



Assessment of Nature and Cultural Conservation and Achievement of The SDGS in The Hargotirto Tourism Village Area, Kulonprogo

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Abstract. The government continues to encourage the development and development of tourism in Indonesia, which is oriented towards regional development that relies on the community and is empowering the community, which includes various aspects, such as human resources, marketing, destinations, science and technology, cross-sector linkages, cooperation between countries, empowerment of small businesses, and responsibility in the utilization of natural and cultural resources. The main purpose of this study is to assess the preservation of nature and culture as an asset of a tourist village in Hargotirto, Kulonprogo. The study method is carried out using a qualitative descriptive data analysis technique, which is a research method that utilizes qualitative data and describes it descriptively. This type of qualitative descriptive data analysis is frequently used to analyze events, phenomena, or circumstances in a social way. The assessment results were carried out on Water Resources Management, Water Use Management System, Waste Management, Waste Management, and Waste Management, which have varying levels of importance.

Keywords: Nature Conservation Assessment, Cultural Preservation Assessment, SDGs achievement

INTRODUCTION

Tourism as a service industry provider sector contributes and plays a strategic role in the development of a country's national economy, regional development, and improving community welfare. The existence of the tourism industry can play a dual role in stimulating and encouraging economic growth in other sectors, both in growing investment in infrastructure, job creation, and increasing income in a region. Based on data from the World Travel and Tourism Council (WTTC) (2019), tourism can have an impact on various other sectors, not only on tourism itself, but also on the decline in the unemployment rate, increasing regional economic progress, and also on the progress of industries in the region. In 2018, Indonesia had the highest growth and 9th rank in the world (Gewati, 2019). That year, Indonesia's foreign exchange income reached US\$ 17.6 billion,

or equivalent to Rp. 246 trillion.

Tourism development must refer to the Sustainable Development *Goals* (SDGs), which include sustainable development issues, including poverty and hunger alleviation, health improvement and education, more sustainable urban development, addressing climate change, and protecting forests and seas. Thus, it is hoped that new opportunities and the development of the tourism sector based on the SDGs can make tourism sustainable and responsible, ultimately improving people's welfare and economic growth.

The World Tourism Organization (WTO) (1990) revealed that the application of the concept of sustainable tourism development (*Sustainable Tourism Development*) contains the meaning of tourism development that is responsive to the interests of tourists and direct involvement from the local community while emphasizing its long-term oriented protection and management efforts. Efforts to develop and manage resources must be directed so that they can meet economic, social, and aesthetic aspects. At the same time, it can maintain the integrity and sustainability of ecology, biodiversity, culture, and living systems. In this case, the concept of sustainable tourism development emphasizes four principles as supporting elements in the development of tourist destinations, one of which is regarding ecological balance in the Environmentally Feasible Principle, which emphasizes that the development process must be responsive and pay attention to efforts to preserve the natural and cultural environment and minimize negative impacts that can reduce the quality of the environment and disturb the balance of the ecosystem in an area.

Sustainable tourism development must maintain the integrity and quality of existing natural and cultural environmental resources. It also considers the area's carrying capacity and whether it can still accept/tolerate tourism development. This is an effort to reduce the negative impact that tourism activities can have in the future, especially regarding the management of a high number of tourists (*mass tourism*), infrastructure management, an increase in the amount of waste, resource management, or its impact on local communities and cultural assets. Therefore, tourism development needs to be carried out appropriately to sustainably make a positive contribution and mitigate the potential for adverse impacts from the sector.

The tourism sector is designed to be appropriately managed to preserve culture and nature, generate opportunities, and know intercultural understanding. Along with the increasing number of people traveling both domestically and abroad, as well as the flow of information technology

developments, a lifestyle that tends to be dynamic and practical makes tourism a necessity and lifestyle in this era. The existence of these generations has helped change new trends that are increasingly developing in the midst of society in various field elements, including tourism. Some of the tourism trends in the future include the widespread interest in tourism, where tourists increasingly want real experiences with tourism and lifestyle, and consumers are increasingly looking for active entertainment with educational elements (Subanti, 2011).

Tourists are now changing their travel patterns from *buying products* to *buying experiences*. From *mass tourism* to *responsible tourism* (Henky Hermantoro, 2011). When tourists were initially quite happy to visit a place in groups to take pictures, they then changed their purpose to try to understand the local culture by trying to experience life in the countryside again and interact with the community and its socio-cultural activities. Cultural tourism visits, by seeing and studying art galleries, tourist villages/villages, and so on, have become a new trend today. Where in this case, the development of tourism in rural areas has been successfully packaged in the form of tourist villages.

A tourist village is a village that has a distinctive attraction in the form of the uniqueness of the physical natural environment of the countryside, as well as the socio-cultural life of the community, which is packaged in a natural and attractive way. Three essential components must be considered in its development: attractions, amenities, and accessibility. These three components must be sustainable so that tourist attractions can be highly competitive. The Tourism Village program is currently being developed and is the government's flagship sector, requires innovation and design for various flagship tourism products. Every village development that has the potential in the form of natural beauty, superior products, and local wisdom will have a positive and negative impact both in terms of social, economic, environmental, and cultural aspects. Zebua (2016), revealed that a tourist village is a rural area with unique characteristics to become a tourist destination area with the uniqueness of the physical social, and cultural life of the local community as its attraction.

Hargotirto Tourism Village has a variety of potentials that include cultural, agricultural, plantation, forestry, MSMEs, and, of course, tourism. In addition, Hargotirto Tourism Village, with the basis of natural tourism potential (*ecotourism*), also offers experiential tourism activities in the form of learning and interaction about nature, the environment, agriculture, plantations, socio-cultural life, various traditional arts and local wisdom that are still firmly rooted in the

community with a typical rural atmosphere on the slopes of Mount Merapi in people's daily lives.

However, increasing tourist activities in Hargotirto Tourism Village will cause new problems and challenges, one of which is the existence of *mass tourism* activities. In this case, if this *mass tourism* is left unchecked, there will be *over-carrying capacity* and environmental degradation. Some of the tourism activities that have the potential to become *mass tourism* in Hargotirto Tourism Village include local cultural performances such as traditional dances that can be enjoyed by many people, causing potential degradation to the environment. In addition, if not immediately restricted, *outbound* activities carried out by tourist groups can cause *mass tourism*, where this activity involves many people. Furthermore, air pollution and waste generated from tourist food waste can be caused by this mass tourism activity, including organic and non-organic waste in the form of plastic packaging, toilet residues, and so on.



Figure 1. View of Hargotirto Tourism Village

This research assesses the development of natural and cultural tourism in Hargotirto Tourism Village. In principle, two aspects must be strengthened, namely, the destination aspect as a tourism product and the market aspect. Through this research, it is hoped that it can explore and find the value of natural and cultural values in Hargotirto Village so that its use can be maximized in efforts to preserve nature and prosper the people of Hargotirto Village. Likewise vice versa, through this research, it will be possible to find the shortcomings of Hargotirto Village in efforts to preserve nature and culture so that there will be suggestions and inputs for Hargotirto Village.

DISCUSSION

According to M. Reza and Agustina (2017), water resources management is an effort that includes planning, implementing, monitoring, and evaluating the implementation of water resource conservation and controlling water damage. Water is one of the natural resources with a strategic value to improve the welfare of life and development. Therefore, water resources are one of the most essential elements for the sustainability of life, especially in tourism destinations. The existence of clean water is urgently needed to provide the best infrastructure to tourists,

One application of water efficiency is collecting rainwater using a collection tank. The results of the rainwater collection are then carried out through simple filtration efforts, which can then be distributed to the community. This rainwater storage system increases the water supply during the dry season, which occurs in addition to springs (Hidayah, 2021). In addition, it maintains the vegetation in the area.

Water Use Management System in Tourism Villages

The need for clean water is the main thing in human life, especially for tourists in tourist villages. According to health studies, everyone always needs drinking water. If humans do not drink in just 2-3 days, they can die (Supirin, 2002). Therefore, clean water is vital; for daily consumption, it is essential to maintain the quality of clean water. Likewise, in a tourist village whose product is hospitality to tourists, clean and safe quality water is essential so that tourists are free from disease germs and do not contain toxic materials (Hardjono et al., 2013.)

The primary water need for humans is drinking water. According to health science, everyone always needs drinking water. People can live 2 to 3 weeks without eating, but they can only survive 2 to 3 days without drinking water (Suripin, 2002). Water is an important factor in fulfilling vital needs for living beings, including drinking water, bathing, washing, cooking, and other household needs. The water used must be free of disease germs and do not contain toxic ingredients.

The aspect good clean water management must pay attention to several things (Hardjono et al., 2013.): 1) Technical aspect, in the form of careful calculation of current and future water needs and calculation of clean water supply methods with tools that pay attention to efficiency, 2) Environmental aspect, including the quality and quantity of raw water sources and their protection efforts, 3) Financial aspect, which is an analysis of expenditure and income so that management can run long-term, 3) The institutional aspect is that the institution that manages the institution

must be based on the law and managed professionally, 4) The aspect of community participation, because it is in the community, needs community involvement in its supervision and implementation.

The implementation of good clean water management in the community should include four stages, namely (1) prevention in the form of written and unwritten regulations to provide advice on water use awareness, (2) implementation, namely village efforts to foster concern for the environment by holding village cleanup as a routine activity carried out with community cooperation. (3) Social and economic punishment for a disorderly society (Mohammad Reza & Agustina, 2017).


Waste Management

Based on Article 1 number (20) of Law Number 32 of 2009 concerning Environmental Protection and Management, it is explained that waste is the remnant of an activity. Likewise, the definition of tourism waste is garbage generated from tourism activities.


Nature tourism is a type of sustainable tourism; therefore, in its implementation, it must strive to protect nature from various things that damage nature, one of which is the tourism activity itself, which produces waste. According to Rosmidah Hasibuan (2016), garbage waste can cause natural pollution in the form of river water pollution and soil pollution and disturb beauty. Therefore, tourist destinations need to handle waste. Several types of waste handling methods, according to Rosmidah Hasibuan (2016), are as follows: a) By recycling, b) By incineration, c) By composting, d) Separation, e) By decomposing in tourist destinations, prioritizing the charm with one aspect that is maintained is cleanliness. One of the biggest problems in maintaining the cleanliness of destinations is the problem of garbage. Therefore, it is essential for a tourist destination to have a handling of waste resulting from tourism activities, to provide comfort to tourists (Rosmidah Hasibuan, 2016).

Forming a waste management group that is a member of the POKDARWIS to organize waste management is a particular task. Waste management is carried out by selecting first based on organic and non-organic waste. Organic waste can be used to make compost or handled for bio pores. Non-organic waste management is done by forming a waste bank that can be used to make crafts. The residents undoubtedly carry out management by the group to empower the community (Reni Vitasurya et al., 2020).


SDGs Table - Indicators of poverty elimination in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Eradicating Poverty		Reached	Tourism activities and MSMEs in the Hargotirto Village area and its surroundings absorb labor not only in the destination of Segajih hamlet but also in the informal sector, such as outbound guides, and Hargotirto Village plantations that produce the main commodity of coconut or coconut sugar have contributed to helping improve the people's economy.


SDGs Table - Indicators to end hunger in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Ending Hunger		Reached	Agriculture in Hargotirto Village includes Palm Sugar, Mangosteen Fruit, Durian Fruit, and Coconut, which produce economic value for residents, so the results of agriculture can be used to buy staple foods.


SDGs Table - Indicators of clean water villages in Hargotirto Tourism Village

SDGs Goals	TPB	Information	
Access to Clean Water and Sanitation		Reached	The Hargotirto Village Temple area has integrated waste management.

SDGs Table - Indicators of clean water villages in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Good Health and Well-Being		Reached	Hargotirto tourist village has 2 government-funded health facilities: the Kokap II Auxiliary Health Center and the Kokap II UPTD Kokap II Health Center. Therefore, health services in the Hargotirto Village area are quite good and adequate, even though it is far from the center of the Regency.

SDGs Table - Clean and Affordable Energy Indicators in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Clean and Affordable Energy		Not Achieved	-Not yet realized


SDGs Table - Clean and Affordable Energy Indicators in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Decent Work and Economic Growth		Reached	Hargotirto Village is partly a coconut sugar farmer, from which most of the residents get economic value, while others include traditional food production.

SDGs Table - Clean and Affordable Energy Indicators in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Guard Terrestrial Ecosystem		Reached	The Hargotirto Village area is trying to manage waste, especially those found in tourist areas, by using a Waste bin separator to separate organic and non-organic waste.

SDGs Table - Clean and Affordable Energy Indicators in Hargotirto Tourism Village

SDGs Goals	TPB	Information	Proof and Performance
Partnership to Achieve Goals		Reached	The Hargotirto Village area and its surroundings partnered with UGM through KKN and then received several grant programs from the government navel (Ministry of Tourism) for tourism development in Hargotirto Village.

Results of Analysis of Nature and Cultural Conservation Assessment in Hargotirto Tourism Village

Environmental Protection and Energy Conservation in Hargotirto Tourism Village

Environmental protection and energy conservation principles are essential things that must be applied in developing tourism destinations. In 2005, the world's tourism industry contributed 5% of global anthropogenic carbon dioxide (CO₂) emissions. As much as 21% of this figure is emissions from the tourism sector (UNWTO, 2012), which is indirectly sourced from accommodation, such as the use of air conditioning (AC), electricity, and vehicles, which also has an impact on the availability of clean water resources due to the soaring demand for water to serve tourists. The importance of environmental protection also needs to be adjusted to the

environmental conditions in tourist destinations because each region has a different nature. For example, in the hilly natural area (contoured), such as in the Hargotirto Tourism Village area, community activities will depend more on motorized vehicles. Ideally, this risk can be minimized by applying high management standards to a tourism destination. But often, this step is not enough. Stronger efforts are needed to ensure tourism runs without causing massive damage to the surrounding natural resources. However, on the other hand, the tourism and tourist sectors can also have the potential to contribute positively to improving energy efficiency through energy saving movements. Various ways can be done, for example to streamline the use of power tools, save water, reduce waste, and so on. A survey conducted by Trip Barometer, an accommodation survey agency, noted that as many as 79% of tourists actually choose eco-friendly accommodation as their first choice when on vacation. Because tourism activities that apply the principle of energy efficiency are one of the components that need to be done to reduce environmental damage.

Preservation And Benefits Of The Natural And Cultural Environment

Environmental protection and energy conservation in destinations	Indicator	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
Programs to promote energy conservation and measure, monitor, and reduce energy consumption for nature and cultural tourism	1. Policies and incentives to reduce dependence on fossil fuels				V		V		
	2. Improving energy efficiency due to natural and cultural tourism destinations				V		V		
	Encouraging the adoption and use of renewable technologies								
	1. Measurement and monitoring				V		V		
	2. Control and supervision				V		V		

Meanwhile, the goal of the principle of energy conservation is to save energy so that it can reduce dependence on fossil-based energy sources, which can ultimately reduce local air pollution and CO2 emissions, which cause global warming. Fossil energy conservation by utilizing renewable energy can be sourced from wind (turbines), water (hydropower), heat from sunlight (solar panels), the final waste of living things (biogas), or the burning of biomass such as rice husks, and cashew

nut husks. However, the thing that needs to be considered is that in its implementation, there is also a need to adjust to the natural and environmental conditions in tourist destinations and the need for community and government involvement in supporting this. Based on these several reasons, our group gave a score of 4 (strongly agree) because all tourism sector managers must have responsibility and awareness in arranging the ecosystem so that tourist destinations can run in a balanced and sustainable manner.

Quality Level: Not Quality (2)

In the Hargotirto Tourism Village area, there is still no environmentally friendly policy, such as reducing dependence on fuel oil (BBM) energy. This can be seen from the condition of the Hargotirto Village area, which is in the form of hills with up-and-down contours, where most residents still use motorcycles to travel. Thus, in this case, no efforts have been made to apply energy efficiency principles in terms of tourist accommodation that consider social, economic, and environmental aspects in construction and maintenance. On the other hand, in this village, there has also been no effort to conserve energy by utilizing renewable energy, such as solar energy through solar panels and hydropower plants.

Water Resources Management in Hargotirto Tourism Village Hargotirto Tourism Village

Water resource management in destinations	Indicator	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
The program is to assist efforts to measure, monitor, and report to the community on water use in natural and cultural tourism destinations.	In-destination programs in water use				V			V	
	System for				V		V		
	1. Supervision								
	2. Measurement				V		V		
	3. Mitigation On the impact of the availability of water resources in natural and cultural tourist destinations				V			V	

Actually, in this Hargotirto village, there is a Sermu reservoir dam, which is one of the attractions of this tourist village. However, it is deplorable if its existence is still not optimally utilized by residents in hydropower plants (hydroelectric power plants). In addition, the use of

Solar Power Plants (PLTS) has great potential in the area, which is supported by rainfall of 2,100 mm/year with a temperature between 23 -28° C. So, local villagers do not only use fossil energy sources as the main energy source, namely PLN. In this case, for management, control, and supervision, it is still not implemented because there is no adoption of development technology from renewable energy in this destination area, so our group assesses 2 (not of quality). However, in its implementation, it also needs support from the government because it requires a lot of money.

In tourist destination areas, it is important to carry out measurement and supervision programs regarding water use, as well as mitigate the impact of the availability of water resources on a tourist destination. This is done as a preventive measure to avoid the impact of water availability shortages, the impact on the surrounding environment, and tourism sustainability. The increase in the number of tourist activities will undoubtedly have implications for an increase in carbon emissions sourced from existing tourist accommodation, both from the use of vehicles, air conditioning (AC), and other electrical equipment, where this will also have an impact on the availability of clean water resources due to the soaring demand for water to serve tourist activities. Moreover, during the long dry season, several points in the Hargotirto Tourism Village area experienced drought, such as in parts of Crangah Hamlet, part of Sungapan 1, Tirto, Upper Teganing 1, part of Teganing II, part of Teganing 3. Thus, our group assessed an importance level of 4 (strongly agree) because a tourist destination needs to manage clean water, including minimizing water leakage or loss during water distribution and consumption without leaving wasted water.

In the Hargotirto tourism village area, the quality level of water resource management is good. This can be seen in some *homestays* that have implemented a water-saving process. Water saving in *homestays* is carried out with warnings/appeals in writing on the bathroom to save or utilize water adequately. In addition, the bathroom facilities for the entire *homestay* use shower water to save water use. So, in this case, Hargotirto Tourism Village has implemented Standard Operational Procedures (SOPs), which are very important to succeed in this water-saving step. For the availability of water in the Hargotirto tourist village area, most of them use PDAM because of its location close to the Sermo Reservoir. Therefore, we assess three at this point, which means that the management of water resources in the Hargotirto Village area is good, but it still needs to be optimized.

Water Use Management System in Hargotirto Tourism Village Hargotirto Tourism Village

Destination Water Use Management System	Indicator	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
A management system for water use and water needs by the community in a balanced and adequate destination that at the same time protects and strengthens the natural and cultural assets of the local community	Management system to monitor and report on public information on drinking water quality in natural and cultural destinations				V		V		
Destinations have monitoring results that are publicly available and accessible to the public	1. Monitoring water quality in tourist destinations				V		V		
	2. Systems to respond at the right time to water quality issues in destinations				V		V		

Water quality in a tourism destination is an important factor that must always be maintained. As a service-based industry (hospitality), water is a basic need for tourists to feel comfortable carrying out tourist activities in destinations. Water cleanliness is also a representative of environmental cleanliness in the destination. Tourists travel more to destinations with a clean environment, which is usually characterized by clean water conditions. Therefore, we give a rating of 4 (strongly agree), which means that the water quality in a destination is an essential element in the tourism industry.

The water quality condition in the Hargotirto Village Tourism Area is excellent. The water is clear, odorless, and refreshing. Although some houses use water from PDAM sources, the water quality is also good. However, to maintain water quality, the Hargotirto Village area still depends on the PDAM; from the tourist village, no special division is tasked with monitoring. So, if there is a complaint about water problems, the villagers immediately coordinate with the PDAM or the manager of Hargotirto Village. Therefore, our group assessed this criterion.

Waste management is one of the important factors for sustainable tourism, especially for

tourist destinations that rely on natural beauty, while maintaining environmental preservation so that tourism activities do not cause adverse impacts on pollution and environmental damage. The 2013 Environmental Agency (BLH) profile states that the most waste transported to landfills is from Yogyakarta City (34.89%), then Sleman (13.17%), Kulon Progo (7.20%), Gunung Kidul (5.37%), and finally Bantul (1.91%). The percentage of Kulon Progo Regency and the location of the establishment of Yogyakarta International Airport (YIA) in Kulon Progo Regency as one of the tourist entrances, so it is vital to pay attention to waste handling in the form of regulations and programs in handling waste to provide a positive image to tourists when they first enter the Yogyakarta area through Kulon Progo Regency. One of the tourist destinations in Kulon Progo Regency is Hargotirto Village, which also pays attention to the importance of a waste recycling system. Therefore, our group gave an assessment of 4, which means that the rules in handling waste are very important, so the waste recycling system is very important to be carried out in a tourist destination, including in Segajih Hamlet, Hargotirto Village, Kulonprogo.

Waste Management in Hargotirto Tourism Village

Waste management at destinations	Indicator	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
The tourist destination industry has a waste collection system, and the amount of waste produced in the form of organic and inorganic waste	1. Regulations for waste handling at destinations				V			V	
	2. Programs for waste management at destinations				V			V	
	3. Programs to help reduce, reuse and recycle waste				V			V	

Waste Management Policy Regulations in Kulon Progo Regency are Law No. 18 of 2008, Law No. 32 of 2009, Regional Regency Regulation Level II No. 08 of 1991, Regulation of the Regent of Kulon Progo No. 17 of 2005, Instruction of the Regent of KP No. 03 of 2010, Regional Regulation of the Special Region of Yogyakarta No. 3 of 2013 concerning the Management of Household Waste and Household Waste as the basis for the formation of household waste management regulations that have been regulated by the Regulation of the Regent of Kulon Progo

No. 1 of 2013 concerning the Implementation of Household Waste Management and Household Waste, which is the basis of the Policy in Kulon Progo Regency in handling waste, especially in the Hargotirto Tourism destination. As well as the existence of the DIY Provincial BLH which is Responsible for the Waste Management Performance Development Program with activities: Development of Waste Management Technology Increasing Community Participation in Waste Management. One of the commitments of the local community in Hargotirto Tourism Village in waste management is to reduce the use of plastic in serving food to tourists by serving food using banana leaves as a form of effort by the surrounding community to reduce plastic waste. However, handling waste in the Hargotirto area is still not optimal, characterized by the absence of integrated waste management, especially those resulting from tourism activities at Hargotirto tourist destinations. The handling of waste is limited to the distribution of waste in garbage cans, which are divided into organic and inorganic waste only. Therefore, our group assessed three waste-handling issues in Hargotirto.

Waste Management in Hargotirto Tourism Village

Waste management at destination	Indicator	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
A waste management plan is implemented and has a quantitative objective to minimize and ensure safe, sustainable disposal of waste that cannot be reused or recycled	1. Training for tour guides in the use of waste recycling				V		V		
	2. Programs to reduce the use of bottled water by tourists				V		V		

Waste has the potential to create environmental health problems. The government seeks various waste management policies such as waste services and empowering the community to manage waste independently. The waste problem has become a concern for the local government of Yogyakarta, especially in the Kulon Progo district. The policy of Kulon Progo district has been supported by special service programs, projects, regulations, and incentives for waste management through the Implementing Agency of the Public Works Office by the UPTD of hygiene and planting, the Kulon Progo KLH Office with the Policy Program for Waste Collection and Transportation, green cars. There is also the KLH Green Car Project, 3R, and waste sorting

activities in the Waste Management Policy in Kulon Progo Regency, as well as incentives in the form of awards for waste management programs. So, waste management in tourist destinations in Kulon Progo is critical to be carried out, whether it is a mass tourism destination or a notable interest for tourists, especially in Hargotirto Village, Kulon Progo. This is very important to provide comfort to tourists. Especially for a sustainable tourism destination, waste management can be an education for the community and tourists to protect the environment by implementing appropriate waste management management. Therefore, our group gave a 4 rating to Waste Management Management in Hargotirto.

Quality Level: Not Quality (2)

Waste Problem

Regency	Population	Waste volume (m3/day)	Waste volume based on population (m3/day)	Population served (%)	Transported waste (m3/day)	Transported garbage (%)	TPSA
Yogyakarta	541.250	520	487,125	90	170	54,89	Piyungan
Sleman	850.176	2.917,75	2.125,44	9,6	280	15,17	Piyungan
Bantul	1.020.363	2.550,91	2.550,9075	1,9	48,75	1,91	Piyungan
Kulon Progo	588.755	70	971,8875	7,2	70	7,20	Banyuroto
Gunung Kidul	424.348	334,17	1.060,87	17	57	5,37	Baleharjo

The information aligns with the theory that the waste produced per person is 2.5 liters per person/day.

Based on the table, the waste problem in Yogyakarta is that the coverage of district government services is still deficient. The amount of waste transported to the landfill is still low compared to the produced volume. The policy for waste management is that in all districts/cities of Yogyakarta, a body/unit has been formed responsible for managing waste, especially in Kulon Progo Regency. However, the standard procedure has not outlined the method of monitoring and evaluating waste management policies. One of the tourist destinations in Kulon Progo Regency is Hargotirto Tourism Village, which still does not have a special waste management program to empower the community and tourists, such as waste bank programs, mobile garbage collectors, and programs to reduce the use of bottled water by tourists. This occurs due to the lack of training for the community and tour guides in waste management, especially waste recycling. So local villagers still do it manually to destroy waste by burning it. However, in this tourist village area, there is still not much waste produced; most of the waste is organic and non-organic, such as plastic wrap. Therefore, our group assessed two on Waste Management in Hargotirto Tourism Village.

Intellectual Property Protection on Conservation in Hargotirto Tourism Village

Protection of intellectual property on conservation (energy, waste etc.)	Supporting Evidence Indicators	Level of importance				Quality level			
		1	2	3	4	1	2	3	4
Destination has a system to contribute to protecting and defending the intellectual property rights of the community and individuals.	Laws, regulations, and programs to protect the intellectual property rights of individuals and local communities				V		V		
	Regulations on a local and national scale				V		V		

Hargotirto Village has potential that comes from the skills of each individual, community, and group. These potentials include MSMEs and culture. The village government should pay more attention to each MSME so that it has adequate permits and residents' rights as producers can be legally protected. As with the PIRT permit, the village should facilitate at least socialization of this importance. In addition, the existence of cultural and tourism potential is necessary for a village to protect it by making a village regulation. Two regulations protect it, namely tourism regulations and cultural village regulations. Cultural works that are indeed distinctive and original, growing in Hargotirto village, can be protected in terms of originality and copyright wealth.

Unfortunately, what exists in Hargotirto Village is still no effort to maximize attention to local works in Hargotirto Village. There is no cultural regulation that rigidly explains what cultures are original and comes from Hargotirto Village. However, in the world of MSMEs, there has been attention from Hargotirto Village by encouraging the registration of PIRT permits for ant sugar artisans.

CONCLUSIONS

Based on the parameters of the assessment of nature and cultural preservation, which include seven indicators, including environmental protection and energy conservation, water resource management, water use management system, waste management, waste management, intellectual property protection about conservation, and the role of the community in the industry in tourist destinations in Hargotirto Tourism Village, it is related to the value of natural and cultural

values that need to be maximized Its use in efforts to preserve nature and prosper the people of Hargotirto Village is to optimize village and natural life, in the form of the environment, agricultural nature and plantations. Also, traditional arts and local wisdom are tourist attractions; this is by the concept of nature-based tourism, where the development of existing tourism is aligned with issues related to environmental sustainability and culture and empowerment of local communities referring to the *Sustainable Development Goals* (SDGs). Likewise, through this research, several points were also found that are the shortcomings of Hargotirto Village in efforts to preserve nature and culture, including environmental protection management and energy conservation, which still require the village community's attention as managers and government support. Then, in water resource management and water use, as well as waste management, waste management still requires proper handling, regulation, and awareness from the local community of the importance of preserving the environment.

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