
Interactions Among Helixes in the Hexa-helix Framework in Warungboto Tourism Village Yogyakarta

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ABSTRACT

The Warungboto Tourist Village in Yogyakarta City is strategically located at the city center; however, the number of tourists visiting this village remains insignificant compared to the number of tourists visiting Yogyakarta. Therefore, tourism activities in the Warungboto Tourist Village require further development. This development cannot be carried out independently by the local community but necessitates interaction among various stakeholders. This study aims to describe the interactions among the six helixes present in the Warungboto Tourist Village, namely the Yogyakarta City Government, higher education institutions, industries within the Warungboto Tourist Village, the local community, the environment, and the media (the six-helix model). This study used descriptive qualitative method. The findings indicate that interactions among these six helixes are essential for the sustainable tourism development of the Warungboto Tourist Village. These results align with the hexa-helix theory, which posits that government, academia, industry, community, environment, and media interaction are vital for sustainable development. Further research can be carried out for the development of tourism in tourist villages through interaction between the government, universities, industrial communities, the media and the environment or other fields.

A. INTRODUCTION

Yogyakarta City has consistently been a destination for travelers from around the globe. Before the COVID-19 pandemic, Yogyakarta was a popular tourist spot, with holiday seasons, religious festivities, and year-end periods overflowing with visitors. However, this situation changed drastically during the pandemic, leading to a significant decline in visitors. Fortunately, Yogyakarta has gradually returned to normalcy as tourism recovers post-pandemic. The city attracts tourists again, particularly in iconic areas like

Malioboro and its surroundings, as well as the Zero Kilometer Point and the Tugu area. Meanwhile, other tourist destinations have not yet drawn visitors as effectively as Malioboro and its vicinity.

One of the lesser-known attractions is the Warungboto Tourism Village, located near the historical site of “Umbul Warungboto”, established by Hamengku Buwono II (Dinas Pariwisata Kota Yogyakarta, 2018). This site is often chosen for pre-wedding photo shoots by local residents. However, the Warungboto Tourism Village has yet to become a primary destination for tourists visiting Yogyakarta. Although the number of visitors to Warungboto has increased over the past two years, the growth remains modest compared to other tourist destinations in Yogyakarta. In 2022, Warungboto welcomed 722 visitors, which increased to 1,701 in 2023. In contrast, the Kraton attracted 511,521 visitors in 2023, an increase from 345,877 in 2022 (Dinas Pariwisata DIY, 2022 and 2023). Compared to the number of visitors at Warungboto, there is a significant disparity between the number of tourists at other tourist sites.

Despite being frequently promoted in both online and print media, the village did not experience a notable increase in visitors. Harian Jogja also reports on the decline of tourist visits to Warungboto in 2022.

Visitor numbers to the Warungboto Tourism Village have not shown encouraging signs during the Christmas holiday. Interest in visiting alternative tourist destinations outside the Malioboro and Kraton areas remains low, particularly for tourist villages. This village is primarily frequented by students, leading the area manager to focus on educational tourism (Leon and Arief Junianto, 2022).

To enhance the recognition of this tourist village among visitors, the sustainability of Warungboto cannot solely rely on the local community. It is essential to involve other stakeholders intensively in its development. One key stakeholder that consistently communicates with the Warungboto Tourist Village is the Yogyakarta City Government. The government actively promotes the tourist village through the Festival Kampung Wisata, an initiative launched by the Yogyakarta City Government, and other activities.

The Yogyakarta City Government held the Festival Kampung Wisata on June 21, 2024, at XT Square Yogyakarta. This event celebrates local culture and promotes the various tourist villages in Yogyakarta, including the Warungboto Tourist Village (Dinas Pariwisata Kota Yogyakarta, 2024).

The Festival Kampung Wisata, organized by the Yogyakarta City Government through the Tourism Office, helps to enhance the tourist village’s recognition among visitors. The event features cultural performances and products by the tourist villages. The event serves as a platform for intensive interaction, particularly among the Yogyakarta City Government, local industries in the Warungboto Tourist Village, community members, media covering the event, and the environment, which provides the natural attractions promoted during the event.

In addition to the Yogyakarta City Government, local higher education institutions in Yogyakarta also engage with the tourist village. Interactions between the community, industry, and higher education institutions in the tourist village are realized through the Tridharma program of higher education, particularly in research and community service activities conducted in the Warungboto Tourist Village. Media coverage is provided during these Tridharma activities.

The developing industries within Warungboto contribute to promoting the tourist village to visitors; industry actors provide goods and services to tourists. In this context, interactions occur between higher education institutions and industry actors as industries apply innovations developed by higher education institutions to their products and services. These innovations enhance the quality and competitiveness of the output. Interactions among industry actors, the community of the tourist village, the media, the government, and the environment occur during events organized by the Yogyakarta City Government and those held within the Warungboto Tourist Village.

The community of the Warungboto Tourist Village interacts with higher education institutions during Tridharma activities, particularly research and community service conducted in the tourist village. These interactions typically involve activities related to the artistic and cultural attractions of the community. Community members also interact with the environment when tourists participate in nature activities within the tourist village.

In this context, the environment provides natural attractions. Interactions within these natural attraction settings involve community members organizing activities to draw tourists, industries supplying goods and services as tourists explore these attractions, and media outlets covering these events. Notably, river tours along the Gajah U Wong River have become a primary attraction in the Warungboto Tourist Village.

The media also interacts with the Warungboto Tourist Village by publicizing the various activities taking place there. Thus, six elements (the hexa helix) interact collaboratively in the Warungboto Tourist Village: the Yogyakarta City Government, local higher education institutions, the industries present in the Warungboto Tourist Village, the community of the Warungboto Tourist Village, the media, and the environment. These six elements positively contribute to the development of tourism in the Warungboto Tourist Village of Yogyakarta.

The development of tourist villages in Yogyakarta, particularly the Warungboto Tourist Village, requires interactions among various stakeholders. Interaction is defined as a dynamic, reciprocal relationship between individuals, groups, and individuals and groups (Arifin, 2018). Through prolonged, meaningful, and mutually beneficial interactions, stakeholders involved in development engage in a high level of social integration (Ningrum and Puji Lestari, 2022). According to Pitana (2005), the interaction between tourists and local communities intensifies when cultural tourism is developed, as culture is embedded in daily life (Widari, 2022). When such interactions are sustained over a considerable duration, they evolve into a form of social integration. Cultural tourism can easily develop through intensive interactions between tourists and local communities.

Regarding the hexa helix, the six helixes interact collaboratively for sustainable development. The hexa helix comprises the elements contributing to the development of the Warungboto tourist village: the Yogyakarta City Government, local higher education institutions in Yogyakarta, industries within the tourist village, the community of the tourist village, the media, and the environment. These six elements interact within the Warungboto Tourist Village to enhance its development through various activities. Interactions in the hexagonal helix represent a combination of several helixes found in the triple helix, quadruple helix, penta helix, and quintuple helix.

In the triple helix model, interactions are established between industry, the government, and higher education institutions (Etzkowitz, 2008; Leydesdorff, 2010; Ortiz et al., 2016; Beugre, 2017; Sumarto et al., 2020; Sumarto et al., 2021; Sumarto et al., 2023). The government is responsible for creating regulations and providing various training programs on entrepreneurship. Higher education institutions generate outputs and innovations from research and community service that can be applied to the development of products and services, including producing outputs with competitive advantages in the industrial sector. Industry serves as a means for higher education institutions to realize the innovations they produce while also providing goods and services. Interactions among the government, industry, and higher education institutions (triple helix) occur collaboratively and support the other helixes. In activities organized by the government, such as entrepreneurship training, interactions occur among university personnel acting as instructors and industry participants attending the training provided by the government.

In the context of the tourist village, the government plays a crucial role in producing regulations and organizing various training programs, including those for product development and human resource development within the tourist village. Interactions among the government, industry and higher education institutions occur during these training sessions. The government invites higher education institutions to serve as instructors for the training. Additionally, industry actors from the tourist village participate as attendees in these training programs. Interactions also happen through innovations generated by higher education institutions, which are based on research and community service outcomes that have competitive advantages and are applied to the development of products and services in the tourist village industry. In the triple helix model, the government, industry, and higher education institutions collaborate to support the development of the tourist village.

Cultural-based communities and media are added to form the quadruple helix, which interacts alongside the government, higher education institutions, and industry (Carayannis et al., 2012; Park, 2014; Villarreal and Calvo, 2014; Sumarto et al., 2020; Sumarto et al., 2021; Sumarto et al., 2023). The triple helix does not involve the community, while the quadruple helix recognizes that culturally based communities also play a role in addressing current social conditions, making their interaction with the government, higher education institutions, and industry essential in this democratic era. Nowadays, media-based communities are also vital, as media plays an important role in facilitating interactions. Community members, including those in the tourist village, need to be included in interactions with the government, higher education institutions, and industry, as they have a better understanding of their local area, which facilitates regional development.

Furthermore, interactions with the environment are necessary for subsequent development. The quintuple helix incorporates the environment, which interacts with the government, higher education institutions, industry, and culturally-based communities and media. The interactions among these five helixes aim at prosperity, social ecology, and sustainable development. Within the quintuple helix, ongoing involvement of the environment is required, encompassing both natural sciences and social sciences, as well as humanities (Carayannis and Campbell, 2009, 2010; Carayannis et al., 2012; Ortiz et al., 2016; Beugre, 2017; Sumarto et al., 2020; Sumarto et al., 2021; Sumarto et al., 2023). The environmental aspect of the quintuple helix focuses on studies of innovation for sustainability and continuity, and it also serves as a provider of natural resources (Carayannis et al., 2012; Ortiz et al., 2016). The quintuple helix extends the concept of the quadruple helix and the triple helix, acknowledging the essential role of the environment in the interactions among the government, higher education institutions, industry, and culturally-based communities and media for sustainable development and wealth in all sectors.

The five helixes—government, higher education institutions, industry, culturally based communities and media, and the environment—are crucial for supporting prosperity and sustainable development across various fields. The environment plays an important role in tourism, as tourism is significantly related to environmental and humanitarian factors (Pung and Chiappa, 2020). Efforts to foster environmental awareness in tourism development must be sustained, as the protection of natural and cultural resources is important for sustainable development (Muzapu and Sibanda, 2016 in Yasir, 2021).

The quintuple helix is vital for the development of tourist villages, given the environment's significance in the sustainability of these villages. The environment interacts with the government, higher education institutions, industry, culturally-based communities and media to advance tourist villages. The government formulates regulations to strengthen tourist villages and organizes various training sessions. Higher education institutions generate outputs that contribute to the development of tourist villages and create innovations to support the development of industries with competitive advantages. The industry serves as a means to realize innovations in products and services while also providing goods and services within tourist villages. Culturally-based communities and media are instrumental in the development of tourist villages, while the environment plays a crucial role in sustainable development within tourist villages. The combination of government, higher education institutions, industry, culturally-based communities and media, and the environment (the quintuple helix) is significant for the development of tourist villages and supports their sustainability.

The five helixes of the quintuple helix—government, industry, higher education institutions, culturally-based communities, and the environment—interact together for sustainability. However, media is also essential for organizations and communities, especially in today's open landscape filled with diverse media. Media plays a necessary role in the penta helix, facilitating interactions with other helixes for development, including tourism development within tourist villages. Media is one of the helixes in the penta helix, alongside the government, higher education institutions, and industry (Lindmark et al., 2009; Soemaryani, 2016; Muhyi et al., 2017; Sumarto et al., 2020; Sumarto et al., 2021; Sumarto et al., 2023).

Information dissemination is strongly related to media. Media also serves as a tool for promotion, including tourism promotion, thereby supporting the sustainability of tourism and the development of tourist villages.

Thus, the interacting helixes within the quintuple helix include the government, higher education institutions, industry, culturally-based communities and media, and the environment. Meanwhile, the interacting helixes within the penta helix consist of the government, industry, higher education institutions, culturally-based communities and media, and media. The hexa helix is a combination of the penta helix and quintuple helix, encompassing the government, higher education institutions, industry, culturally-based communities and media, the environment, and media (Sumarto et al., 2023). The hexa helix positively contributes to tourism development, including tourist villages, for the sustainability of tourism.

Previous Studies

Research on interactions within the hexa helix, which involves the government, higher education institutions, industry, culturally-based communities and media, the environment, and media, is still limited. Suranto et al. (2023) conducted a study entitled "E-tourism: A Communication Strategy of Yogyakarta's Tourism Potential Marketing in the Industrial Revolution 4.0 Era", highlighting that advancements in digital technology can serve as a means to promote tourism in the context of the Fourth Industrial Revolution. This system provides a variety of digital information.

Martinez et al. (2023) explored the quadruple helix in their study titled "Determinants and Performance of The Quadruple Helix Model and The Mediating Role of Civil Society". This research aimed to know the factors that determine regional innovation models by considering society as an aligned element in the mediation process. The findings confirm that technology, science, and innovation in public policy occur when there is greater community engagement.

In another study, entitled "Tourism Village Development for Sustainable Tourism in West Java Indonesia: A Hexa Helix Tourism Collaboration Perspective", Kartika, Edison, and Maryani (2024) analyzed how stakeholders (academics, business, government, community, media, and tourists) engage in the hexa helix to develop sustainable tourism in tourist villages. Their results indicate that the hexa-helix approach is crucial for sustainable tourism development.

Anisykurlillah (2024), in a study titled "Kolaborasi Hexa Helix dalam Pengembangan Ekosistem Digital Kreatif di Kota Malang", examined the strategies employed by the Malang City Government in developing a creative digital ecosystem through hexa helix collaboration (government, business, academia, community, media, and banking). This research aimed to analyze and map the roles of each stakeholder, finding that the Hexa-helix collaboration has not yet reached optimal levels in developing the creative digital ecosystem.

Bahrudin and Nike Mutiara Fauziah (2022) explored the role of hexa helix actors in their study titled "Politik Pariwisata: Analisis Peran Aktor Hexa Helix dalam Inovasi Kebijakan Pariwisata di Kabupaten Banyumas". The aim was to analyze the roles of hexa helix actors (government, private sector, media, higher education institutions, non-governmental organizations, and affected communities) in tourism policy innovation in Banyumas. The research results explain that the role of the actors in policy innovation is still predominantly held by the Banyumas Regency Government.

To sum up, previous research has focused on the development of digital technology to promote tourism. However, interactions among the six helixes – government, higher education institutions, industry, culturally-based communities and media, the environment, and media – have not been thoroughly explored. Other studies have focused on the quadruple helix model. While some researchers have investigated the hexa helix, the components of the helix differ across studies. Research on the hexa helix (academics, business, government, community, media, and tourists) has aimed at developing sustainable tourism in the growth of tourist villages. Other studies on hexa helix (government, business, academia, community, media, and banking) focus on developing a creative digital ecosystem. Additionally, research on hexa helix (government, private sector, media, higher education institutions, non-governmental organizations, and affected communities) addresses tourism policy innovation in Banyumas Regency.

The current study on interactions among the six helixes in the tourist village context differs from previous research in terms of the interacting helixes. The common helixes between the current study and earlier ones are government, higher education institutions, industry/private sector/business, community, and media. However, the additional helixes that differ include tourists, banking, and non-governmental organizations. The hexa helix in this research represents a collaboration between the quintuple helix and penta helix, enhancing the interactions of media and environment with those among the government, higher education institutions, industry, and culturally-based communities and media. This research is conducted in Warungboto Tourist Village, providing a unique locus compared to previous studies. This study aims to describe the interactions among the six helixes present in the Warungboto Tourist Village, namely the Yogyakarta City Government, higher education institutions, industries within the Warungboto Tourist Village, the local community, the environment, and the media (the six-helix model).

B. METHOD

Data was collected through observation, interviews, and documentation. Observation is a data collection method where the researcher immerses themselves in the field to conduct observations (Patilima, 2013). The researchers conducted direct observations related to activities in Warungboto Tourist Village. Observations included the implementation of regulatory enhancements by the Government of Yogyakarta City during events such as the Festival Tourist Village. The researchers also observed the production processes of local industries and community who fully contributed during the festival, along with the interactions occurring among stakeholders. Additionally, media coverage of the activities in Warungboto Tourist Village, especially during major events organized by the government, was observed, as well as the natural attractions available in the village for tourists.

In the interview method, the researchers adopted an open approach to questioning informants. Questions were designed to explore the subjects of the research in greater depth (Patilima, 2013). The researchers interviewed various stakeholders related to tourism in Warungboto Tourist Village, including village administrators and residents.

The researchers also utilized documentation as a data collection method. In qualitative research, document studies serve as a complement to observation and interview methods. The results from observations and interviews gain credibility when supported by documents in the form of written materials, images, or significant works by individuals (Sugiyono, 2016). Data collection through documentation involved gathering information from documents related to tourism in Warungboto Tourist Village, obtained from both print and online media. The information acquired from this documentation helps complete the data derived from observations and interviews regarding the interactions among the six helixes in Warungboto Tourist Village.

The data analysis technique employed in this research follows the framework proposed by Miles et al. (2014). They outline that data analysis comprises three components: (1) data condensation, (2) data display, and (3) conclusion drawing/verification. Data analysis in qualitative research is the process of searching and structurally compiling data from in-depth interviews, field notes and other materials so that the results of the research are easy to understand by others (Djamel 2017). Qualitative data analysis is the process of selecting, sorting and organizing data collected from records in the field based on observations, in-depth interviews and documentation. Through data analysis, a deep, meaningful, unique understanding and new findings that are descriptive will be obtained. The results of the researcher's findings can be conveyed to others (Nasution 2023). The analysis encompasses data condensation, presentation, and conclusion. During the analysis phase, data related to tourism activities in Warungboto Tourist Village was collected. The data gathered includes information from observations, interviews, and documentation concerning the interactions among the six helixes: the Government of Yogyakarta City, higher education institutions, local industries, the community of Warungboto Tourist Village, media, and the environment. This data is then

processed to simplify it and presented coherently, making it accessible for readers regarding tourism activities in Tourist Village Warungboto through the lens of the hexa helix interactions. The final step involves drawing conclusions based on the presented data about the interactions among the six helixes in tourism at Warungboto Tourist Village, Yogyakarta City.

C. RESEARCH FINDING AND DISCUSSION

The development of tourism at Warungboto Tourist Village requires interaction among six-helix entities: the Yogyakarta City Government, the industries within Warungboto Tourist Village, higher education institutions, the local community of Warungboto Tourist Village, the media, and the environment.

The Government

In this context, the government is responsible for producing regulations and organizing various training programs aimed at product development, both in goods and services and human resource development within tourist villages. The regulation that reinforces the existence of tourist villages in Yogyakarta, including Warungboto Tourist Village, is the Mayor's Regulation Number 115 of 2016. One of the contributions of the Yogyakarta City Government to the development of Warungboto Tourist Village is through the Tourism Office, which organizes the Festival Kampung Wisata.

On Friday, June 21, 2024, the Yogyakarta City Government held the Festival Kampung Wisata. This event serves as a celebration of local culture and a momentum to strengthen community ties while promoting the region's rich tourism potential. Each tourist village presents its unique cultural identity. During this event, the Yogyakarta City Government supports local tourism development and preservation efforts for future generations (Yogyakarta City Tourism Office, 2024).

At the festival, interactions occurred between the Yogyakarta City Government and the management and community of Warungboto Tourist Village. Additionally, industry players from Warungboto Tourist Village interacted with the Yogyakarta City Government by showcasing the products and services produced within the village. Media representatives engaged with the other helix entities through coverage of the festival. These interactions among the helixes collectively contributed to the success of this event, enhancing the development of tourist villages and increasing their visibility to tourists and the general public.



Figure 1: Tourism Village Festival 2024

Source: Yogyakarta City Tourism Office

In addition to organizing events for the development of Warungboto Tourist Village, the Yogyakarta City Government also conducts various training programs to support entrepreneurship, including initiatives focused on businesses within the tourist village. The government collaborates with higher education institutions to serve as instructors for these training programs, with industry representatives participating as attendees. Collaborative interactions occur among the government, higher education institutions, industry,

the community, and media covering these activities. Intensive interactions take place during training sessions, where industry representatives engage with higher education instructors. Interactions also happen between industry actors and higher education institutions with the government, which oversees the training activities.

Higher Education Institutions

Higher education institutions generate numerous innovations from their research that can be applied to the development of products and services, yielding outputs with competitive advantages. The industry serves as a platform for these institutions to realize the innovations they produce. Consequently, interactions occur between higher education institutions and the industry when the latter implements innovations developed by the former. As Mr. Purnomo articulated, higher education institutions engage with Warungboto Tourist Village through various collaborative activities, including community service and research.

Several higher education institutions have interacted with Warungboto Tourist Village, including the Master's Program at Universitas Atmajaya, Universitas Achmad Dahlan, and Universitas Janabadra, Universitas Pembangunan Nasional. Collaborative research initiatives have been conducted, such as a study by Universitas Achmad Dahlan on the history of tourist villages. Community service interactions have included various training programs, such as English and Japanese language training.

One of the higher education institutions in Yogyakarta engaged with Warungboto Tourist Village during a training session aimed at enhancing the quality of human resources. On June 29, 2024, a training program for tour guides was organized by students from STIE PARIWISATA API (a Yogyakarta, Class of 2021). The training aimed to improve the competencies of local tour guides in providing quality and informative services to tourists. This event was attended by the management of Warungboto Tourist Village, including Mr. Purnomo.

Interactions between higher education institutions and other helixes, such as the community and industry players, occur during training activities, community service, and research initiatives at Warungboto Tourist Village. These interactions are conducted to support the optimization of the development of Warungboto Tourist Village.

Industry

Warungboto Tourist Village boasts a diverse range of production activities, including both goods and services, with the majority of industries focusing on goods. The Yogyakarta City Tourism Office notes that one of the enterprises in the tourist village is the Wojo Factory. The Wojo Factory is operated by an industry player and produces various steel products (Yogyakarta City Tourism Office, 2018).

Mr. Purnomo indicates that several industries produce goods and culinary items, such as patchwork leather production, lampshade manufacturing, and tempe production. Notably, the lampshade industry has gained recognition beyond national borders. Interactions between the Yogyakarta City Government and the industry occur specifically in the lampshade sector, where efforts have been made to publicize this industry.

Sumarlan, a resident of Warungboto Tourist Village, produces unique lampshades that have been exported. He began his business in 2006 and continues to do so today. The lampshades come in various shapes, including conical, round, cubic, and bucket-shaped (Yogyakarta City Government, 2015).

Another industrial endeavor in Warungboto Tourist Village involves recycling waste materials. The innovation in this craft lies in repurposing waste so that it can be utilized for various needs. Mr. Purnomo elaborates on the handicrafts produced in Warungboto Tourist Village.

Waste is recycled and repurposed into crafts to benefit household needs. During each Festival Kampung Wisata, crafts made from recycled items are consistently featured, showcasing a variety of products created from waste.

Interactions within the industry helix are established when various crafts produced in the tourist village are displayed at the Festival Kampung Wisata. Interactions occur among the Yogyakarta City Government, industry players, the community, and the media. These interactions support the introduction of the tourist village to both the public and tourists.

The Community

The community of Warungboto Tourist Village is an integral helix closely connected to the existence of the tourist village, as they live and reside in the area. The community plays a crucial role in the development of tourism at Warungboto Tourist Village. Mr. Purnomo states that: The tourism program available at Warungboto Tourist Village is called *Jelajah Kampung Wisata*, which translates into exploring the tourist village. This program collaborates with Gembira Loka Zoo. Additional partnerships have been established to enhance the publicity of Warungboto Tourist Village, including collaborations with Tirta Wolulas Water Tourism (Giwangan) and the Bentaran Sungai Gajah Wong (Gajah Wong River Banks) (Himpunan Pramuwisata Indonesia).

The community at Warungboto Tourist Village provides all the necessary resources related to the tourism programs or packages offered to tourists. In developing tourism programs to attract visitors, interactions occur with other helixes, such as industry, media, and the environment. The community is very enthusiastic about engaging in arts, culture, and crafts. Some of the activities aimed at preserving the arts and culture include performances by Bregodo Wira Tirta Broto. For the annual Merti Tuk Umbul event, a purification ritual held before Ramadan, the tourist village showcases a dance drama performed by local youth (Interview with Mr. Purnomo).



Figure 2: Art performance at Warungboto Tourist Village
Source: Instagram @kampung_wisata_warungboto

Mr. Purnomo elaborates on the tourist activities designed for visitors. Tourists visiting Warungboto Tourist Village are welcomed with Bregodo performances. Traditional refreshments such as *wedang setup*, *nasi gudangan*, and *bacem* are offered to the guests. The Warungboto site is a popular tourist destination. At this site, the tourist village collaborates with the Cultural Heritage Preservation Board (Balai Pelestarian Cagar Budaya -BPJB) to serve as guides for visitors.



Figure 3: Tuk Umbul Warungboto
Source: Research Documentation

Visitors to Warungboto Tourist Village come as individuals, families, or groups. Mr. Purnomo notes that: A high school group from Bengkulu is one of the many visitors to Warungboto Tourist Village. Additionally, international tourists from Sweden have shown interest in exploring the tourist village. Warungboto Tourist Village organizes "Blusukan" events to engage and attract tourists.

The Tourism Office also publicizes Warungboto Tourist Village. The Yogyakarta City Tourism Office informs that visitors can enjoy a variety of artistic and cultural performances at Warungboto Tourist Village, including Karawitan, Kethoprak, the Guyon Maton performance, Javanese poetry (*Mocapat*), classical dance, Garapa dance, Jathilan folk art, Reog, modern music (band), Seni Keprajuritan Rakyat (Bergodo) or folk military arts, and Keroncong music (Yogyakarta City Tourism Office, 2018).

The community of Warungboto Tourist Village is highly enthusiastic about introducing the tourist village to tourists through various artistic and cultural performances and promoting the sites located within the village. Interactions occur with other helixes, including industries present in the tourist village, higher education institutions, the environment as a provider of natural attractions, and the Yogyakarta City Government, which contributes to publicizing artistic and cultural activities. Media representatives also engage through interactions with the community, tourist village management, and industry actors within the tourist village.



Figure 4: Warungboto Tourist Village
Source: Research Documentation

Media

Media plays a role in supporting the development of Warungboto Tourist Village. Various media outlets introduce and publicize the tourist village to the community. Online media, in particular, promote Warungboto Tourist Village, ensuring that information reaches a global audience. In addition to supporting the development of the tourist village, Warungboto also provides information resources for tourists. Mr. Purnomo states that: Tourists can now easily access information about Warungboto Tourist Village through YouTube, Facebook, and Instagram. The tourist village also collaborates with the Yogyakarta City Public Relations Office via the website <http://kampungwisata.com>.

The daily newspaper Radar Jogja has featured Warungboto Tourist Village. Warungboto Tourist Village offers numerous attractions, including Pesanggrahan Rejowinangun. With its unique architecture, this site is often chosen for pre-wedding photoshoots and is recognized as an Instagram-able spot. The village offers various educational activities, such as workshops on crafting recycled materials, learning about Javanese culture, and exploring the village's history. The village also showcases traditional art performances, various cultural events, and handicraft exhibitions. Warungboto Tourist Village is a must-visit destination for tourists seeking a serene village atmosphere in the heart of Yogyakarta. It provides a distinctive and memorable tourism experience (Anugrah, Radar Jogja, 2024).

The daily newspaper Tribun has also published about the tourist village. Warungboto Tourist Village enjoys a strategic location in the city center. The village emphasizes its community's potential to enhance tourism. The concept promoted is educational tourism, arts and culture, and the historical significance of the Warungboto site. The village features Sendra Tari Padusan, performed during the Merti Tuk Umbul event, a ritual held in anticipation of the holy month of Ramadan, visualizing the theme "Padusan" (Tribun, 2021).

Other online media have also publicized Warungboto Tourist Village. Warungboto Tourist Village promotes an educational tourism concept, incorporating arts, culture, and history through community empowerment. The village is home to the Warungboto Site and Tuk Umbul Site, which attract many visitors. Activities available for tourists include recycling items into crafts, *shibori* fabric-making, gamelan training, the Merti Tuk Umbul traditional ceremony, and other tourism activities (Intan, 2023). The information disseminated by the media is based on interactions with the community, tourist village management, industry actors, and the natural environment as an attraction provider.

The Environment

The environment constitutes one of the helixes within the hexa-helix framework. As a natural resource provider, the environment contributes to tourism development, including that of Warungboto Tourist Village. This tourist village is traversed by the well-known Kali Gajah Uwong River, which is utilized to enhance tourism through river exploration activities. The Yogyakarta City Tourism Office has also publicized the natural attractions available in Warungboto Tourist Village.

Part of Warungboto Tourist Village is located within the Gajah Uwong River Basin. Consequently, the village has developed river-based attractions such as Gethekan Susur Sungai Gajah Uwong and a River Walk along the banks of the Gajah Uwong River (Yogyakarta City Tourism Office, 2018).

Online media also publishes information about the environment as a natural provider. Part of Warungboto Tourist Village is within the Gajah Uwong River Basin. Therefore, the village promotes river-based attractions, including the Gethekan Susur Sungai Gajah Wong and River Walk along the riverbanks (Intan, 2023). The environmental helix also plays a role in the interactions among the various helixes in the hexa-helix framework. The environmental helix collaborates with the community, industry, the Yogyakarta City Government, media, and higher education institutions to support the sustainability of tourism in Warungboto Tourist Village. Interactions with higher education institutions occur indirectly as these helixes engage collaboratively within Warungboto Tourist Village.

Discussion

The hexa-helix framework in Warungboto Tourist Village involves collaborative interactions for the development and sustainability of the tourist village. The interacting helixes include the Yogyakarta City Government, higher education institutions in Yogyakarta, industries in Warungboto Tourist Village, media, the community of Warungboto Tourist Village, and the environment. These interactions take place during various events and activities, reinforcing each helix's contribution. For instance, higher education institutions provide insights to industry actors to enhance the quality and competitiveness of their products. Industry players apply innovations from higher education of goods and services produced. The helixes support and strengthen one another, including media interactions with industries and the community. These interactions manifest as industries, communities, and the environment engage with the media, allowing the media to publicize Warungboto Tourist Village, thereby increasing its recognition among tourists, including the promotion of natural attractions within the tourist village.

Interactions between the Yogyakarta City Government and other helixes are frequent, yet no single helix dominates the others. The realization of interactions among the six helixes in Warungboto Tourist Village—comprising the Yogyakarta City Government, higher education institutions, industries within the tourist village, the community of Warungboto Tourist Village, media, and the environment—aims for sustainable tourism development, aligning with the interactions found in the hexa-helix framework. The governmental, academic, industrial, community, media, and environmental helixes work together towards sustainable development. Therefore, the research on the interactions of the six helixes (Yogyakarta City Government, higher education institutions, industries, media, the community, and the environment within the hexagonal framework at Warungboto Tourist Village) aligns with the interactions of these six helixes within the hexa-helix framework (Sumarto et al., 2023).

D. CONCLUSION AND RECOMMENDATION

Conclusion

Warungboto Tourist Village has not yet become a primary destination for tourists in the area, who tend to focus more on Malioboro, Zero Kilometer Point, and surrounding attractions, as well as Tugu. Despite the strategic location of Warungboto Tourist Village and the presence of the Warungboto site, which attracts visitors, the tourism activities in this village have not been fully explored by tourists. To elevate the visibility of this tourist village, interactions among various stakeholders are necessary to enhance awareness among tourists. The elements of the Yogyakarta City Government, higher education institutions, industries within the tourist village, the community of Warungboto Tourist Village, the environment and the media interact collaboratively to promote the presence of Warungboto Tourism Village. These six elements, or helixes, are highly significant, and their mutual support is essential for developing sustainable tourism within the village.

Recommendation

The Six-Helix research conducted in Warungboto Tourism Village employed a qualitative approach. Future studies may adopt other research methods to further enrich the study of the hexa-helix model. Furthermore, the Six-Helix framework may also be applied to other tourism villages.

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