

Performance evaluation of tourism infrastructure in Ciwaluh, Wates Jaya, Cigombong



Ulul Hidayah ^{a,1*}, Erika Pradana Putri ^{a,2}, Mirza Permana ^{a,3}, Guntur Bagus Pamungkas ^{a,4}

^a Urban and Regional Planning Department, Universitas Terbuka, Indonesia

¹ ulul-hidayah@ecampus.ut.ac.id; ² erikap@campus.ut.ac.id; ³ permanamirza@ecampus.ut.ac.id; ⁴ gunturbagusp@ecampus.ut.ac.id

* corresponding author

ARTICLE INFO

Received : 05-09-2023
Revised : 03-01-2024
Accepted : 16-01-2024
Published: 10-02-2024

Keywords

Infrastructure
Performance evaluation
Tourism

ABSTRACT

Kampung Ciwaluh tourism is currently an alternative tourist destination for the people of Bogor and its surroundings. The number of tourist visitors is continually increasing every year. The number of visitors must be increased, including providing adequate tourism facilities. This study aims to assess the performance level of tourism infrastructure in Kampung Ciwaluh based on visitor preferences so that it can become a strong foundation for developing Kampung Ciwaluh Tourism in the future. The research method used to evaluate the level of performance of tourism infrastructure in Kampung Ciwaluh is carried out using Importance and Performance Analysis (IPA). The assessment results of each variable of facilities and infrastructure provide information on the actions that need to be taken to overcome problems in the infrastructure development of Kampung Ciwaluh Tourism. After conducting interviews with 100 respondents, the essential variables in infrastructure development in Kampung Ciwaluh were obtained. However, the condition or level of performance that was still poor was an internet connection. The second priority in improving tourism infrastructure in Kampung Ciwaluh is Clinic/P3K, restaurants, souvenir shops, and security posts.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



1. Introduction

The tourism sector is the largest industry in the world and tends to increase continuously. Tourism development in Indonesia shows rapid development. Each region or province has various strategies to market the beauty of its natural and the uniqueness of its cultural resources. The tourism sector in 2019 contributed 4.7 percent to the national gross domestic product (GDP). The value of this contribution decreased significantly due to the Covid-19 pandemic to 4.05 percent in 2019. This contribution will start to increase again in 2021 to 4.2 percent. Based on these data, it shows that the development of the tourism sector has strategic and prospective potential to be developed to support national economic growth (Huang & Zhang, 2022). National economic growth from the tourism sector is obtained from foreign exchange earnings and create jobs, so it can increase people's income. National tourism development includes tourism destinations, tourism marketing, the tourism industry, and institutions (Government Regulation No. 50 of 2011 concerning the national tourism development master plan for 2010 – 2025). The development of a tourist attraction is influenced by the attractiveness presented, the level of accessibility, and additional services and facilities provided to visitors (Millenia et al., 2021). The main factor for developing a tourism industry is the comfort of visitors. The comfort of these visitors can be fulfilled by the behavior of friendly tourism managers and adequate tourism infrastructure (Hesna et al., 2017). Improving the quality of tourism infrastructure is in line with increasing the level of satisfaction (Susetyarini & Masjhoer, 2018).

The availability of facilities and infrastructure is essential for the sustainability of the tourism business. Tourism facilities include parking lots, trash cans, places of worship, places to shop, places to relax, toilets, guard and information posts, and places to eat. Meanwhile, tourism infrastructure includes a road network, water availability, an internet network, and an electricity network (Yoeti, 2006; Safitri & Utami, 2020). The more complete the existing infrastructure in a tourist spot, the higher the number of tourists visiting (Grigg, 1988). A large number of tourist visits will indirectly affect the level of income obtained by tourism managers and the surrounding community (Wei, 2022). Bogor Regency is one of the tourist areas favored by people in Jabodetabek (Jakarta-Bogor-Depok-Tangerang-Bekasi). It can be seen from the density of tourist visits during the holidays. Many tourists visiting Bogor, especially the Puncak Bogor area, often cause new problems such as traffic jams. It shows that the demand for tourist attractions in Bogor is very high, but the supporting facilities still need to be improved. Thus, there is an opportunity for the development of several alternative tourist areas located in the suburbs of Bogor, such as Cigombong and its surroundings (Susilo et al., 2022).

One of the tourist objects developed in Cigombong District is Kampung Ciwaluh. Kampung Ciwaluh is a tourist attraction that has developed quite well because it has attractions in the form of camping hills, waterfalls with flowing rivers for tubing activities, and typical coffee from community plantations at the foot of Mount Pangrango. The Kampung Ciwaluh tourist began with the formation of the Senadi Group (Senandung Nada Hijau), starting for watershed conservation in 2009 – 2014. In early 2015 it changed its name to Tali Bambu, which focused on tourism activities until it received a Pokdarwis Decree from the Bogor Regency Government in 2019 under the name "Ciwaluh eco-tourism group". The group is very active in promoting Kampung Ciwaluh tourism through various media. Data on tourist visits recorded by Pokdarwis since 2020 shows a fluctuating trend. The highest number of tourist visits was recorded in 2021, with 5,567 people. A significant increase from 2020, which only amounted to 978 people. In 2022 there will be a decrease in the number of tourists to 3,614 people. The decline in the number of tourists over the last 3 years has certainly had an impact on the decline in community income from pawirisata activities in Ciwaluh Village. An increase in the number of visitors can occur if the facilities at a tourist attraction are complete. The people of Kampung Ciwaluh have built various supporting facilities to maximize the number of tourists, but they still need to be improved. Therefore, an analysis is needed to assess the performance of the tourism infrastructure in Kampung Ciwaluh based on visitor preferences so that it can become a strong foundation for the future development of Kampung Ciwaluh Tourism.

Tourism such as modern service industry, Songling et al (2019) stated tourism sectors is an effective industry to explore new markets for economic transformation and boost economic growth. Lew (2011) argued that tourism is the largest service sector in international trade and play significant role in global economy. Binns & Etienne (2002) stated tourism had several sub-sector and those sectors motivated by input and output exchange, employment, transportation and other related to tourism. The advantage of this study to apply performance evaluation, Huang & Zhang (2022) argued Performance evaluation is of great significance to the management and development of any organization or industry. It can quickly find and deal with the problems and ensure the long-term development of the organization or industry.

2. Method

This research was conducted in Kampung Ciwaluh Tourism, Wates Jaya Village, Cigombong District (Figure 1). Kampung Ciwaluh is in the Bodogol forest nature conservation area. In addition, Kampung Ciwaluh is directly adjacent to the area of private companies developing tourism businesses, namely Lido Lake Resort and Disney Land Indonesia. The selection of the research location was carried out deliberately by considering the rapid development of village tourism, so it is interesting to study the quality of tourism infrastructure in the village. The data needed to answer the research objectives includes visitor presence data on current conditions and conditions expected from existing tourism infrastructure in Kampung Ciwaluh. The facility indicators include information centers, places to stay, restaurants/restaurants, clinics/first aid, parking, trash bin, toilets, prayer rooms, souvenir shops, police/security posts, and tour guides. Meanwhile, infrastructure indicators include internet/cellphone connection/signal, electricity network, clean water supply, access to tourism, and tourism costs. The selection of these variables is based on the components of the assessment of healthy tourism derived from the Joint Regulation of the Minister of Home Affairs and the Minister of Health Number 34 of 2005 concerning the Implementation of Healthy Regencies/Cities with the Grace of God Almighty, the Minister of Home Affairs and the Minister of Health.

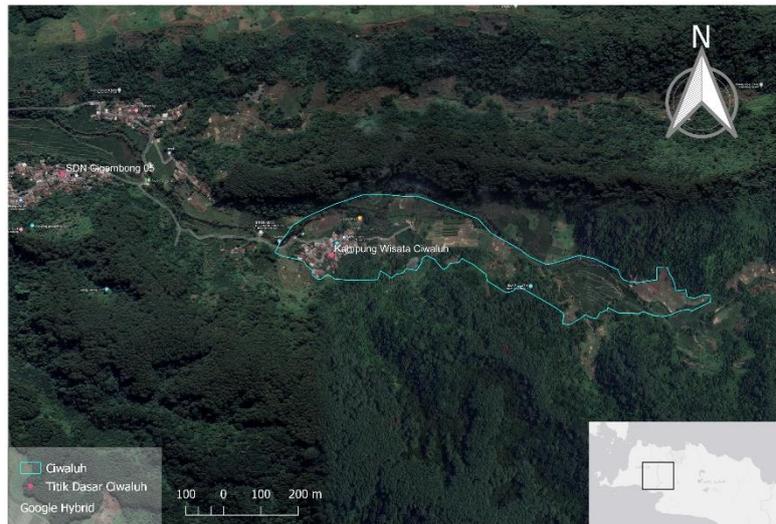


Figure 1. Location of Kampung Ciwaluh Tourism

The data was obtained through interviews with questionnaires collected from tourists. This study used a sampling technique with accidental sampling. Samples were obtained from tourists who coincidentally met researchers during data collection. Considering the research location, labor, time, ease of data analysis, and costs, the number of respondents specified in this study was 100 tourists visiting on weekends and weekdays. Referring to Roscoe's theory in (Sugiyono, 2017). The sample size ranges from 30 to 500 respondents, the sample size determined in this study is sufficiently representative in explaining the conditions and expectations of tourism infrastructure in Kampung Ciwaluh Tourism. Evaluation of the performance level of tourism infrastructure in Kampung Ciwaluh was carried out using Importance and Performance Analysis (IPA). This analysis measures the gap between current conditions and the importance of tourism infrastructure in Kampung Ciwaluh (Algifari, 2016). The use of the IPA method is very appropriate for assessing the performance of tourism infrastructure in Kampung Ciwaluh, because the assessment uses a visitor's perspective. By using IPA analysis, information can be obtained on what infrastructure services still need to be improved. Not only does it assess the level of tourist satisfaction, but it can also assess the level of importance of each tourism-supporting infrastructure—the infrastructure targets that tourists want. This natural science method is simple but accurate in answering the objectives of this research.

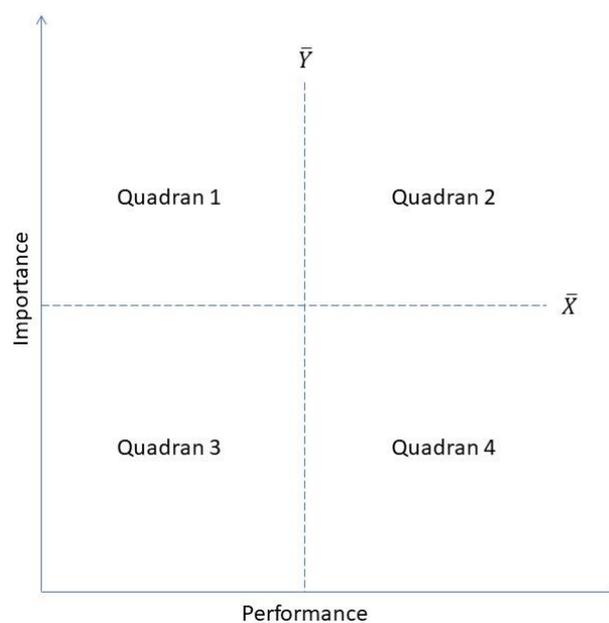


Figure 2. Diagram of Importance Performance Analysis

Determining the importance level is done by assessing numbers 1 to 5 for each variable. The value 5 for the answer is very important, while the value 1 is not very important. The assessment of the current condition level is also based on five levels of value with weighting; the more significant the rating indicates, the better condition. Score 5 for a very good condition, while weight 1 for a very bad condition. The assessment results of all respondents will be calculated on the average for each variable. Then make a Cartesian diagram to see the distribution of each variable used. The level of importance forms the diagram as the Y axis and the level of current conditions as the X axis. The Cartesian diagram is divided into four quadrants based on the average value of X and the average value of Y. The value of each variable will be depicted on the IPA diagram, which consists of four quadrants, as in [Figure 2](#).

Quadrant I are infrastructure considered necessary in tourism development but unfavorable conditions. Quadrant II is a tourism infrastructure considered important in tourism development and has good conditions. Quadrant III is tourism infrastructure in Kampung Ciwaluh, which are considered less important and have unfavorable conditions. Quadrant IV is a variable of facilities and infrastructure considered less critical in tourism development but has perfect conditions. The value of each variable will be depicted on the IPA diagram. The data used in IPA needs to be tested for validity and reliability to ensure the accuracy of the data used. The validity test was carried out by testing the questionnaire questions so the respondents could understand. The validity measure is seen from the value of $r_{count} > r_{table}$; the r_{table} used is 0.196 with $\alpha = 0.05$. The reliability test was conducted to test whether the questionnaire could be trusted as a data collection instrument. Reliability is seen from the value of Cronbach Alpha > 0.60 . This test was carried out with the SPSS 24 as software analysis tool.

3. Results and Discussion

Kampung Ciwaluh Tourism located in Watesjaya Village, Cigombong District, Bogor Regency. Kampung Ciwaluh is part of the Bodogol Forest Nature Conservation Area, west of one corner of the foot of Mount Pangrango. The territory is in the form of a valley flanked by two hills that extend around the area. In addition, Kampung Ciwaluh is directly adjacent to the area of private companies developing tourism businesses, namely Lido Lake Resort and Disney Land Indonesia. The kampung Ciwaluh is inhabited by a population of 377 people and 114 families divided into 2 Neighborhood Units (RT), namely RT 03 and RT 04. In general, the area of Kampung Ciwaluh is only about 150 hectares of settlements, rice fields, and gardens. Administratively, Kampung Ciwaluh is bordered by North side: Cisadane River; South side: TNGGP area; West side: Kampung Lengkong; and East side: TNGGP area.

Kampung Ciwaluh has abundant natural resources, and most of the people work as farmers. The typical commodities from this village are coffee and cardamom. These two commodities are part of the tourist attraction in Kampung Ciwaluh. Several tourist objects in Kampung Ciwaluh Tourism, including the Cileutik Camping Ground, Ciawitali Waterfall, Cisadane Waterfall, and Cikaweni Waterfall. Kampung Ciwaluh Tourism has an environmental and outbound education program besides being a tourist attraction. Programs enjoyed at Ciwaluh Tourism Village include REPLING (Environmental Education Route), Coffee Picnic, tracking, and tubing ([Figure 3](#)).



Cisadane River Tubbing



Bukit Cileutik campsite



Cisadane Waterfall

Figure 3. Tourist attractions in Ciwaluh Village

Kampung Ciwaluh is crossed by a river known as the Ciwaluh river, headwaters of the Cisadane River. This river has two mains upstream, namely Mount Pangrango and Mount Salak, with 137.8 kilometers flowing to the Java Sea. This potential is then used as a tourist spot. Visitors can sit and relax on side of the river while enjoying coffee or playing tubing. The management of Kampung Ciwaluh Tourism is carried out by community groups who are members of the Pokdarwis Kampung

Ciwaluh. The exoticism of ciwaluh village tourism began to be recognised by the public since 2015, initiated by the 'Tali Bambu' group until it received a Pokdarwis decree in 2019 under the name "ciwaluh eco-tourism group". The Pokdarwis' future grand design targets the preparation of a tourism village masterplan and some improvements to the campground area and creating new attractions.

The data in this study were obtained from interviews with 100 respondents who are visitors to Ciwaluh Village Tourism. Table 1 shows that most of the visitors are male (66%), while the rest are female (34%). These results show that to do tourism activities, a person must spend a lot of time. A man is easier to travel because a woman needs more time to consider her decision (Wong et al., 2014). Most visitors (63%) came in groups with friends. When viewed from the age range, it shows that as many as 67% of visitors to Ciwaluh Village Tourism are aged 17-25 years. Visitors aged 26-35 years as much as 25%, and the rest aged over 36 years as much as 11%. This shows that young people dominate the visitors of Ciwaluh Village. In line with Wong et al (2014) stated that young tourists, in addition to having enough money, they are also still physically strong so that they are strong enough to travel and are ready to do even challenging tourist activities. Based on the type of work, information can be obtained that visitors to Ciwaluh Village are dominated by private employees as much as 34% and students as much as 32%. This is because the tourist attractions in Ciwaluh Village are trekking to the mountain, camping in the forest, and enjoying coffee by the river, a tourist activity that is very popular with young people. The distance travelled by visitors to the tourist sites of Ciwaluh Village shows that tourists come from areas that are still in one sub-district and surrounding sub-districts.

Table 1. Characteristics of Tourist in Kampung Ciwaluh

Characteristics	Frequency (%)
<i>Gender</i>	
Male	66
Female	34
<i>Age</i>	
17-25 years	67
26-35 years	22
36-60 years	11
<i>Occupation</i>	
Employee	36
Student of University	32
Student of Senior High School	6
Civil Servant	2
Entrepreneur	24
<i>Distance</i>	
1-5 km	27
6-10 km	32
11-30 km	20
> 30 km	21
<i>Companion</i>	
Alone	7
Friends	63
Family	30

Source: Author Calculation

Importance Performance Analysis measures the performance of tourism infrastructure in Kampung Ciwaluh. The analysis shows the gap between the current condition of infrastructure with the conditions expected by tourists. Before analysis, validity and reliability tests were carried out on the data obtained from the interviews. The validity test results showed that each variable's r count is greater than the r table (0.196). The lowest R count is toilet facilities, with a value of 0.286. It means that the variables in this study are valid so that they can be used in further analytical calculations. While the results of the reliability test show that the relationship between variables in the indicator is reliable with a Cronbach's Alpha value of more than 0.6. It can be concluded that the indicators used to measure these variables are reliable.

The evaluation results of each infrastructure variable provide information on the actions that need to be taken to overcome problems in the infrastructure development of Kampung Ciwaluh Tourism. **The results of the assessment of the performance level of tourism infrastructure in Kampung Ciwaluh**

can be seen in Table 2. The variable with the highest level of importance is tourism costs. Tourism costs consist of ticket costs, transportation costs, consumption costs, attraction fees, and souvenir costs (Effendi et al., 2015; Zulpikar et al., 2017). The value importance level of the tourism cost variable in Kampung Ciwaluh has an average value of 4.95. The amount of tourism visitor spending will have a direct or indirect impact on increasing the income of local communities (Vanhove, 2005). On the other hand, based on demand theory, the higher the travel costs, the lower the demand for tourism benefits (Mateka et al., 2013). Meanwhile, the variable with the lowest level of importance according to visitors in Kampung Ciwaluh is a place to stay with an average value of 4.71.

Table 2. The Average IPA Assesment of Tourism Infrastructure in Kampung Ciwaluh

Code	Variable	Importance (Y)	Performance (X)	Gap (%)
A	Information centers	4.77	3.63	76 %
B	Places to stay	4.71	3.56	76 %
C	Restaurants	4.78	2.88	60 %
D	Clinics / First Aid	4.86	2.36	49 %
E	Parking	4.9	4.13	84 %
F	Trash bin	4.92	3.66	74 %
G	Toilets	4.94	4.16	84 %
H	Prayer rooms	4.94	4.42	89 %
I	Souvernir shops	4.74	1.97	42 %
J	Security posts	4.8	2.15	45 %
K	Tour guides	4.92	3.82	78 %
L	Internet / Signal	4.88	2.47	51 %
M	Electricity network	4.9	3.83	78 %
N	Water supply	4.9	4.81	98 %
O	Access to tourism	4.94	3.72	75 %
P	Tourism costs	4.95	4.13	83 %

Source: Author Calculation

The evolution of nature tourism would encourage faster development of the image and identity of Indonesia especially in Kampung Ciwaluh as a tourist destination, which is why nature tourism needs to be included in the development plans at all levels. The tourism infrastructure in Kampung Ciwaluh that received a very good condition assessment was water supply infrastructure. Clean water is one of the natural resources which is a superior potential in Kampung Ciwaluh. The location of Kampung Ciwaluh, which is part of the Bodogol Forest Nature Conservation Area, is close to a spring. In addition, Kampung Ciwaluh is in the upper reaches of the Cisadane River, so the water quality in Kampung Ciwaluh tourism is still apparent. It is also the leading force in developing tourism in Kampung Ciwaluh. The advantage of the geographical location of Kampung Ciwaluh is the conducive climatic conditions, which enable the organization of various outdoor events during the holiday and its extension. The availability of clean water is a mandatory requirement that a tourist village must meet to ensure the comfort and satisfaction of tourist (Rengganis et al., 2023). Meanwhile, a tourism infrastructure that has a very low rating is a souvenir shop. Currently, in Kampung Ciwaluh tourism, only one small shop (3m²) that sells souvenirs. Gift shops are a medium for marketing products made by local people to be purchased by every tourist (Fajrah & Zetli, 2020). Providing these facilities is essential for tourism, and souvenirs give the impression of satisfaction for tourists to be able to remember the experience of a tour that has been done.

Performance evaluation is of great significance to the management and development of any organization or industry (Huang & Zhang, 2022). The use of the IPA method is very appropriate for assessing the performance of tourism infrastructure in Kampung Ciwaluh, because the assessment uses a visitor's perspective. By using IPA analysis, information can be obtained on what infrastructure services still need to be improved. Not only does it assess the level of tourist satisfaction, but it can also assess the level of importance of each tourism-supporting infrastructure—the infrastructure targets that tourists want. The results of the average IPA assessment of tourism infrastructure in Kampung Ciwaluh are included in the diagram, divided into four quadrants. Mapping these variables is done based on the average value of the level of importance and current conditions. The quadrant is arranged on the X-axis (current condition level) and Y-axis (importance level), divided based on the total average of the current condition level and importance level. The IPA quadrant shows the position of each tourism infrastructure variable in Kampung Ciwaluh tourism (Figure 4).

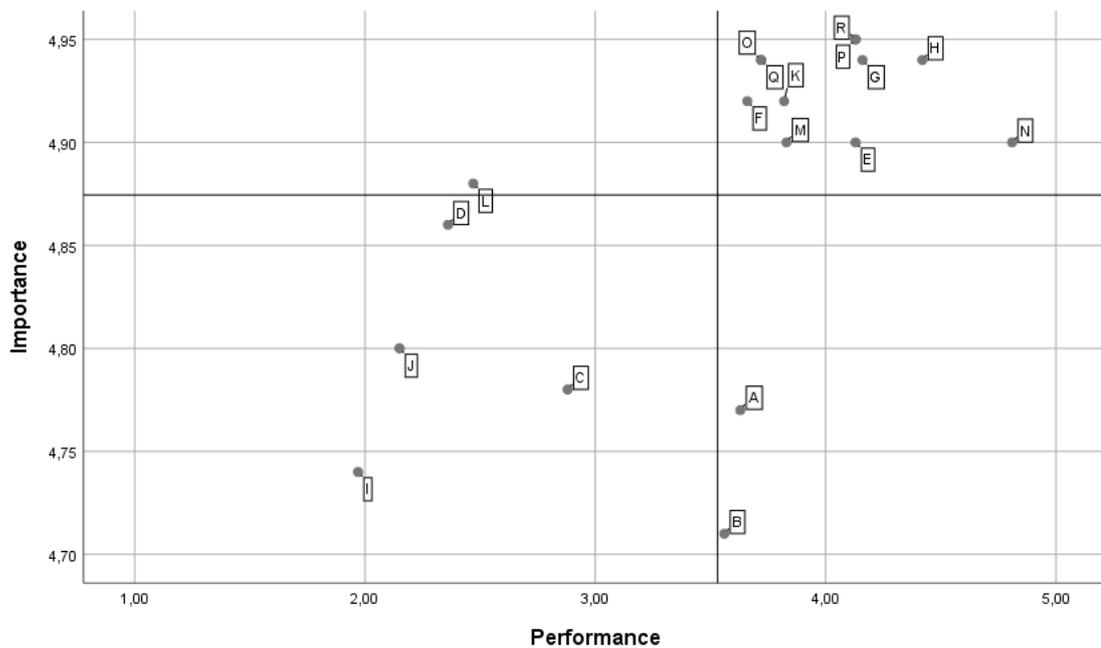


Figure 4. Performance Evaluation of Tourism Infrastructure in Kampung Ciwaluh

Following are the results of the analysis of the performance of tourism infrastructure in Kampung Ciwaluh:

a) Quadrant 1

Quadrant one shows the most critical variables in infrastructure development in Kampung Wisata Ciwaluh, but the condition or level of performance still needs improvement. So that the variables in this quadrant are the top priority for improvement. The analysis results show that the variables in quadrant 1 are internet connection (L). The geographical location of Kampung Ciwaluh is in a valley surrounded by hills, so it is making internet and telephone connections difficult. Some tourists need help getting an internet signal. On the other hand, some tourists also enjoy the holiday atmosphere away from the internet, so they feel calmer. Pokdarwis Kampung Ciwaluh has provided an internet device that visitors can use by paying a package fee of IDR 5,000.00. The availability of communication network services significantly helps accelerate tourism growth and development. A representative communication network for tourists, especially at tourist locations, will really help tourists receive and send messages and information, especially the current conditions of the tourist areas visited (Matulesy et al., 2020).

b) Quadrant 2

Quadrant two shows the variables that are considered important in developing the Kampung Ciwaluh Tourism infrastructure with good conditions. So, what is needed is to maintain at least the condition of the facilities and infrastructure in it. The results of the analysis show that the variables in quadrant two are:

- i. Parking (E), there are two parking spots for tourist to Kampung Ciwaluh. First, the car park is located outside Kampung Ciwaluh, at a distance of approximately 1.5 km. The parking lot can accommodate seven cars. Second, motorcycle parking in Kampung Ciwaluh, at the entrance, with a capacity of approximately 50 motorbikes (Figure 5). The parking zone in a tourism area can bring an economic impact into surrounding areas (Hertanto et al., 2018). The parking area is a transit area before tourists enjoy all attractions presented in the tourist attraction. At the parking location, a kiosk or souvenir shop should be built as a business opportunity for the local community.
- ii. Trash bins (F) are available at every tourist spot in Kampung Ciwaluh. Tourist waste will be cleaned regularly and processed by burning.

- iii. Toilets (G), there are three toilets at the spot of the Cisadane River, and tourist can use two toilets at the Cileutik Campground. In the construction of toilet facilities, Pokdarwis Kampung Ciwaluh received a grant from BRIN in 2021.



Car park

motorcycle parking

Figure 5. Parking area and access road

- iv. Prayer room (H), in Kampung Ciwaluh Tourism, there is a mushollah building designated for tourist. It is located on the banks of the Cisadane River in the form of a gazebo. The mushollah is small but is sufficient to meet the needs of tourist who want to pray during tours. Apart from that, visitors can also use the mosque, which is commonly used by the people of Kampung Ciwaluh, because of its location, which intersects.
- v. Tour Guides (K), there are five (5) tour guides in Kampung Ciwaluh Tourism, they are the youth of Kampung Ciwaluh. One (1) tour guide has a water rescue certificate. Opening of tours in Ciwaluh can provide opportunities for side jobs for the youths.
- vi. Electrical Network(M), in 2007, the Ciwaluh community, with the assistance of other parties, built a PLTMH by utilizing Ciwakeni water sources to fulfill electricity energy in settlements. This PLTMH has been operating successfully for several months. However, the facility needs to be maintained due to limited management by the community and the high maintenance cost. Fulfillment of electricity in Kampung Ciwaluh currently uses electrical energy from PLN.
- vii. Clean Water Supply (N), clean water obtained from the people of Kampung Ciwaluh Village and used by tourists is water from a spring from Mount Gede Pangrango. Clean water in Kampung Ciwaluh is very abundant and clean. It is because Kampung Ciwaluh is in the Upper Cisadane River.

**Figure 6.** Access road to ciwaluh village which can only be passed by motorbike

- viii. Access to tourism, (O) access to Kampung Ciwaluh can only be passed by motorized/two-wheeled vehicles because the public road is only 1-1.5 meters wide, so cars cannot enter. Visitors with groups using cars or buses must park their vehicles outside Kampung Ciwauh and then use motorbike taxis. With a system like this, Pokdarwis can empower the community to be involved as tourist motorcycle taxi drivers so that they can open new jobs. In 2023, road widening was carried out to facilitate the circulation of vehicles to Ciwaluh Village (Figure 6). Accessibility is the most important factor affecting the tourism experience and

personalization (Pai et al., 2020). Accessibility represents the extent to which travelers can easily access and use the information offered at the destination.

- ix. Tour fee (P), for every visitor who enters Kampung Ciwaluh Tourism, ticket costs IDR 5,000.00. Ticket prices can be categorized as affordable for visitors. With this fee, tourist can enjoy rural views and serene natural nuances. In addition, visitors are also charged a parking fee, which is Rp. 3,000.00/motorcycle and Rp. 20,000.00/car.

c) Quadrant 3

Quadrant three shows the variables considered less important in developing tourism infrastructure in Kampung Ciwaluh with unfavorable conditions. So that the problems in the existing infrastructure can be ignored. The results of the analysis show that the variables in quadrant three are:

- i. Restaurant (C) in Kampung Ciwaluh Tourism has several food stalls and grocery stores selling food and drinks. However, most tourists who come in groups choose tour packages that include dining facilities. The dining concept that visitors want is the concept of "ngeliwet," a Sundanese food. In its management, Pokdarwis will empower women's groups to provide food for tourists. In developing village tourism, it is best to provide restaurants by empowering the community, so that it has a positive impact on the community's economy (Arif & Syam, 2017).
- ii. Clinic/P3K (D), there is no clinic or health post in Kampung Ciwaluh, but the Pokdarwis secretariat has owned first aid kits. The tour guides in Kampung Ciwaluh have also received safety and security training certificates as outbound guides. Providing health posts is a form of infrastructure for implementing occupational safety in tourism. The implementation of work safety is expected to minimize the occurrence of undesirable things for tourists. So that public trust in the tourism services they provide can always be maintained, which will ultimately result in increased tourist visits (Maharani, 2022).
- iii. The souvenir shop (I) has a kiosk which Pokdarwis Kampung Ciwaluh obtained from the Bogor Regency MSME Office. The kiosk is placed at the arrival and return posts of tourists, making it easier for visitors if they want to buy souvenirs. Tourists can buy souvenirs at Kampung Ciwaluh Tourism are coffee, traditional drinks, aromatherapy candles, and t-shirts. Providing a souvenir shop is important to provide a bonding experience for visitors to a tourist attraction (Rohimah et al., 2018).
- iv. Security Post (J), is an important tourism facility for a tourist attraction, this is related to the safety and comfort of visitors (Kawung et al., 2016). Kampung Wisata Ciwaluh still needs a particular security post. If visitors feel there are things that they feel need help from tourism managers, they can contact them directly through tour guides, information posts, or residents. Management of tourism in villages and carried out in a participatory manner so that it does not require a particular security post.

d) Quadrant 4

Quadrant four shows infrastructure considered less important in developing tourism in Kampung Ciwaluh with good conditions. So, what is needed is to maintain the condition of the variables in it. The results of the analysis show that the variables in quadrant four are:

- i. Information Center (A), specifically in the Kampung Ciwaluh Tourism has no building that specific functions as an information center. However, visitors can visit the arrival post or the secretariat room of the Pokdarwis management to get complete information. The existence of a tourist information center is part of the Ancillary Service which can influence the level of tourist satisfaction (Alvianna et al., 2020).

- ii. Places to stay (B), lodging places available in Kampung Ciwaluh, such as homestays on camping grounds. Currently, nine (9) residents' houses can be used as homestays. If visitors want to spend the night at this tourist spot, they can rent a tent on the riverbank or the Cileutik Camping Hill. The campground on the riverbank has a capacity of 20 people, while the campground on Cileutik Hill has a capacity of 80 people. Providing campground and homestay facilities can provide security and comfort when tourists stay overnight and can keep tourists staying longer at tourist locations (Suherlan et al., 2022). The economic turnaround in the region takes longer and can provide direct economic benefits to local communities (Sulistyawati et al., 2018).

4. Conclusion

Kampung Ciwaluh Tourism, a natural tourist destination on the border of Bogor and Sukabumi Regencies, has several tourist spots. These tourism activities are one of the sources of livelihood for the local community to earn a decent living. Based on the analysis results, it shows that the level of performance of facilities and infrastructure is smaller than the level of importance. So the quality of the tourism infrastructure in Kampung Ciwaluh is still below the expectations of tourists. It can be interpreted that tourist satisfaction with tourism infrastructure still needs to improve. The infrastructure that needs improvement is the internet network. The internet network facilities that already exist in Kampung Ciwaluh Tourism still need to be considered better quality by visitors, so internet network optimization and good maintenance are needed. The second priority in improving tourism infrastructure in Kampung Ciwaluh is Clinic/P3K, restaurants, souvenir shops, and security posts. Although it is not considered very importance in the development of tourism in Kampung Ciwaluh, the performance of facility is still below visitor expectations. It needs to be improved again to maximize the performance of the tourism infrastructure in Kampung Ciwaluh.

Acknowledgment

The author would like to thank the Research and Community Service Institute of Universitas Terbuka for supporting the research team so that this activity ran smoothly. The author also thanks all the people in Ciwaluh Village who have been willing to provide data and information.

Declarations

- Author contribution** : The first author was tasked with leading all aspects of the research, from design and data analysis to manuscript creation and response to feedback, ensuring comprehensive and scientific results. The second, third, and fourth authors assisted the author in completing the entire research process. The second author was responsible for preparing the research framework and data analysis. The third and fourth authors assisted in the data collection and processing process.
- Funding statement** : This research was funded by the Research and Community Empowerment Institute of Universitas Terbuka
- Conflict of interest** : The authors declare no conflict of interest.
- Additional information** : No additional information is available for this paper.

References

- Algifari. (2016). *Mengukur Kualitas Layanan dengan Indeks Kepuasan, Metode Importance Performance Analysis (IPA) dan Metode Kano*. BPFE Yogyakarta.
- Alvianna, S., Patalo, R. G., Hidayatullah, S., & Rachmawati, I. K. (2020). Pengaruh attraction, accessibility amenity, ancillary terhadap kepuasan generasi millennial berkunjung ke tempat wisata. *Jurnal Kepariwisata: Destinasi, Hospitalitas Dan Perjalanan*, 4(1), 53–59. doi: [10.34013/jk.v4i1.41](https://doi.org/10.34013/jk.v4i1.41)
- Arif, M., & Syam, A. (2017). Strategi pengembangan objek wisata pantai Sumedang di Kecamatan Ranah Pesisir Kabupaten Pesisir Selatan. *Jurnal Kepemimpinan Dan Pengurus Sekolah*, 2(2), 191–200.

- Binns, T., & Etienne, N. (2002). Tourism as a local development strategy in South Africa. *Geographical Journal*, 168, 235–247. doi: [10.1111/1475-4959.00051](https://doi.org/10.1111/1475-4959.00051)
- Effendi, A., Bakri, S., & Rusita. (2015). Nilai ekonomi jasa wisata pulau Tangkil provinsi Lampung dengan pendekatan metode biaya perjalanan. *Jurnal Sylva Lestari*, 3(3), 71–84. doi: [10.23960/js13371-84](https://doi.org/10.23960/js13371-84)
- Fajrah, N., & Zetli, S. (2020). Evaluasi pentingnya lokasi sentra oleh-oleh untuk pariwisata Kota Batam. *Meningkatkan Publikasi Ilmiah Civitas Akademika Universitas Pada Masa Pandemi Covid-19*. Vol. 3, 2020., 120–125.
- Grigg, N. S. (1988). *Infrastructure Engineering and Management*. USA: John Wiley & Sons Inc.
- Hertanto, I., Sunarti, E. T., & Rachmawati, M. (2018). Corridor as a transition at tourism area in Yogyakarta. *IPTEK Journal of Proceedings Series* 4(1), 42. doi: [10.12962/j23546026.y2018i1.3505](https://doi.org/10.12962/j23546026.y2018i1.3505)
- Hesna, Y., Suraji, A., Istijono, B., Hidayat, B., & Ophyandri, T. (2017). Kajian kapasitas infrastruktur: Suatu upaya peningkatan pariwisata Sumatera Barat. *IPTEK Journal of Proceedings Series* 3(5). doi: [10.12962/j23546026.y2017i5.3178](https://doi.org/10.12962/j23546026.y2017i5.3178)
- Huang, Q., & Zhang, W. (2022). Economic performance evaluation of tourism in Pearl River Delta based on AHP model. *Mathematical Problems in Engineering*, Vol. 2022, 1328291. doi: [10.1155/2022/1328291](https://doi.org/10.1155/2022/1328291)
- Kawung, A. V., Poluan, R. J., & Rondonuwu, D. M. (2016). Persepsi dan sikap wisatawan terhadap objek wisata bukit Kasih Kanonang di Kecamatan kawangkoan Kabupaten Minahasa. *SPASIAL*, 3(1), 66–74.
- Lew, A. A. (2011). Tourism's role in the global economy. *Tourism Geographies*, 13, 148–151. doi: [10.1080/14616688.2010.531046](https://doi.org/10.1080/14616688.2010.531046)
- Maharani, M. (2022). Pentingnya kesehatan dan keselamatan kerja bagi industri pariwisata. *Warta Pariwisata*, 20(1), 22–24. doi: [10.5614/wpar.2022.20.1.06](https://doi.org/10.5614/wpar.2022.20.1.06)
- Mateka, J. A., Indrayani, E., & Harahap, N. (2013). Objek wisata pantai Balekambang kabupaten Malang Jawa Timur. *API Student Journal*, 1(1), 12–22.
- Matulessy, F. S., Salakory, H. S. M., & Saragih, Y. M. I. (2020). Analisis persepsi wisatawan terhadap infrastruktur wisata dan kenyamanan objek wisata air terjun Kermon distrik Yawosi Biak Utara. *Jurnal Kajian Dan Terapan Pariwisata*, 1(1), 58–70. doi: [10.53356/diparojs.v1i1.16](https://doi.org/10.53356/diparojs.v1i1.16)
- Millenia, J., Sulivinio, S., Rahmanita, M., & Osman, I. E. (2021). Strategi pengembangan wisata mangrove desa Sedari berbasis analisis 4A (Attraction, Accessibility, Amenities, Ancillary Services). *Jurnal Ilmiah Pariwisata*, 26(3), 284–293. doi: [10.30647/jip.v26i3.1584](https://doi.org/10.30647/jip.v26i3.1584)
- Pai, C.-K., Liu, Y., Kang, S., & Dai, A. (2020). The role of perceived smart tourism technology experience for tourist satisfaction, happiness and revisit intention. *Sustainability*, 12(16), 6592. doi: [10.3390/su12166592](https://doi.org/10.3390/su12166592)
- Rengganis, E., Nurdin, Riani, Astuti, Marni, Zabidi, Yasrin, & Poerwanto, E. (2023). Pendampingan penyediaan sarana air bersih di desa wisata Stone Park Bukit Pertapan Turunan Girisuko Panggang Gunungkidul. *J-ABDI: Jurnal Pengabdian Kepada Masyarakat*, 2(9), 6213–6219. doi: [10.53625/jabdi.v2i9.4839](https://doi.org/10.53625/jabdi.v2i9.4839)
- Rohimah, A., Hariyoko, Y., & Ayodya, B. P. (2018). Strategi pengembangan potensi pariwisata melalui pendekatan Community Based Tourism (CBT) Desa Carang Wulung Kecamatan Wonosalam Kabupaten Jombang. *Jurnal Ilmiah Administrasi Publik*, 4(4), 363–368. doi: [10.21776/ub.jiap.2018.004.04.11](https://doi.org/10.21776/ub.jiap.2018.004.04.11)
- Safitri, A. Z., & Utami, W. S. (2020). Persepsi pengunjung tentang sarana wisata di objek wisata pantai pulau merah kabupaten Banyuwangi. *Swara Bhumi*, 1(1), 123–129.
- Songling, Y., Ishtiaq, M., & Thanh, B. T. (2019). Tourism industry and economic growth nexus in

-
- Beijing, China. *Economies*, 7(1), 25. doi: [10.3390/economies7010025](https://doi.org/10.3390/economies7010025)
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. ALFABETA.
- Suherlan, H., Adriani, Y., Pah, D., Fauziyyah, I., Evangelin, B., Wibowo, L., Hanafi, M., & Rahmatika, C. (2022). Keterlibatan masyarakat dalam mendukung Program Desa Wisata: Studi deskriptif kualitatif pada Desa Wisata Melung, Kabupaten Banyumas. *Barista: Jurnal Kajian Bahasa Dan Pariwisata*, 9(1), 99–111. doi: [10.34013/barista.v9i01.623](https://doi.org/10.34013/barista.v9i01.623)
- Sulistiyawati, A. S., Putri, I. A. T. E., Suarka, F. M., & Pertiwi, P. R. (2018). Pelibatan masyarakat lokal dalam penyediaan penginapan lokal (Homestay) di Desa Wisata Tista, Kabupaten Tabanan. *Buletin Udayana Mengabdi*, 17(3). doi: [10.24843/BUM.2018.v17.i03.p19](https://doi.org/10.24843/BUM.2018.v17.i03.p19)
- Susetyarini, O., & Masjhoer, J. M. (2018). Pengukuran tingkat kepuasan wisatawan terhadap fasilitas umum, prasarana umum dan fasilitas pariwisata di Malioboro paska revitalisasi kawasan. *Kepariwisata: Jurnal Ilmiah*, 12(1), 41–54. doi: [10.47256/kepariwisataan.v12i01.93](https://doi.org/10.47256/kepariwisataan.v12i01.93)
- Susilo, A., Hidayah, U., Putri, E. P., & Mulyana, A. (2022). Peningkatan perekonomian masyarakat melalui industri pariwisata di Desa Wates Jaya Kecamatan Cigombong Kabupaten Bogor. *Jurnal Pengabdian Kepada Masyarakat*, 4(1A), 1–8. doi: [10.33830/diseminasiabdimas.v4i1A.2950](https://doi.org/10.33830/diseminasiabdimas.v4i1A.2950)
- Vanhove, N. (2005). *Globalisation of Tourism Demand, Global Distribution Systems and Marketing*. Routledge: Tourism in the Age of Globalisation.
- Wei, F. (2022). Performance evaluation of tourism human resource management based on fuzzy data mining. *Journal of Mathematics*, Vol. 2022, 3745377. doi: [10.1155/2022/3745377](https://doi.org/10.1155/2022/3745377)
- Wong, J.-Y., Lee, W.-H., Yeh, C., & Ju, L. S. (2014). Identifying gender differences in destination decision making. *Journal of Tourism and Recreation*, 1(1), 1–11.
- Yoeti, A. O. (2006). *Perencanaan dan Pengembangan Pariwisata*. Pradnya Paramitha.
- Zulpikar, F., Prasetyo, D. E., Shelvatis, T. V., Komara, K. K., & Pramudawardhani, M. (2017). Valuasi ekonomi objek wisata berbasis jasa lingkungan menggunakan metode biaya perjalanan di pantai Batu Karas kabupaten Pangandaran. *Journal of Regional and Rural Development Planning*, 1(1), 53. doi: [10.29244/jp2wd.2017.1.1.53-63](https://doi.org/10.29244/jp2wd.2017.1.1.53-63)