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Anthropocene monument as an ecotourism destination in the Special Region of Yogyakarta, Indonesia

Ajie Wicaksono[1,*], John JOI Ihalauw[2], Damiasih Damiasih[3]
Sekolah Tinggi Ilmu Pariwisata Ambarrukmo Yogyakarta, Indonesia[1,2,3]
Corresponding e-mail: ajiewicaksono@stipram.ac.id[*]

ABSTRACT

Purpose — *This study aims to analyze the procurement and processing of plastic waste from the Piyungan Integrated Waste Disposal Site (TPST) for the construction of Monument of Anthropocene (MoA) as a means of promoting ecotourism, while also examining the obstacles encountered during the monument-building process.*

Method — *This research utilizes qualitative descriptive methods, which involve describing a phenomenon occurring within the community. The study was conducted at the Anthropocene Monument, employing data collection techniques such as observation, documentation, and interviews, with an interview conducted with the curator of the Anthropocene monument. The acquired data is analyzed using the Miles and Huberman analysis, encompassing data reduction, data presentation, and drawing conclusions.*

Result — *The building process of MoA involves the use of bricks made from plastic waste. In addition to its function as a building, MoA serves as a multifaceted hub that fosters learning, exploration, information sharing, knowledge exchange, and collaborative efforts in production and work. MoA represents a form of ecotourism that showcases a strong sense of responsibility towards the environment and local culture by transforming plastic waste into valuable resources, both as raw materials in the form of bricks and as works of art. As an ecotourism site, MoA also offers three programs, namely art, culture, and circular economy.*

Contribution — *This research makes a valuable contribution to the existing literature on ecotourism as an innovative approach to plastic waste management in less explored tourist areas in Indonesia. Moreover, the study specifically introduces MoA as a new and unique tourist destination.*

Keywords: *ecotourism, plastic waste management, anthropocene monument*

INTRODUCTION

Tourism plays a crucial role in stimulating economic growth and development within communities (He & Li, 2021). The expansion of tourism leads to increased visitor numbers, which generates income not only for the communities surrounding tourist destinations but also for local governments and various stakeholders in the tourism industry, such as hotels, inns, and restaurants (Aliansyah & Hermawan, 2021; Nurhidayah & Ikram, 2016; Rasool et al., 2021; Suhel & Bashir, 2018). According to data from the Indonesian Central Statistics Agency (BPS), the tourism sector contributed US$ 16.91 billion to Indonesia's foreign exchange earnings in 2019. However, these numbers experienced a significant decline in 2020 and 2021 due to the adverse impacts of the Covid-19 pandemic, with foreign exchange earnings dropping to US$ 3.31 billion and US$ 0.54 billion, respectively. Nevertheless, there has been a resurgence in 2022 as tourism access gradually reopened and visitor restrictions were lifted (Badan Pusat Statistik (BPS), 2021).

In addition to its positive contributions, the growing tourism sector presents challenges in waste management (Ayilara et al., 2020; Navia & Munoz, 2015). With an increasing number of visitors, the volume of waste generated from human activities also rises (Ashuri & Kustiasih, 2020; Ermawati et al., 2018). Common forms of waste resulting from tourism activities include food and beverage leftovers, cigarette butts, food packaging, plastic bags, plastic straws, and styrofoam (Singer et al., 2019). While many individuals demonstrate a positive awareness of waste management practices at tourist sites, there remains limited knowledge regarding the negative environmental impacts, particularly associated with plastic waste (Agapa et al., 2021).

The Special Region of Yogyakarta (DIY - Daerah Istimewa Yogyakarta) faces waste management challenges due to the increasing number of tourists visiting the region. The City of Yogyakarta, Bantul Regency, and Sleman Regency, which are densely populated areas with numerous tourist attractions, collectively dispose of waste at the Piyungan Integrated Waste Disposal Site (TPST). Rahma (2020) highlights that these areas offer various types of tourism, including cultural, historical, natural, shopping, and religious tourism. According to data from the DIY Tourism Office, the number of tourist visits to DIY in recent years has been as follows: 26,515,788 people in 2018, 28,324,394 people in 2019, 10,830,143 people in 2020, and 7,860,233 people in 2021 (Dinas Pariwisata Daerah Istimewa Yogyakarta, 2021). The average annual number of visitors amounts to 18,382,640 people. Furthermore, the Yogyakarta City Tourism Office, as cited by Antara Yogya, projects a total of 7.4 million tourist visits throughout 2022.

The considerable rise in tourist numbers leads to a substantial volume of waste that must be managed at the Piyungan TPST. This issue has become increasingly alarming in recent years, to the point where local villagers living near the TPST have resorted to blocking transportation routes used for waste disposal from Yogyakarta, Bantul, and Sleman (Firdaus, 2022). Therefore, an intervention is necessary, involving the Piyungan TPST, to address the growing waste burden, especially plastic waste, which poses a threat to water sources and soil, persisting in the environment.

The proposal for large-scale plastic waste processing at the Piyungan TPST was introduced by Franziska Fennert, a German artist. This groundbreaking concept involves transforming waste into raw materials for the construction of the Anthropocene Monument, a project that integrates art, culture, and environmental sustainability within a circular economy framework. The project, initiated in 2020, involved collaboration among practitioners and experts from various fields, including scientists, technical engineers, designers, artists, researchers, economists, cultural practitioners, and archaeologists. The Anthropocene project aims to address the ecological, social, and economic challenges arising from industrial dominance and the detrimental effects of modern industries. These challenges include waste accumulation, particularly plastic waste, which contributes to climate change, habitat destruction, and severe damage to natural ecosystems.

The concept of Anthropocene monuments strongly aligns with the principles of ecotourism. According to McKinney (2016), ecotourism refers to a responsible form of tourism that prioritizes environmental and cultural preservation. Responsible waste management is a vital component of environmental stewardship, which involves waste collection, transportation, processing, disposal, and ongoing monitoring to minimize negative impacts on both humans and the environment (Kumar et al., 2019). In the construction of the Anthropocene Monument, solid waste, particularly plastic waste, plays a crucial role as a raw material in the production of plastic bricks.

The term "Anthropocene" refers to an era characterized by the significant global impact of human activities on the Earth's ecosystems. Citing the viewpoints of Crutzen (2002) and Crutzen & Stoermer (2000), Fletcher (2018) suggests that the Anthropocene represents a period in which human influence surpasses all non-human processes. This indicates that humans are prominently involved in and exerting substantial influence over various non-human activities and changes. This era can be observed through several environmental transformations, including climate change, deterioration of water and air quality,

waste accumulation, and advancements in transportation and telecommunications infrastructure.

Research on the Anthropocene as ecotourism remains limited. Savitri and Prayitno's (2020) study provides a geological perspective by examining human interactions with the Earth's landscape through a spatial approach in Geography. They highlight how climate change, resulting from human intervention in the Anthropocene, leads to forest fires, floods, and other disasters that contribute to the climate crisis. Buckland, Haapoja, and Chin's (2022) research focuses on geological art, a contemporary art form that raises awareness about environmental issues and emphasizes the importance of human involvement. The literature on ecological art explores the relationship between contemporary art and nature, highlighting how ecological art projects facilitate the intersection of science, art, and society. Fletcher (2018)'s research examines tourism in the Anthropocene and highlights how this era's involvement has become a new phenomenon in the tourism industry. The study explores various aspects of Anthropocene tourism, including disaster tourism, extinction tourism, voluntourism, and tourism development. The research emphasizes how Anthropocene tourism exemplifies capitalism's ability to adapt and sustain itself in a "post-nature" world by promoting social and environmental awareness and action, even as it shifts away from the traditional notion of "nature" as the basis for tourism destinations.

Based on previous studies, the implementation of the Anthropocene Monument as an ecotourism concept, as explored in this study, has not been previously undertaken. This study distinguishes itself from previous research in terms of its focus of discussion, research subject, and study location. Specifically, the perspective of the tourism industry on the Anthropocene monument has not been explored before. In light of this context, the primary objective of this study is to analyze the procurement and processing of plastic waste for the construction of Anthropocene monuments as a means to promote ecotourism. Furthermore, this research aims to identify and examine the challenges encountered during the process of building these monuments.

METHOD

The method employed in this research is descriptive qualitative. Nugrahani (2014) explains that qualitative research methods are utilized to explore and comprehend the meaning derived from social or humanitarian issues. In this study, the research delves into the potential social problems associated with the

existence of the Anthropocene Monument, thereby offering ecotourism opportunities from a tourism perspective.

To gather qualitative data, this study utilizes a combination of interviews, observation, and documentation as data collection techniques. Abdussamad (2021) defines observation as the act of observing, interviews as the exchange of questions and answers between researchers and individuals to gather information, and documentation as the use of secondary sources such as documents and photographs for research purposes.

The collected data is then analyzed using Miles and Huberman's analytical framework, which includes data collection, data reduction, data presentation, and drawing conclusions. Data was collected from the Anthropocene Monument's Instagram account and through interviews conducted with various stakeholders involved in the creation and management of the monument. In addition, the researcher also referred to relevant literature on waste management and ecotourism topics.

RESULT AND DISCUSSION

Waste problem in tourist destination

Tourism has emerged as a significant sector driving the development and growth of the Indonesian economy (Antara & Sumarniasih, 2017; Haryana, 2020). In 2022, the tourism industry contributed 3.6% to the gross domestic product (GDP), marking a 2.4% increase from the previous year. Moreover, there was a remarkable surge in tourism foreign exchange, with the figure skyrocketing from US$0.52 billion in 2021 to US$4.26 billion in 2022, an eightfold increase (Hendriyani, 2023). The number of tourists visiting Indonesia in 2022 also experienced a substantial rise, with a total of 4.58 million foreign tourists and 633 million domestic tourists. This unprecedented growth signifies a swift recovery from the impact of the pandemic. Additionally, Indonesia secured the 32nd position in the Travel and Tourism Development Index (TTDI) (Hendriyani, 2023).

Indonesia was recognized by the World Travel and Tourism Council (WTTC) as the country with the fastest-growing tourism sector in 2018, ranking 9th globally, 3rd in Asia, and 1st in Southeast Asia. According to the Travel and Tourism Competitiveness Index (TTCI) released by the World Economic Forum (WEF), Indonesia's ranking soared from 70th in 2013 to 42nd in 2017. The allure of Indonesian tourism lies in its diverse range of attractions, offering visitors a plethora of choices based on their interests. Rahma (2020) asserts that tourists

can indulge in various types of tourism, including cultural, historical, natural, shopping, religious, and more.

Data from the Central Bureau of Statistics in 2020 reveals the presence of 2,552 tourist attractions, comprising 1,003 artificial attractions, 651 natural attractions, 530 water tourism sites, 236 cultural attractions, 92 designated tourist areas, and 40 amusement and recreation parks. Among the provinces, West Java boasts the highest number of tourist attractions with 427, while North Kalimantan has the fewest with only 5. In terms of management, the private sector oversees 1,865 tourist attractions, the regional government manages 556, the Authority manages 72, and the central government manages 59 (Dihni, 2022).

To stimulate interest and pride among Indonesians to explore their own country, the government initiated the Proud to Travel in Indonesia (Gerakan Bangga Berwisata di Indonesia or BBWI) program in late 2022. It is anticipated that this program will boost domestic tourism trips to 1.2-1.4 billion in 2023. Another strategy involves achieving a more balanced distribution of foreign tourists by developing 10 priority tourism destinations: Lake Toba, Tanjung Kalayang, Borobudur, Morotai, Tanjung Lesung, Kepulauan Seribu, Kota Tua, Bromo Tengger Semeru, Mandalika, and Labuan Bajo. However, out of these 10 destinations, 5 have been declared as super priority tourism destinations: Borobudur, Likupang, Mandalika, Lake Toba, and Labuan Bajo. The infrastructure development for these tourism destinations is projected to conclude by the third quarter of 2024 (Kementerian Pariwisata dan Ekonomi Kreatif, n.d.).

While the tourism sector experiences rapid growth, it also gives rise to a pressing issue: the generation of waste resulting from tourism activities. As the number of tourists increases, so does the volume of waste produced in the visited areas. Martins and Cró (2021) suggest that the waste generated from tourism activities encompasses paper, plastic, and organic waste from food and beverages. One region with a substantial influx of tourists is the Special Region of Yogyakarta (DIY). The Special Region of Yogyakarta (DIY) comprises five regencies, with Sleman Regency, Yogyakarta City, and Bantul Regency being densely populated areas with significant tourism potential. In contrast, Kulonprogo and Gunungkidul Regencies are less densely populated. The population and population density data for the region are presented in Table 1 below:

Table 1. Population and population density of the Special Region of Yogyakarta duriing 2020-2022

Year	Population per region (People)				
	Kulonprogo	**Bantul**	**Gunungkidul**	**Sleman**	**Yogyakarta**
2020	437,373	1,036,489	758,316	1,248,258	438,761
2021	442,724	1,050,308	767,464	1,265,429	444,295
2022	448,131	1,064,286	776,705	1,282,804	449,890
Area (km2)	586,27	506.85	1,485.36	574,82	32.50
Population density 2022 (people/km2)	764.38	2099.80	522.91	2231.66	1.3842,77

Source: Yogyakarta Special Region Tourism Office (2020)

The data in Table 1 reveals that Sleman Regency, Yogyakarta City, and Bantul Regency exhibit remarkably high population density. Furthermore, these three areas are closely located, facilitating easy accessibility for tourists. Prior to the COVID-19 pandemic, tourist visits in Sleman Regency were the highest, as evidenced by the 2019 data presented in Table 2 below:

Table 2. Tourist visit to DIY in 2019

Year	**Number of visitors (people)**				
	Kulonprogo	**Bantul**	**Gunungkidul**	**Sleman**	**Yogyakarta**
Traveler abroad	41,753	4,871	19,191	233,050	352,682
Archipelago tourists	1,994,417	8,007,795	3,661,612	10.145.104	3,963,919
Total	**2,036,170**	**8,012,666**	**3,680,803**	**10,378,154**	**4,316,601**

Source: Yogyakarta Special Region Tourism Office (2020)

Table 2 illustrates the tourist visits under normal conditions, that is, before the COVID-19 pandemic. During the pandemic, tourist visits plummeted significantly, dealing a substantial blow to the tourism sector due to social restrictions. However, the sector resumed operations in June 2022. According to data from the Yogyakarta City Tourism Office quoted by Antara Yogya, tourist visits in 2022 reached 7.4 million people across DIY, exceeding the targeted 2 million tourists (Dinas Pariwisata Daerah Istimewa Yogyakarta, 2021).

The rapid growth in population, accompanied by a surge in tourist visits, has led to an exponential increase in waste production. The Final Disposal Sites (TPA) of Sleman Regency, Yogyakarta City, and Bantul Regency, which receive the highest number of tourists and accommodate the largest population, are consolidated in one location: the Piyungan Integrated Waste Disposal Site (TPST). The TPST Piyungan was established in 1996 on a 12.5-hectare land managed by the DIY Regional Government. Over time, the waste accumulated at the Piyungan TPST has surpassed its capacity, posing a significant problem. In 2021, approximately 600-650 tons of waste were collected daily, and in 2022, this volume increased to 700 tons per day, with 50% of the waste originating from the City of

Yogyakarta. As a result, the garbage truck fleet had to temporarily halt operations due to the overflowing depots. Since 2017, studies have indicated that the Piyungan TPST's capacity has been surpassed, and the application of sanitary landfills for 600-650 tons of waste per day is no longer suitable.

To address the waste problem at the Piyungan TPST, a solution was proposed by German artist Franziska Fennert and the Indonesian Upcycle Forum (IUF). The solution focuses on waste management, specifically plastic waste, which is challenging to decompose but can be reprocessed. The proposed waste processing method adopts the concept of upcycling, which involves adding value to waste or materials at the end of their service life to create new and more valuable products (Bridgens et al., 2018; Wegener, 2016). The process of adding material value can be accomplished through various techniques, industries, art, and culture. This initiative, known as the Anthropocene Monument, aims to recycle plastic waste from the Piyungan TPST into construction materials and other plastic products.

Monument of Anthropocene (MoA) as waste problem solution

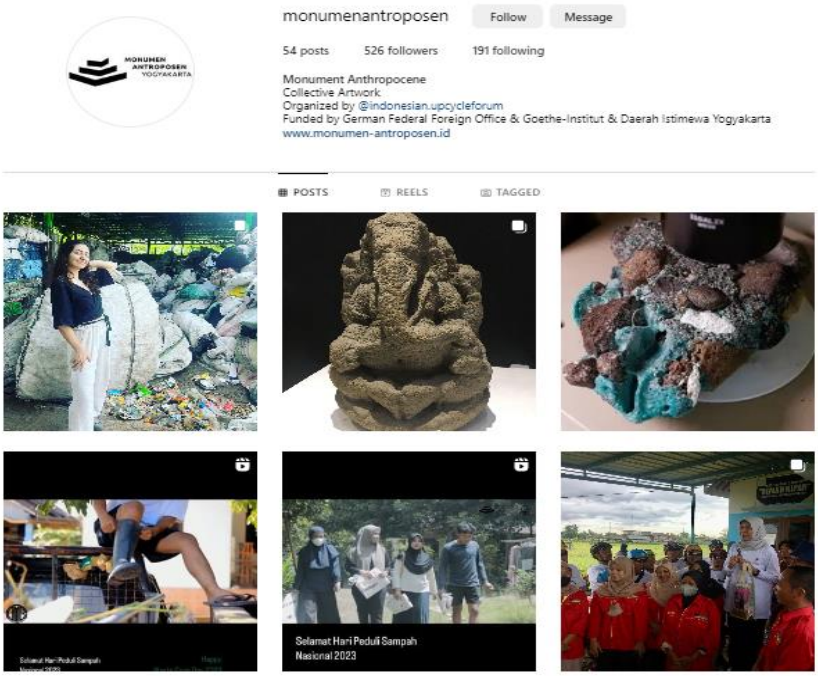
The Monument of Anthropocene (MOA) serves as a multifaceted hub, fostering learning, exploration, information sharing, knowledge exchange, and collaborative efforts in production and work. It serves as a meeting ground for visionaries in fields such as the creative economy and waste management, supporting the development of a circular economic system that utilizes production and consumption remnants. A key emphasis is placed on ensuring that any materials returning to nature are in an environmentally friendly state.

Situated in Sentulrejo, Bawuran, Pleret District, Bantul Regency, Special Region of Yogyakarta, the MOA stands as a center for creative economy and circularity. It offers infrastructure for waste recycling and distribution, along with training programs focused on plastic recycling. The choice of this location stems from its proximity to the Piyungan TPST, a project undertaken by the Indonesian Upcycle Forum (IUF) in conjunction with the construction of the Anthropocene Monument. The IUF acts as a platform bringing together artists, academics, activists, environmentalists, and even homemakers with expertise in waste systems and processing.

As explained above, the MOA represents a form of ecotourism. According to McKinney (2016), ecotourism embodies responsible engagement with the environment and local culture within the tourism industry. This concept finds expression in the construction of the MOA, which demonstrates a sense of responsibility towards the environment and local culture by transforming plastic

waste into valuable resources, both as raw materials in the form of bricks and as works of art.

Figure 1. Anthropocene Monument's instagram screenshot



Source: the authors (2023)

Waste management plays a crucial role in environmental responsibility, ensuring the sustainability of ecosystems and all activities within them, including tourism. Waste can manifest in solid, liquid, or gas forms. Garbage or waste management encompasses the collection, transportation, processing, disposal, management, and monitoring of waste materials to minimize their impact on humans and the environment (Kumar et al., 2019). Effective waste processing is essential in the pursuit of sustainable tourism. Suboptimal waste processing, especially at final disposal sites, leads to waste accumulation in landfills, including those near tourist attractions. Such waste accumulation can contaminate soil (solid waste), compromise water sources (leachate), and emit unpleasant odors. Moreover, it poses health risks and can detrimentally impact the scenic beauty and comfort of tourist spots, dissuading both repeat and potential visitors. Ultimately, the waste problem disrupts the sustainability of tourism.

Ashoer et al. (2021) contend that sustainable development principles aim to uphold ecological sustainability, the preservation of natural values, socio-cultural sustainability, and economic viability.

The preservation of ecological sustainability and natural values is a critical consideration in tourism development. It is imperative to ensure the protection of natural resources, including flora, fauna, and the environment, and to prevent any harm or degradation caused by tourism activities. Several measures can be implemented to promote ecological sustainability, such as safeguarding the integrity of soil, water, and air, practicing efficient utilization of natural resources, reducing reliance on scarce resources, implementing effective waste management systems in the tourism sector, and preserving and promoting the sustainability of genetic diversity and the preservation of flora and fauna species.

Socio-cultural sustainability is another key aspect of tourism development. It involves fostering community engagement, empowering local artistic endeavors, preserving existing cultural heritage, and ensuring its continued development to prevent its disappearance. Tourism development should actively engage the community in managing and making decisions regarding tourism activities based on the region's potential and cultural identity.

The achievement of economic sustainability in tourism development relies on actively engaging and empowering the local community. This can be accomplished by providing opportunities for community involvement in tourism-related enterprises and facilitating employment within the tourism sector (Khalid et al., 2019). The objective is to foster a fair distribution of social benefits and facilitate sustainable economic growth. Additionally, it is crucial to utilize natural resources effectively and efficiently to promote economic sustainability in the tourism industry.

This principle aligns with the development of MOA, which incorporates three distinct programs: art and culture, ecology, and circular economy.

The art and culture programs consist of three sub-programs. 1) Cultural programs: these programs are deeply rooted in local wisdom and promote a renewed human consciousness that supports the establishment of a circular economic system. They involve various activities such as exhibitions, performances, conferences, workshops, research, publishing, and artist residencies, bringing together participants from both Indonesia and other countries. 2) Exhibition hall and museum: within the monument, there is a dedicated space to exhibit and preserve innovative works, including conceptual ideas, tangible art pieces, and products. 3) Educational tourism: the educational tours delve into the intertwined history of humanity and nature, spanning from

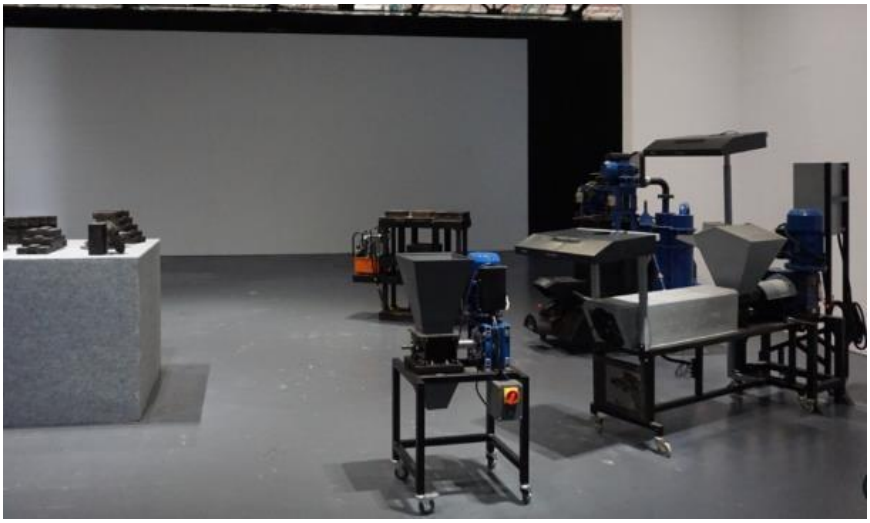
the Holocene era when humans coexisted harmoniously with nature, to the Anthropocene era characterized by human dominance, and finally to the post-Anthropocene era that emphasizes a return to harmony with nature through cutting-edge technologies and circular economy principles. The tour itinerary may begin at the Prambanan temple complex, exploring the reliefs that depict the interconnectedness of past human life and nature-inspired architecture. It continues with a visit to the Pleret area surrounding the Anthropocene Monument, which holds heritage sites from the Ancient Mataram and New Mataram periods, followed by the Piyungan landfill resembling a pyramid structure. The tour also offers insights into the environmental conditions and social life of the region, concluding at the Anthropocene Monument complex, where participants can observe the monument's reliefs, production rooms, showrooms, small museum, library, and ponds.

The ecology programs focus on the outdoor area of the monument, which is dedicated to plantations and ponds. These spaces serve as educational environments for the younger generation and students. Within these areas, there are various features, including food plantations, medicinal gardens, fishery ponds, and the management of both organic and non-organic waste, all integrated through intercropping techniques. The plantations and ponds operate according to principles of natural farming, utilizing tropical bio-dynamic methods and permaculture. These approaches take into consideration the characteristics of the soil, natural cycles, and the social and cultural aspects of the surrounding community. This holistic approach ensures that the food products cultivated align with the local context. Additionally, specific areas are designated for livestock farming, housing cows, goats, rabbits, and chickens in spacious enclosures that mimic their natural habitats. The manure produced by the livestock serves as fertilizer, while the water from the fishery ponds is used for irrigation purposes. Moreover, the leaves and seeds harvested from the plantations can be utilized as feed for the livestock.

The circular economy program is a central component of the Anthropocene Monument project, aiming to introduce alternative economic opportunities within the current capitalist framework. The project incorporates the principles of the circular economy to address the issues associated with unmanaged waste and seeks to raise awareness about these challenges. The program actively involves the broader community in creative waste management, with the expectation of generating economic benefits for individuals, the environment, and the community as a whole. By embracing the concept of the circular economy, the project strives to promote sustainability and create a more inclusive and prosperous society.

The monument complex is designed as a "makerspace" and consists of various buildings that embody this vision. The main building, known as The Anthropocene, serves as a center for cultural and artistic activities. Its exterior showcases three levels adorned with reliefs depicting civilizations from both pre- and post-Anthropocene eras. Adjacent to The Anthropocene, there are buildings dedicated to waste sorting and processing, where different types of waste are received and transformed into semi-finished products. These buildings include segregated waste storage areas, facilities for material washing and chopping. Within the complex, there is a production building that features a showroom displaying a wide range of semi-finished and finished products. An exhibition room is also available to showcase samples of upcycled products, accompanied by charts explaining the concepts of the circular economy. The complex is equipped with a library, office space, and administrative facilities to manage online marketplace applications for recycling and upcycling. Additionally, the entire MOA complex is designed to be easily accessible to people of all ages, including children, the elderly, and individuals with disabilities.

Figure 2. Anthropocene Monument makerspace



Source: the authors (2023)

Alongside the makerspace concept, the monument complex provides additional amenities like homestays, cafes designed for comfortable remote work, and places of worship. The Anthropocene Monument plays a vital role in an educational tour that caters to individuals of all ages, offering seamless connections to various historical sites such as Prambanan, Ratu Boko, and Piyungan TPST. Moreover, it offers valuable insights into the dynamic life of the

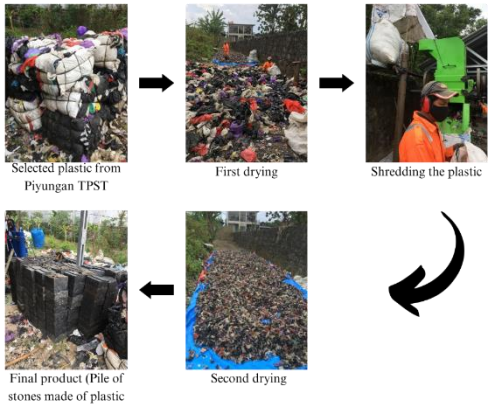
local community in terms of waste management and environmental conservation.

The development of the Anthropocene Monument required careful planning, especially when it came to selecting the raw materials used in its construction. The project utilized bricks made from processed plastic waste obtained from the Piyungan TPST. Plastic was chosen as the primary raw material due to its resistance to decomposition and limited economic value. By repurposing plastic waste into building materials for the monument, this initiative addresses the problem of waste accumulation at the Piyungan TPST while also creating economic value. In addition to using plastic bricks, the project also explores the artistic potential of plastic waste, creating other artistic works that can be displayed and used for educational purposes within the Anthropocene Monument.

The process of obtaining and processing plastic as a brick material in the construction of Anthropocene Monument as ecotourism

Waste management at the Piyungan TPST requires innovative solutions due to the growing waste accumulation. The idea for the Anthropocene monument emerged from the cancellation of the Arts and Culture Festival in 2020, leading to a visit to TPS Doplang Boyolali. Inspired by this visit, Franziska Fennert and Iwan Wijono conceived the idea for the monument. Other individuals involved in the project include Dr. Ingo Schöningh, Ignatia Nilam Agusta, Doni (architect), RM. Ardiyanto (art management), and Setyo (art management), who served as curators with their specific expertise. The construction of the Anthropocene monument involves the transformation of plastic waste into building materials, a process that goes through various stages.

Figure 3. Process of making pile made of plastic



Source: the authors (2023)

To ensure a steady supply of plastic for brick production, various sources are tapped, including waste banks, scavengers, and market trash. The local community, particularly the young men and women of Bawuran, are supported in collecting waste from households. Collaborating with the Independent Waste Management Institute and the Bawuran Village component, along with the MOA team, the Bawuran Youth take charge of organizing used materials in the area. Not only do the residents of Bawuran contribute their plastic waste, but they also actively participate in the independent construction of the Anthropocene monument.

The Anthropocene monument utilizes various types of plastic, including those with no economic value, plastic bags, plastic packaging, and other plastic residues. The focus is particularly on plastic packaging waste such as transparent foil, HDPE and LDPE plastic bags, multilayer packaging, as well as PP and HDPE bottle containers/caps, which are transformed into durable plastic sheets of high value. To acquire additional materials, such as cement, sand, and necessary equipment, building shops are utilized. To enhance the availability of raw materials, the organizers of the Anthropocene project have formed partnerships with collaborators like Teras Malioboro 1 and Bambang Sawerda, the pioneer of the waste bank. The Teras Malioboro 1 team assists in sorting waste in public spaces and distributing it to the Anthropocene monument. This collaboration ensures a reliable supply of the primary raw material for brick production, namely plastic, and represents the support of Teras Malioboro 1 towards the project.

Obstacles in the development process of Anthropecene Monument

The construction of the Anthropocene monument faces significant challenges that cannot be overlooked. One of the primary obstacles is securing sufficient funds, as the initial estimate fell short by 7 billion, resulting in a funding shortfall. This scarcity of financial resources hampers the smooth implementation of the plan and necessitates the exploration of alternative avenues to ensure the project's success. Additionally, the installation of electrical systems has experienced delays, as it can only begin a year after the initial request.

Insufficient electricity supply disrupts the functioning of essential equipment and activities during nighttime operations. Furthermore, the production process of environmentally friendly bricks is an ongoing development, led by Pak Doni and his team. This endeavor requires rigorous testing and development to achieve optimal outcomes.

Despite these challenges, the Anthropocene team remains dedicated to transforming plastic into eco-friendly bricks and perseveres in their commitment to resilience and sustainability. Each obstacle encountered serves as a testament to the team's determination and highlights the arduous journey of constructing the Anthropocene monument.

CONCLUSION

The Anthropocene Monument project combines art, culture, and environmental sustainability within a circular economy framework to tackle the ecological, social, and economic issues related to waste accumulation, specifically plastic waste. By utilizing plastic waste as a primary raw material for constructing the monument, the project aligns with the principles of ecotourism, emphasizing environmental preservation and responsible waste management.

Indonesia's tourism sector has experienced rapid growth, contributing significantly to the country's economy. However, this growth has also resulted in increased waste generation, necessitating innovative waste management solutions. The Piyungan TPST, serving as the final disposal site for waste from densely populated areas with high tourist potential, has reached its capacity.

The Anthropocene Monument project offers a potential solution to the waste challenges at the Piyungan TPST by focusing on plastic waste processing and upcycling. It creates a collaborative platform for experts and practitioners from different fields to develop a circular economic system and promote material reuse. The MOA functions as a hub for waste recycling, training programs, and the advancement of the creative economy and circularity.

Overall, the Anthropocene Monument project presents a promising approach to address waste management issues in the tourism sector, specifically in the DIY region. By repurposing plastic waste and integrating it into the monument's construction, the project promotes environmental sustainability and raises awareness about responsible waste management practices. However, further research and implementation efforts are necessary to overcome challenges and ensure the project's success.

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