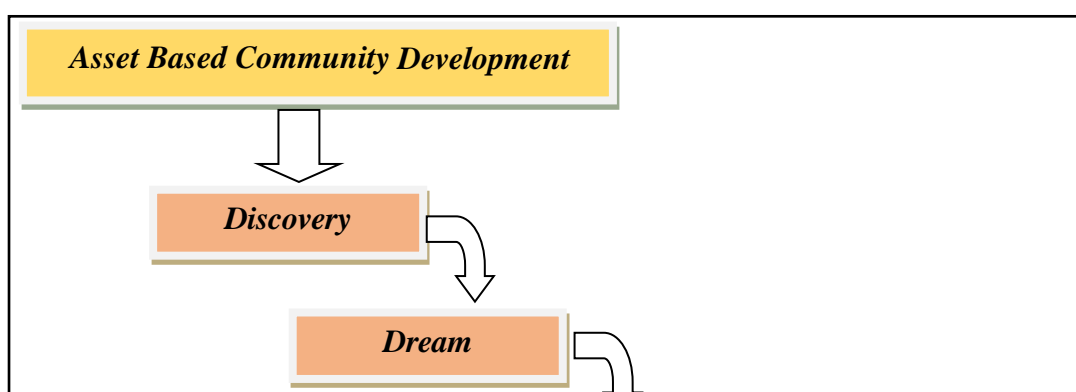


Figure 1. Activity Process

The process included in the wealth-based community development model, better known as ABCD, involves several stages of implementation, including *Discovery* (Evaluation), *Dream* (Dream), *Planning* (Planning), *Define* (Purpose Setting), and *Destiny* (Self-Determination) (Nel, 2018). These five steps serve as guidelines for implementing asset-based empowerment, as explained in detail as follows:

- *Discovery*

In this phase, the service team went to downtown Madiun to interview the mayor regarding the urban planning strategy implemented for several years. This step aims to identify the potentials that can become assets of Madiun City and can be developed.

- *Dream*

In this stage, the service team details the aspirations and expectations of the mayor of Madiun as the basis for designing an activity plan. This will guide the implementation of community service activities to the maximum.

- *Design*

Due to the complex problems faced by the mayor of Madiun, the service team jointly offered various ways and methods as alternative solutions to overcome the challenges faced by partners.

- *Define*

The service team provided support for the initiative of the mayor of Madiun, H. Maidi, in formulating a Smart City strategy in response to the problems faced. The Smart City concept was chosen because it can identify various problems faced by partners by exploring their internal strengths to overcome them.

○ *Destiny*

The service team and the mayor introduced the Smart City concept and outlined the implementation steps to reveal the main problems faced by this city. The results of this step are then presented for further analysis by the service team and local leaders.

FINDINGS AND DISCUSSION

Findings

Key findings illustrate the huge potential and several challenges involved in achieving the goal of developing smart and sustainable tourist destinations in the context of modern urbanization. One important finding is that land optimization through tourist destinations in Indonesia's Smart City can significantly increase local economic potential. The increase in tourist arrivals and various economic activities related to the tourism industry, such as local trade and tourist services, have contributed positively to economic growth in the region. However, the study highlights some key challenges in achieving this positive potential. One is the need for deeper and innovative integration of smart technology in developing tourist destinations. It found that implementing smart technologies, such as artificial intelligence and the Internet of Things, can improve destination management efficiency, enrich the tourist experience, and create more attractive and sustainable destinations. In addition, another important finding is the need for active community involvement in the entire process of developing tourist destinations.



a) Miniature Kaaba in Taman Sumber Umis



b) Miniature Merlion Statue in Taman Sumber Wangi



c) Various Galleries of 6 Countries



d) Miniature Eiffel Tower in Umis Source Park

Empowering local communities can create stronger emotional bonds and responsibilities to destinations and provide a deeper understanding of cultural values and local wisdom that must be maintained (Mukhtar et al., 2021); (Siburian, 2018). Community participation also plays a role in creating more inclusive destinations, ensuring that all local communities can enjoy economic and social benefits equally (Hexagraha & Setyorini, 2019). In sustainability, research findings emphasize the importance of considering the environmental impact of developing tourist destinations. Sustainable strategies and practices must be used to manage waste, conserve natural resources, and involve environmentally friendly practices in every stage of destination development. As such, these findings provide an in-depth look at the potential, challenges, and steps required to optimize land through tourist destinations in Indonesia's Smart City era, creating a solid foundation for further developments in sustainable and attractive smart city development.

The results provide a deep understanding of the potential and challenges of developing smart and sustainable tourist destinations in an increasingly modern urban environment. One of the main results of this research is that land optimization through tourist destinations in Indonesia's Smart Cities can substantially increase local economic potential. The increase in the number of tourists visiting, together with the community's active role in the tourism industry, has a positive impact on economic growth in the region. Nonetheless, the study also uncovers several challenges that must be overcome to develop sustainable tourist destinations successfully. One significant result is the need for more innovative and equitable integration of smart technologies. Implementing smart technologies, such as artificial intelligence and the Internet of Things, has been proven to improve destination management efficiency and visitor experience and, ultimately, create more attractive and sustainable destinations.

Another challenge is empowering local communities in all stages of tourism destination development. Active community involvement is important to create an emotional bond with the destination and maintain cultural values and local identity. Community participation was also key in creating inclusive destinations, ensuring all local communities could enjoy economic and social benefits. Regarding sustainability, the results emphasize the importance of designing strategies that pay attention to the environmental impact of developing tourist destinations. This sustainability includes waste management, natural resource conservation, and adopting environmentally friendly practices to safeguard local ecosystems. Thus, the results of this study present a comprehensive picture of the potential and challenges in land optimization through tourist destinations in the era of Smart City Indonesia. These findings provide a strong foundation for continued development in creating tourist destinations that are not only attractive but also sustainable and competitive amid ongoing urban transformation.

Discussion

This study's findings were analyzed by summarizing contributions to previous research and their relation to relevant theories. This research enriches our understanding of land optimization through tourist destinations in Smart City Indonesia by considering several key dimensions explored in previous research. Previous research, as identified in the literature, has highlighted the importance of tourist destinations in optimizing land in urban environments (Ed. et al., 2021); (Ammar, 2021). This finding aligns with our research, which shows that developing attractive tourist destinations can be a motor of local economic growth and an effective solution to reach the potential of existing land. However, this study involves Smart City Indonesia as a unique context, introducing new dynamics in land management and the application of smart technology. In addition, the study's results highlight the positive impact of smart technology integration in developing tourist destinations. These findings support previous research emphasizing the need for technological innovation to improve operational efficiency and enrich the visitor experience in tourist destinations (Stankov & Gretzel, 2020); (Azis et al., 2020). The main contribution of this research is to show that smart technology can be a major catalyst in creating sustainable tourist destinations in Smart City Indonesia.

The results of this study show that involving the community in the development of tourist destinations not only has a positive social impact but also enriches the visitor experience and creates more authentic destinations. However, some of the challenges identified in this study, such as the need to increase community empowerment and

ensure environmental sustainability, present an opportunity to deepen our understanding of how theories such as community participation and sustainability can be applied concretely in the context of developing tourist destinations in Indonesia's Smart City. Thus, this research not only fills the gap in knowledge on land optimization through tourist destinations in smart cities but also paves the way for further development in applying relevant theories in sustainable development practices in modern urban environments.

Through in-depth analysis comes several key concepts that can stimulate further thinking and development. First, this study underscores the urgency to maximize urban land use amid transforming into smart cities. The focus on tourist destinations indicates recognition of the potential of the tourism sector as a major agent in optimizing the land. Developing attractive tourist destinations becomes more relevant in Indonesia's Smart City, reflecting the integration of smart technology to improve city life. The smart city concept relies on technology for operational efficiency and to improve the quality of life and attractiveness of the city as a tourist destination. Therefore, this research has the potential to open the door to new ways of utilizing smart technology to enrich tourist destinations.

Furthermore, this study implies the need for community involvement in developing tourist destinations. Land optimization is not only the government or business sector's responsibility but also requires active participation and empowerment of local communities. The understanding that communities have valuable assets and potential to develop in the management of tourist destinations highlights the ABCD approach, which places communities as key agents in change. However, the analysis also shows that the study faces several challenges, including how to integrate economic, environmental, and social sustainability in the development of tourist destinations. Striking a balance between economic growth and environmental preservation is becoming increasingly important in the face of global challenges such as climate change and the preservation of natural resources. This research summarizes an ambitious and complex vision for developing smart and sustainable tourist destinations in Smart City Indonesia. Through a holistic approach involving smart technology, community participation, and sustainability, this research has the potential to provide new insights into the role of tourist destinations in shaping the future of dynamic and competitive smart cities.

From the analysis above, efforts to develop tourist destinations in the context of Smart Cities have a significant positive impact. Applying the Smart City concept is the key to optimizing land use, increasing operational efficiency, and increasing the

attractiveness of tourist destinations. The findings highlight the importance of integrating smart technology, community participation, and environmental sustainability in designing sustainable tourist destinations. However, challenges such as human capital shortages and economic sustainability underscore the need for a holistic approach involving collaboration between government, society, and the business sector. Overall, the study provides a comprehensive view to support the development of tourist destinations responsive to the development of smart cities in Indonesia, marking an important contribution to sustainable and innovative urban development.

CONCLUSION

The conclusion of this study shows that the development of smart and sustainable tourist destinations has a crucial role in maximizing land use in Indonesia's Smart Cities. The integration of smart technology, community participation, and environmental sustainability are key elements in creating tourist destinations that are not only attractive but also contribute to local economic growth and environmental preservation. However, the challenges faced, such as human resource shortages and economic sustainability, demand a holistic approach that involves collaboration between government, society, and the business sector. Therefore, this research significantly contributes to designing a conceptual framework for developing tourist destinations responsive to modern urban dynamics in Indonesia, especially in the Smart City era.

REFERENCES

- Akhirul, A., Witra, Y., Umar, I., & Erianjoni, E. (2020). Dampak Negatif Pertumbuhan Penduduk Terhadap Lingkungan Dan Upaya Mengatasinya. *Jurnal Kependudukan Dan Pembangunan Lingkungan*, 1(3), 76–84.
- Al-Kautsari, M. M. (2019). Asset-Based Community Development: Strategi Pengembangan Masyarakat. *Empower: Jurnal Pengembangan Masyarakat Islam*, 4(2), 259. <https://doi.org/10.24235/empower.v4i2.4572>
- Al Mustaqim, D. (2023). Strategi Pengembangan Pariwisata Halal Sebagai Pendorong Ekonomi Berkelanjutan Berbasis Maqashid Syariah. *AB-JOIEC: Al-Bahjah Journal of Islamic Economics*, 1(1), 26–43.
- Allcott, H., & Keniston, D. (2018). Dutch disease or agglomeration? The local economic effects of natural resources boom in modern America. *The Review of Economic Studies*, 85(2), 695–731.
- Ammar, M. N. (2021). *Tourism Sector Village Development Sebuah Kajian Pustaka*

- Terstruktur (Systematic Literature Review). *Kybernan: Jurnal Studi Kepemerintahan*, 4(1), 55–74.
- Angelidou, M., Psaltoglou, A., Komninos, N., Kakderi, C., Tsarchopoulos, P., & Panori, A. (2018). Enhancing sustainable urban development through smart city applications. *Journal of Science and Technology Policy Management*, 9(2), 146–169.
- Azis, N., Amin, M., Chan, S., & Aprilia, C. (2020). How smart tourism technologies affect tourist destination loyalty. *Journal of Hospitality and Tourism Technology*, 11(4), 603–625.
- Belli, L., Cilfone, A., Davoli, L., Ferrari, G., Adorni, P., Di Nocera, F., Dall’Olio, A., Pellegrini, C., Mordacci, M., & Bertolotti, E. (2020). IoT-enabled smart sustainable cities: Challenges and approaches. *Smart Cities*, 3(3), 1039–1071.
- Bibri, S. E., & Krogstie, J. (2017). Smart, sustainable cities of the future: An extensive interdisciplinary literature review. *Sustainable Cities and Society*, 31, 183–212.
- Desembrianita, E., Zulharman, Z., Masliardi, A., Asfahani, A., & Azis, A. A. (2023). Optimalisasi Taman Wisata Kelurahan Di Kota Gresik Dalam Menata Lingkungan Yang Menarik. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 7823–7830.
- Eddyono, F., Darusman, D., Sumarwan, U., & Sunarminto, T. (2022). Tourism Competitiveness, Tourist Foreign Arrival And Non-Tax State Revenue In National Parks In Indonesia. *Indonesian Journal of Forestry Research*, 9(2), 165–183.
- Firmansyah, H. S., Supangkat, S. H., Arman, A. A., & Giabbanelli, P. J. (2019). Identifying the components and interrelationships of smart cities in Indonesia: Supporting policymaking via fuzzy cognitive systems. *IEEE Access*, 7, 46136–46151.
- Haslinah, A., Tahir, U., Al Imran, H., Asfahani, A., & Larisu, Z. (2023). Pemberdayaan Masyarakat Dalam Program Lingkungan Hijau Bebas Polusi Di Kota Makassar. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 8906–8912.
- Hexagraha, S. A. A., & Setyorini, S. N. (2019). Tinjauan Terhadap Konsep Keadilan Spasial dan Partisipasi Masyarakat dalam Perencanaan dan Pengendalian Pemanfaatan Ruang pada Program Normalisasi Ciliwung di Provinsi DKI Jakarta. *Jurnal Hukum & Pembangunan*, 49(2), 349–375.
- Ilmananda, A. S., Marcus, R. D., & Pamuji, F. Y. (2022). Pemanfaatan Infrastruktur Teknologi Informasi dan Komunikasi (TIK) dalam Pengembangan Smart City: Studi Kasus Pemerintah Kota Batu. *Briliant: Jurnal Riset Dan Konseptual*, 7(4), 253–268.
- Jiang, J. C., Kantarci, B., Oktug, S., & Soyata, T. (2020). Federated learning in smart city sensing: Challenges and opportunities. *Sensors*, 20(21), 6230.
- Khan, A., Aslam, S., Aurangzeb, K., Alhussein, M., & Javaid, N. (2022). Multiscale

- modeling in smart cities: A survey on applications, current trends, and challenges. *Sustainable Cities and Society*, 78, 103517.
- Kumaji, R. A., Hakim, L., & Pangestuti, E. (2021). Ecolodge Sebagai Sarana Akomodasi Pariwisata Berkelanjutan. *Profit: Jurnal Administrasi Bisnis*, 15(1), 27–42.
- Moridu, I., Purwanti, A., Melinda, M., Sidik, R. F., & Asfahani, A. (2023). Edukasi Keberlanjutan Lingkungan Melalui Program Komunitas Hijau Untuk Menginspirasi Aksi Bersama. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 7121–7128.
- Mu'alim, Z. A., & Habibussalam, H. (2021). Tinjauan Literatur Sistematis Terhadap Pembangunan Kepariwisata Yang Berkelanjutan. *J-3P (Jurnal Pembangunan Pemberdayaan Pemerintahan)*, 171–192.
- Mukhtar, J., Yunus, Y., & Nugroho, I. (2021). Integrasi Kegiatan Masyarakat Budaya Lokal dan Lembaga dalam Pendidikan Toleransi. *Al-Izzah: Jurnal Hasil-Hasil Penelitian*, 43–57.
- Nel, H. (2018). A comparison between the asset-oriented and needs-based community development approaches in terms of systems changes. *Practice*, 30(1), 33–52.
- Nurdayanti, M. (2021). Implementasi Pengembangan Kurikulum Untuk Pencapaian Kompetensi Siswa Pada Pembelajaran Masa Pandemi Di MTs PAB-1 Helvetia Medan. *Jurnal Fadillah: Manajemen Pendidikan Islam & Umum*, 1(3).
- Nyoman, S., & Yasa, I. G. W. M. (2017). Pengaruh Pertumbuhan Ekonomi, Migrasi Masuk Terhadap Pertumbuhan Penduduk dan Alih Fungsi Bangunan Penduduk Asli Kota. *Jurnal Ekonomi Kuantitatif Terapan*, 10(1), 228335.
- Pusat Penelitian dan Pengabdian. (2020). *Pedoman Pengabdian kepada Masyarakat (PkM)* (pp. 1–17).
- Rachmawati, R., Haryono, E., & Rohmah, A. A. (2021). Developing smart city in the new capital of Indonesia. *2021 IEEE International Smart Cities Conference (ISC2)*, 1–7.
- Rachmawati, R., Mei, E. T. W., Nurani, I. W., Ghiffari, R. A., Rohmah, A. A., & Sejati, M. A. (2021). Innovation in coping with the COVID-19 pandemic: The best practices from five smart cities in Indonesia. *Sustainability*, 13(21), 12072.
- Siburian, R. (2018). Akses dan Pengelolaan Sumber Daya Hutan Berbasis Kearifan Lokal pada Masyarakat di Kabupaten Manokwari. *Jurnal Masyarakat Dan Budaya*.
- Siregar, G., Sibuea, M. B., & Novita, D. (2018). Model Pengembangan Komoditas Dan Jenis Usaha Unggulan Usaha Mikro, Kecil Dan Menengah (Umk). *Kumpulan Penelitian Dan Pengabdian Dosen*, 1(1).
- Stankov, U., & Gretzel, U. (2020). Tourism 4.0 technologies and tourist experiences: a human-centered design perspective. *Information Technology & Tourism*, 22(3), 477–488.