CONVERGENCE OF *GREEN ECONOMY* AND *SUSTAINABLE DEVELOPMENT GOALS* (SDGS) ECOLOGICAL FOOTPRINT STUDY IN THE TOURISM SECTOR OF BANYUWANGI

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Abstract

Environmental issues and social inequality have spurred the emergence of two major global agendas: the Green economy and the Sustainable Development Goals (SDGs). However, their implementation at the local level often runs parallel and lacks synergistic integration. This study examines the convergence of the Green economy and the Sustainable Development Goals (SDGs) in the tourism sector of Banyuwangi Regency through an ecological footprint study. The main issue addressed is the increasing ecological pressure due to rapid tourism growth, which has the potential to exceed environmental carrying capacity if not managed sustainably. The research focuses on assessing the ecological sustainability of the tourism sector and analyzing the extent to which its management aligns with green economy principles and relevant SDGs. This study employs a descriptive-interpretative qualitative approach, with data collected through interviews, observations, and document analysis.

The findings indicate that tourism activities have exerted significant pressure on water and energy resources and generated substantial waste, particularly in nature-based tourism destinations. Although the Banyuwangi Regency Government has demonstrated commitment through policies such as the Clean Tourism Movement (GWB) and collaborations for renewable energy, which align with several SDGs, the implementation of sustainability principles remains uneven and partial. In conclusion, the convergence of the Green economy and SDGs in Banyuwangi is progressing incrementally but is not yet fully grounded in quantitative ecological footprint measurement. Therefore, standardizing environmental management and enhancing the capacity of all stakeholders are necessary to achieve truly sustainable tourism.

Keywords*: Green economy, Sustainable Development Goals (SDGs), Ecological Footprint, Tourist*

Abstrak

Isu lingkungan dan ketimpangan sosial telah mendorong lahirnya dua agenda global utama, yaitu Green economy dan Sustainable Development Goals (SDGs). Implementasi kedua kerangka ini di tingkat lokal seringkali berjalan paralel dan belum terintegrasi secara sinergis. Penelitian ini mengkaji konvergensi green economy dan Sustainable Development Goals (SDGs) dalam sektor pariwisata Kabupaten Banyuwangi melalui studi jejak ekologi. Isu utama yang diangkat adalah meningkatnya tekanan ekologis akibat pertumbuhan pariwisata yang pesat, yang berpotensi melebihi daya dukung lingkungan jika tidak dikelola secara berkelanjutan. Fokus penelitian adalah menilai keberlanjutan ekologis sektor pariwisata dan menganalisis sejauh mana pengelolaannya telah selaras dengan prinsip green economy serta tujuan-tujuan SDGs. Penelitian ini menggunakan pendekatan kualitatif deskriptif-interpretatif dengan pengumpulan data melalui wawancara, observasi, dan dokumen.

Hasil penelitian menunjukkan bahwa aktivitas pariwisata telah memberikan tekanan signifikan terhadap sumber daya air, energi, dan menghasilkan limbah yang besar, terutama pada destinasi wisata alam. Meskipun Pemerintah Kabupaten Banyuwangi telah menunjukkan komitmen melalui kebijakan seperti Gerakan Wisata Bersih (GWB) dan kolaborasi untuk energi terbarukan yang selaras dengan beberapa SDGs, implementasi prinsip keberlanjutan masih belum merata dan bersifat parsial. Konvergensi green economy dan SDGs di Banyuwangi telah berlangsung secara bertahap namun belum sepenuhnya berbasis pada pengukuran kuantitatif jejak ekologi, sehingga diperlukan standardisasi pengelolaan lingkungan dan peningkatan kapasitas seluruh pemangku kepentingan untuk mencapai pariwisata yang berkelanjutan.

Kata Kunci: *Green economy, Sustainable Development Goals* (SDGs), Jejak Ekologi, Pariwisata

A. Introduction

In recent decades, the world has faced an increasingly complex and multidimensional environmental crisis, marked by climate change, ecosystem degradation, declining biodiversity, and increasing pressure on natural resources[1]. Conventional development models that are oriented towards economic growth alone have proven to be unable to guarantee ecological sustainability and long-term prosperity. Overexploitation of natural resources, inefficient energy consumption, and environmentally unfriendly production

[1] Guneet Sandhu et. al, 'An Interdisciplinary Water Risk Assessment Framework for Sustainable Water Management in Ontario, Canada', *Water Resources Research*, 59.5 (2023).

and consumption patterns have widened the gap between environmental carrying capacity and human needs[2].

In response to these global challenges, the United Nations formulated the *Sustainable Development Goals (SDGs)* as a universal development framework that integrates economic, social, and environmental dimensions[3]. The SDGs not only serve as a normative agenda, but also as a strategic guide for countries in designing inclusive and sustainable development policies. For developing countries such as Indonesia, the SDGs are an important instrument to balance the needs of economic growth with environmental preservation and improvement of people's welfare[4].

In this regard, the concept of *green economy* emerged as a relevant operational approach to support the achievement of the SDGs. *The green economy* emphasizes economic growth that is low-carbon, efficient in the use of resources, and oriented towards improving social welfare without damaging the environment[5]. This approach focuses not only on the final results of development, but also on the sustainable production, distribution, and consumption processes. One of the sectors that has a strategic position in the framework *of the green economy* and SDGs is the tourism sector. Tourism is recognized as the main driver of economic growth, job creation, and strengthening the local economy. In Indonesia, the tourism sector contributes significantly to the Gross Domestic Product (GDP) and regional development[6]. However, on the other hand, tourism is also a sector that has a considerable ecological impact, ranging from increasing energy and water consumption, waste production, land conversion, to pressure on coastal ecosystems and conservation areas[7].

To assess the extent to which tourism activities are within the limits of environmental carrying capacity, the concept of ecological *footprint* is a relevant analytical tool. Ecological footprint measures the amount of natural resources and biological land area needed to support human activities,

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[2] Luis Javier R Barrón et. al, 'Sustainability Assessment of Pasture-Based Dairy Sheep Systems: A Multidisciplinary and Multiscale Approach', *Sustainability*, 13.7 (2021), 3994.

[3] Frank Biermann, *The Political Impact of the Sustainable Development Goals: Transforming Governance Through Global Goals?* (Cambridge: Cambridge University Press, 2022).

[4] Endang Sungkawati, 'Opportunities and Challenges: Adopting "Blue-Green Economy" Terms to Achieve SDGs', *Revenue Journal Management and Entrepreneurship*, 2.1 (2024), 1–13.

[5] Biermann.

[6] Zahria Zurrah, Suriani Suriani, and Muhammad Abrar, 'Impact of Natural Resources Rents and Human Capital on Ecological Footprint in Indonesia: Technological Innovation as Moderation', *Iop Conference Series Earth and Environmental Science*, 1479.1 (2025).

[7] Fatma Turan Koyuncu, 'Tourism Activities in the Context of Ecological Footprint: Panel Data Analysis for Mediterranean Countries', *Ege Akademik Bakis (Ege Academic Review)*, 2024 .

including in the tourism sector[8]. Ecological footprint measures the amount of natural resources and productive land area needed to sustain human consumption and production activities, including the absorption of the waste produced. Through this approach, tourism sustainability is not only assessed from economic and social aspects, but also from the ability of the environment to sustainably support these activities[9]. Tourism activities, especially in ecologically sensitive areas, can put significant pressure on the environment. One of the most relevant examples is the reclamation of Ancol Beach in DKI Jakarta. This reclamation was carried out to expand the tourism area, but on the other hand, it reaped controversy related to environmental damage and its impact on the local ecosystem. Critics note that this reclamation disrupts natural habitats and can lead to a decline in environmental quality[10].

Another example is in the mangrove forest area in Sedari Village, Karawang, which seeks to develop ecological-based creative tourism. While the tourism potential of mangrove forests is huge, unplanned tourism activities can reduce the integrity of the ecosystem. Development that is not balanced with community participation and good management can result in environmental damage11. This underscores the importance of community involvement in formulating sustainable tourism development strategies.

The convergence between the *green economy* and the SDGs in the tourism sector demands a holistic and integrated approach. The SDGs provide a framework of global goals, while the *green economy* offers an implementable mechanism that can be applied in tourism management. This convergence includes various SDGs, including SDG 8 (decent work and economic growth), SDG 12 (responsible consumption and production), SDG 13 (climate change management), SDG 14 (marine ecosystems), and SDG 15 (terrestrial ecosystems).12

Banyuwangi Regency is one of the regions in Indonesia that has experienced rapid growth in the tourism sector in recent years. With its rich natural resources in the form of beaches, mountains, forests, and local cultural

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[8] Despona Aktsoglou and Georgios Gaidajis, 'A Case Study on Environmental Sustainability Assessment of Spatial Entities with Anthropogenic Activities: The National Park of Eastern Macedonia and Thrace, Greece', *Sustainability*, 12.11 (2020).

[9] Roulin Chen, Duanmin Zhang, and Bo Li, 'Spatial–Temporal Calculation Simulation of Ecological Footprint of Resource and Environmental Pollution in Green Communication', *Eurasip Journal on Wireless Communications and Networking*, 2020.1 (2020).

[10] Sahliah Dita Arzikah and Yudha Arya Permana, 'Ancol Beach Reclamation Controversy: Economic Benefits vs Environmental Damage', *Journal of Citizenship*, 2.2 (2023).

[11] Alexander Fiandre Readi et.al, 'Study on Exploration of Creative Tourism Potential in the Mangrove Forest Area of Sedari Village, Cibuaya District, Karawang Regency, West Java', *The Importance of Science - Journal of Tourism and Culture*, 12.2 (2021), 151–58.

[12] Md. Anowar Hossain Bhuiyan and Md. Abud Darda, 'Tourism for Sustainable Development Goals (SDGs) Achievement in Bangladesh', *Bangladesh Journal of Public Administration*, 29.2 (2021), 53–63.

diversity, Banyuwangi has succeeded in developing tourism as a leading sector in the region[13]. Various nature- and cultural-based tourist destinations have encouraged an increase in the number of tourist visits and made a significant contribution to the region's economy. However, the rapid growth of the tourism sector in Banyuwangi also brings potential risks to environmental sustainability. The increase in the number of tourists has implications for increasing consumption of natural resources, pressure on local ecosystems, and the potential for environmental degradation if not balanced with sustainable management policies[14]. In the long term, this condition can threaten the sustainability of the tourism sector itself, considering that the main attraction of Banyuwangi tourism rests on the quality of the natural environment and the local wisdom of the community.

Based on the dynamics of the development of the tourism sector in Banyuwangi Regency which continues to grow, there is a fundamental need to assess the extent to which tourism activities can take place sustainably from an ecological perspective. Banyuwangi's tourism dependence on the quality of the natural environment requires an evaluation that is able to measure the real pressure of tourism activities on the carrying capacity of the environment. Therefore, the main problem in this study is directed at how the level of ecological sustainability of the tourism sector in Banyuwangi Regency can be explained through ecological footprint analysis, as an indicator that represents the balance between resource utilization and environmental capacity in supporting tourism activities.

In addition to ecological aspects, the sustainability of the tourism sector is also determined by the suitability of its management pattern with the broader sustainable development framework. In this case, the principles of the *green economy* and the *Sustainable Development Goals* (SDGs) are important references in assessing the integration between economic growth, social justice, and environmental conservation. However, the extent to which the management of the tourism sector in Banyuwangi Regency has been aligned with the principles of the *green economy* and the relevant SDGs goals have not been comprehensively answered. This problem requires an analysis that is able to link the economic and social performance of tourism with the ecological impact it causes simultaneously.

Furthermore, the lack of an approach that integrates the results of ecological footprint analysis into the framework of the convergence of the *green*

[13] Muhamad Ari Perdana, Adetiya Prananda Putra, and Putu Ngurah Rusmawan, 'Improving the Promotion Strategy of Cultural Tourism of Traditional Culinary Event Festivals in Pondoknongko Village, Banyuwangi Regency, East Java Province', *Journal of Indonesian Society*, 3.1 (2023), 263–70.
[14] Panji Sekar Pambudi and Mohammad Sabiq Irwan Hariandi, 'The Role of the International Tour De Banyuwangi Ijen Event in Increasing the Number of Tourists for Banyuwangi Ijen Crater Destinations', *Journal of Tourism Charm*, 7.2 (2022), 232–39.

economy and SDGs poses challenges in the formulation of sustainable tourism policies at the regional level. Therefore, this study is also directed to examine how the form of convergence of the *green economy* and SDGs in the development of the tourism sector in Banyuwangi Regency can be formulated conceptually and empirically based on ecological footprint analysis. This problem also includes efforts to identify policy implications that can be used as a basis for local governments to design tourism development strategies that not only encourage economic growth, but also ensure ecological and social sustainability in the long term. This approach is expected not only to make an academic contribution to the development of environmental economics and sustainable tourism studies, but also to provide policy recommendations that are based on empirical evidence and relevant to regional development.

B. Research Methods

This study uses a qualitative approach with a descriptive-interpretive research design[15]. The qualitative approach was chosen because this research aims to deeply understand the dynamics of sustainability in the tourism sector, especially in examining the integration of ecological, economic, and social aspects within the framework *of the green economy* and *Sustainable Development Goals* (SDGs). In addition, this approach allows researchers to capture the complexity of policies, tourism management practices, and the interaction between tourism activities and environmental carrying capacity. The location of this research is Banyuwangi Regency, East Java Province, which was chosen because this area is one of the leading national tourism destinations based on nature and culture. The sources and types of data in this study are primary data which is information or raw data obtained directly from the first hand (primary source) by the researcher and also secondary data is data that has been collected, processed, and published previously by other institutions or individuals[16].

The data collection techniques used in this study include, interviews, to explore the perceptions, strategies, and practices of sustainable tourism management from various stakeholders, observation, to obtain an empirical picture of environmental conditions and tourism activities, documentation, to examine policies, planning, and achievements of tourism and environmental development in Banyuwangi Regency. Data analysis in this study was carried out using a descriptive-interpretive qualitative approach that aims to deeply

[15] Abdul Fattah Nasution, *Qualitative Research Methods* (Bandung: CV. Harfa Creative, 2023).
[16] Dear Rita Scott, *Qualitative Research Methodology*, *Rake Sarasin* (West Sumatra: PT. Global Technology Executive, 2020).

understand the meaning, patterns, and relationships between tourism sector management, ecological sustainability, and the implementation of *green economy* principles and *Sustainable Development Goals* (SDGs) in Banyuwangi Regency. The analysis was carried out simultaneously from the data collection process to the conclusion of the research[17].

C. Results and Discussion

1. Ecological Sustainability of the Banyuwangi Regency Tourism Sector

Based on the ecological footprint approach, environmental pressure from the tourism sector can be identified through the consumption of natural resources (water and energy) as well as the production of solid and liquid waste generated during tourism activities[18]. The development of the tourism sector in Banyuwangi Regency is putting increasing ecological pressure on the carrying capacity of the environment, especially in nature-based tourist destinations. This pressure arises in line with the increasing intensity of tourist visits, the expansion of tourism infrastructure, and the increase in economic activities supporting tourism. Until 2024, Banyuwangi Regency has 13 star hotels and 63 non-star hotels. Meanwhile, the number of restaurants registered with the Banyuwangi Regency Culture and Tourism Office in the same year reached 655 units. The district with the highest number of restaurants in Banyuwangi Regency is Banyuwangi District with 120 registered restaurants[19].

The total number of tourist visits to Banyuwangi Regency throughout 2025 will reach a significant number, which is around 3.6 to 3.7 million people, recording an increase of 7.25 percent compared to 2024. This achievement exceeded the target set by the local government (3.5 million visits) and was driven by natural beauty, culture, and a variety of *events*[20]. From an ecological footprint perspective, this condition reflects the increasing need for natural resources and environmental capacity to sustain tourism activities in a sustainable manner[21]. The average length of guest stay (RLMT) at hotels in Banyuwangi Regency in 2025 is recorded to fluctuate, with the highest number reaching 2-7 days[22]. During the Eid al-Fitr 1446 H holiday period (March 28–April 7, 2025), more than 412,000 tourists visited

[17] Abdul Fattah Nasution.
[18] Yi Xiao et.al, 'Determining the Regional Carrying Capacity of the Wuhan City Circle Based on the Improved Ecological Footprint Method', *Jawra Journal of the American Water Resources Association*, 57.4 (2021), 585–601.
[19] BPS Banyuwangi Regency, *Banyuwangi Regency in Numbers* (Banyuwangi Regency, 2025).
[20] *Https://Banyuwangikab.Go.Id/*.
[21] Rosyani, *Human Ecology* (Jakarta: UI Press, 2018).
[22] BPS Banyuwangi Regency, *Official News Statistics*, 2025.

various destinations in Banyuwangi, a surge of around 300% compared to normal days[23].

The ecological pressure of tourism activities that occur in Banyuwangi Regency with several manifestations that can be identified empirically from local reports. Assuming that tourists' water consumption is 200 liters per person per day and the average length of stay is 2.7 days, the total water consumption by tourists is estimated to reach around 1.84 billion liters per year or equivalent to 1.84 million cubic meters of water. The amount of water consumption becomes significant when associated with the characteristics of Banyuwangi which has a high dependence on local water sources, such as springs, small rivers, and shallow wells, especially in coastal and rural areas which are also tourist destinations. During the peak period of visits, tourists' water needs have the potential to compete directly with the domestic needs of the local community. These findings show that tourism activities have not been fully adjusted to the limits of the hydrological carrying capacity of the region, so that it has the potential to increase the *water ecological footprint*[24].

Several beach attractions in Banyuwangi such as Blibis Beach and Pancer Hamlet (including Red Island, Wedi Ireng, and Mustika Beach), tourism development has had an impact on increasing waste management problems. Data from The Knowledge Hub recorded that the daily waste production of tourists in Pancer Hamlet reached around 1.13 tons per day, with the dominance of organic waste of around 60.6% of the total and various types of plastic waste and other residues that are still in high proportion. Most of this waste has not been managed effectively so it is still illegally disposed of or incinerated, magnifying the environmental pressure on coastal ecosystems[25]. Based on the assumption of waste production of 1 kg per person per day, Banyuwangi's tourism sector is estimated to produce around 9,180 tons of waste per year. Waste management capacity is temporary and community-based. This indicates an imbalance between the environmental burden generated and the capabilities of the available waste management system. In the framework of ecological footprints, this condition shows that tourism activities contribute to an increase in ecological overload, especially in the form of environmental pollution and aesthetic degradation of tourist areas[26].

[23] *Https://Banyuwangikab.Go.Id/*.
[24] Huiliang Wang and others, 'Spatiotemporal Evolution of Water Ecological Footprint Based on the Emergy-Spatial Autocorrelation Method', *Environmental Science and Pollution Research*, 30.16 (2023).
[25] 'Advancing Sustainable Tourism through Community Development in Banyuwangi, Indonesia', *The Knowledge Hub*, 2022.
[26] A H Kristianto, 'Sustainable Development Goals (SDGs) in the Concept of Green Economy for Quality Economic Growth Based on Ecology', *Business, Economics and ...*, 2020.

Of the total water consumption of tourists, around 80 percent has the potential to be liquid waste. Thus, Banyuwangi's tourism sector is estimated to produce around 1.47 million cubic meters of liquid waste per year. Not all tourist destinations have an adequate Wastewater Treatment Plant (WWTP) system, so some liquid waste has the potential to directly pollute the surrounding environment. The risk of pollution is greater in coastal areas and small watersheds that have limited capacity. Tourism liquid waste has the potential to reduce water quality, disrupt coastal ecosystems, and have an impact on the health of local communities. The ecological pressure of Banyuwangi tourism is also reflected in the relatively high energy consumption. Assuming the energy consumption of tourists is 20 kWh per person per day, the total energy consumption of the tourism sector is estimated to reach 183.6 GWh per year.

The tourism sector of Banyuwangi Regency generates significant ecological pressure through the consumption of water, energy, and the production of solid and liquid waste. Although tourism contributes positively to regional economic growth[27]. Banyuwangi's tourism development requires a shift towards policies and practices that are more based on ecological carrying capacity, resource efficiency, and integrated waste management. The efforts made by the local government are through the Clean Tourism Movement program. The program is designed to develop clean, healthy, and sustainable tourism destinations, by encouraging public-private sector collaboration in the management of the tourism environment. In the implementation of the program, local governments and various stakeholders are given the role to work with local communities, tourism businesses, and communities in maintaining cleanliness, environmental health, and improving the quality of the tourist experience[28].

2. Management of the Tourism Sector of Banyuwangi Regency with *Green economy* Principles and Relevant SDGs Goals

Analysis of tourism management policies and practices in Banyuwangi Regency shows that there is a real orientation towards *green economy* principles and the achievement of the *Sustainable Development Goals* (SDGs), although the implementation is still a process and continues to develop. One of the strongest indicators of environmentally friendly policy direction is the establishment of Banyuwangi as a pilot project of the Clean Tourism Movement (GWB) program by the Ministry of Tourism and Creative Economy of the Republic of Indonesia in 2025. This district was chosen as

[27] Rudy C. Scott, *Ecological Economics*, 2024.
[28] Communication Bureau, 'Ministry of Tourism Appoints Banyuwangi as the Location of the National Clean Tourism Movement Pilot Project', *Ministry of Tourism*, 2025.

one of only 16 regions in Indonesia that are a pilot in the national movement to improve the quality of tourist destinations through strengthening health, cleanliness, and environmental sustainability. This program was initiated as part of a strategy to improve the Travel and Tourism Development Index (TTDI), especially the aspects of health and hygiene and environmental sustainability which are an integral part of the principles of the *green economy* and the achievement of the SDGs[29].

This determination is also an indication that tourism management in Banyuwangi is not only about maximizing the number of visits or economic receipts, but also placing the environment as a component of destination quality. The collaboration of several parties between the central government, provinces, districts, tourism stakeholders, associations, local communities, and strategic partners shows the application of the principle of inclusive governance that is in line with the concept of *green economy*, namely the involvement of all actors in sustainable governance[30]. This program is in accordance with SDG 11 (Sustainable Cities and Communities) where the clean tourism movement aims to create a clean, safe, and comfortable tourist environment, so that destinations not only attract tourists but also prioritize the welfare of local communities and environmental quality. SDG 12 (Responsible Consumption and Production) Clean Tourism Movement and sustainable destination management efforts reduce inefficient resource consumption and waste reduction, which is the main focus for building ecologically responsible tourism. In addition, SDG 17 (Partnerships for the Goals) Cross-sector collaboration (government, private, community) in tourism management is a tangible form of strategic partnership that supports the achievement of *Sustainable Development Goals*[31].

Implementation of *green economy* principles through more concrete collaborative efforts. For example, the Banyuwangi Regency Government has a strategic collaboration with PT PLN (Persero) to encourage the concept of Green Tourism in tourism areas, including the development of the use of renewable energy such as solar rooftops, Public Electricity Charging Stations (SPLU) in various regions, both in tourist destinations and other public places. Such as Cacalan Beach, De Djawatan Forest, Bangsring Under Water Beach, a number of RTH, Jambu rest areas, as well as the smart culinary area of Blambangan Park, and electric transportation for tourists[32]. This effort is in line with the SDGs goals related to clean and affordable energy SDG 7 (Affordable and Clean Energy) The clean energy collaboration with PLN

[29] Communication.
[30] Kristianto.
[31] M Yamin, 'Sustainable Development Goals in an Intermestic (Domestic) International) Perspective' (repository.unsoed.ac.id, 2023).
[32] *Https://Banyuwangikab.Go.Id/*.

shows a commitment to utilize renewable energy sources in tourism facilities, while reducing dependence on fossil fuels. Banyuwangi's tourism management has a foundation of policies and practices that support the goals of the SDGs, but also requires systemic improvements so that the principles of environmental, economic, and social sustainability can be fully realized.

3. Convergence *of Green economy* and SDGs in the Development of the Tourism Sector of Banyuwangi Regency Based on Ecological Footprint Analysis

The development of the tourism sector in Banyuwangi Regency shows that there are structured efforts to synergize the principles of the *green economy* with the goals of the *Sustainable Development Goals* (SDGs), especially through policies and governance that are responsive to the environment. One of the important policy indicators is the establishment of Banyuwangi as a pilot project of the Clean Tourism Movement (GWB) by the Ministry of Tourism and Creative Economy of the Republic of Indonesia in mid-2025. This declaration is based on the assessment that Banyuwangi has succeeded in building multi-stakeholder collaboration in clean and sustainable environmental management and tourism, making it an example for other regions in Indonesia. This reflects the integration of SDGs goals related to clean tourism, public health, and ecosystem sustainability, and indirectly supports the targets of SDG 11 (Sustainable Communities and Cities) and SDG 12 (Responsible Consumption and Production).

The ecological footprint analysis in Banyuwangi tourism helps map the extent to which the development of this sector is in line with the principles of the *green economy* and the SDGs targets. Ecological footprint seen from resource consumption and environmental burden is an important measure in assessing the sustainability of destinations. For example, the increase in tourist visits to more than 3.4 million people in 2024, with a growth trend that is still positive, causes significant pressure on environmental resources, especially water, garbage cans, energy, and sanitation systems that affect the ecological carrying capacity of the region. In the scope of the ecological footprint, the pressure reflects that although Banyuwangi tourism economically shows encouraging growth, environmental aspects need to be calculated and managed more systematically so as not to exceed the capabilities of the ecosystem. It also shows the importance of synergy between economic, social, and environmental dominoes so that trade-offs that are detrimental to long-term ecology do not occur.

The convergence between the *green economy* and the SDGs in Banyuwangi's tourism development can be seen from the following aspects,

the designation as a pilot of GWB shows that regional tourism policies are directed to strengthen environmental aspects and community involvement so that they are in line with SDG 11, SDG 12, and SDG 17 (partnership for goals). The ecological footprint analysis shows that the growth of visits has ecological consequences that must be addressed through sustainable resource management strategies. This demands the implementation of SDG 6 (clean water), SDG 7 (clean energy), and green infrastructure practices. Although there has been significant progress in the integration of *green economy* principles and SDGs in the development of Banyuwangi tourism, the results of this study also illustrate the implementation gap in various tourist attractions which shows that the convergence is still evolving and incomplete. This is an important area for a stronger and measurable policy strategy to control the ecological footprint of the tourism sector as a whole.

D. Conclusion

Based on the results of the research and discussion that has been described, several main conclusions can be drawn as follows. *First*, from the perspective of ecological sustainability, the tourism sector of Banyuwangi Regency shows that there is real environmental pressure due to the increase in tourism activities. This pressure is reflected in the increase in clean water consumption, energy, land conversion, and the production of solid and liquid waste, especially in natural tourism destination areas such as coastal and mountainous areas. Analysis of ecological footprints shows that during the peak period of tourist visits, the ecological burden tends to increase and has the potential to exceed the carrying capacity of the environment if not managed systematically. This indicates that tourism growth has not fully taken into account the ecological boundaries of the region as the basis for development decision-making.

Second, in the context of tourism sector management, the Banyuwangi Regency Government has shown a commitment to integrate the principles of *the green economy* and SDGs through various policies and programs, such as ecotourism development, community-based destination management, and involvement in national programs such as the Clean Tourism Movement. These efforts are aligned with the goals of the SDGs, especially SDG 6, SDG 8, SDG 11, SDG 12, SDG 13, and SDG 14. However, the implementation of the sustainability principle is still uneven in all tourist destinations, both in terms of environmental management standards, waste control, and efficiency in the use of natural resources.

Third, the results of the analysis show that the convergence between *the green economy* and the SDGs in Banyuwangi tourism development has taken

place partially and gradually, but has not been fully implemented in the regional development planning and evaluation system. Ecological footprints have not been used as the main instrument in tourism policy-making, so environmental impact control is still reactive and sectoral. Thus, the convergence that is currently occurring is more normative, not yet fully based on quantitative measurements of ecological sustainability.

Based on this conclusion, some recommendations that can be submitted are, it is necessary to standardize environmental management in all tourist destinations, especially related to water, energy, waste, and land use management, so that the implementation of *green economy principles* is not sporadic, but consistent and measurable. Capacity building of local communities and tourism business actors in environmentally friendly practices needs to be strengthened through education, *green economy* incentives, and partnership schemes, so that sustainability is not only the responsibility of the government, but also all stakeholders.

Bibliography

Abdul Fattah Nasution, *Qualitative Research Methods* (Bandung: CV. Harfa Creative, 2023)

'Advancing Sustainable Tourism through Community Development in Banyuwangi, Indonesia', *The Knowledge Hub*, 2022

Aktsoglou, Despoina, and Georgios Gaidajis, 'A Case Study on Environmental Sustainability Assessment of Spatial Entities with Anthropogenic Activities: The National Park of Eastern Macedonia and Thrace, Greece', *Sustainability*, 12.11 (2020)

Arzikah, Sahliah Dita, and Yudha Arya Permana, 'Ancol Beach Reclamation Controversy: Economic Benefits vs Environmental Damage', *Journal of Citizenship*, 2.2 (2023)

Banyuwangi, BPS Regency, *Official News Statistics*, 2025

———, *Banyuwangi Regency in Numbers* (Banyuwangi Regency, 2025)

Barrón, Luis Javier R, Aitor Andonegi, Gonzalo Gamboa, Eneko Garmendia, Alejandro García Alonso, Noelia Aldai, and others, 'Sustainability Assessment of Pasture-Based Dairy Sheep Systems: A Multidisciplinary and Multiscale Approach', *Sustainability*, 13.7 (2021).

Bhuiyan, Md. Anowar Hossain, and Md. Abud Darda, 'Tourism for *Sustainable Development Goals* (SDGs) Achievement in Bangladesh', *Bangladesh Journal of Public Administration*, 29.2 (2021), 53–63.

Biermann, Frank, *The Political Impact of the Sustainable Development Goals: Transforming Governance Through Global Goals?* (Cambridge: Cambridge University Press, 2022).

Chen, Roulin, Duanmin Zhang, and Bo Li, 'Spatial–Temporal Calculation Simulation of Ecological Footprint of Resource and Environmental Pollution in Green Communication', *Eurasip Journal on Wireless Communications and Networking*, 2020.1 (2020).

Feny Rita Fiantika, *Qualitative Research Methodology*, *Rake Sarasin* (West Sumatra: PT. Global Technology Executive, 2020)

Https://Banyuwangikab.Go.Id/

Communication, Bureau, 'Ministry of Tourism Appoints Banyuwangi as the Location of the National Clean Tourism Movement Pilot Project', *Ministry of Tourism*, 2025.

Koyuncu, Fatma Turan, 'Tourism Activities in the Context of Ecological Footprint: Panel Data Analysis for Mediterranean Countries', *Ege Academic Review,* 2024.

Kristianto, A H, '*Sustainable Development Goals* (SDGs) in the Concept of *Green economy* for Quality Economic Growth Based on Ecology', *Business, Economics and ...*, 2020.

Pambudi, Panji Sekar, and Mohammad Sabiq Irwan Hariandi, 'The Role of the International Tour De Banyuwangi Ijen Event in Increasing the Number of Tourists for Banyuwangi Ijen Crater Destinations', *Journal of Tourism Pesona*, 7.2 (2022), 232–39.

Perdana, Muhamad Ari, Adetiya Prananda Putra, and Putu Ngurah Rusmawan, 'Improving the Promotion Strategy of Cultural Tourism of Traditional Culinary Event Festivals in Pondoknongko Village, Banyuwangi Regency, East Java Province', *Journal of Indonesian Community Services*, 3.1 (2023), 263–70.

Readi, Alexander Fiandre, Jessica Christina, Myrza Rahmanita, and Fetty Asmaniati, 'A Study on the Exploration of Creative Tourism Potential in the Mangrove Forest Area of Sedari Village, Cibuaya District, Karawang Regency, West Java', *Khasanah Ilmu - Journal of Tourism and Culture*, 12.2 (2021), 151–58.

Rosyani, *Human Ecology* (Jakarta: UI Press, 2018)

Sandhu, Guneet, Olaf Weber, Michael O Wood, Horatiu A Rus, and Jason Thistlethwaite, 'An Interdisciplinary Water Risk Assessment Framework for Sustainable Water Management in Ontario, Canada', *Water Resources Research*, 59.5 (2023).

Sungkawati, Endang, 'Opportunities and Challenges: Adopting "Blue-*Green economy*" Terms to Achieve SDGs', *Revenue Journal Management and Entrepreneurship*, 2.1 (2024), 1–13.

Tarumingkeng, Rudy C, *Ecological Economics*, 2024

Wang, Huiliang, Qi Shi, Hui Li, Danyang Di, Zhuocheng Li, and Mengmeng Jiang, 'Spatiotemporal Evolution of Water Ecological Footprint Based on the Emergy-Spatial Autocorrelation Method', *Environmental Science and Pollution Research*, 30.16 (2023).

Xiao, Yi, Yuqi Ou, Xiaoyang Qu, Liping Zhang, Xiang Zhang, and Jun Xia, 'Determining the Regional Carrying Capacity of the Wuhan City Circle Based on the Improved Ecological Footprint Method', *Jawra Journal of the American Water Resources Association*, 57.4 (2021).

estik (Domestic International)' (repository.unsoed.ac.id, 2023).

Zurrah, Zahria, Suriani Suriani, and Muhammad Abrar, 'Impact of Natural Resources Rents and Human Capital on Ecological Footprint in Indonesia: Technological Innovation as Moderation', *IOP Conference Series Earth and Environmental Science*, 1479.1 (2025), 12010.