

Sustainable Tourism Ecosystem in Strategic National Tourism Area (KSPN) Borobudur Yogyakarta and Prambanan (BYP)

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Abstract. This research aims to understand tourism ecosystem as a complex phenomenon and attempts to design aspects for advancing tourism sector, such as linkage, value chain, and interconnectivity systems. The support of BGCM (business, government, community, academic, and media) is required to maximize tourism sector in Borobudur Yogyakarta Prambanan (BYP). Explorative descriptive research is used with a qualitative method to analyze objects naturally and in depth. The results show that Sustainable Tourism Development (STD) is related to the application and issues of the concept. In this context, BGCM generates tourism benefits contributing to the community and the environment in Strategic National Tourism Area (KSPN).

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1. Introduction

The promotion of eco-friendly travel destinations is a crucial objective, as outlined in legislation from the late 2000s. In this context, the tourism authority strives to establish Indonesia as a regional leader in sustainable and responsible practices (Rasoolimanesh, Ramakrishna, Hall, Esfandiar, & Seyfi, 2023). As the most significant economic sector, the travel industry is experiencing swift growth, necessitating a focus on sustainability in destination management (Rasoolimanesh et al., 2023; Streimikiene, Svagzdiene, Jasinskis, & Simanavicius, 2021). Tourism is an integral part of national development carried out systematically to protect religious values, culture, sustainability and quality of the living environment, and national interests. (Higgins-Desbiolles, 2020; Muhamad & Prima, 2016; Nocca, Bosone, De Toro, & Fusco Girard, 2023; Sopjan, 2022). The government supports sustainable, community-based tourism and inclusive development. Indonesian government initiated tourism development initiative in 2015, as outlined in a national directive spanning 2010 to 2025 (Firman et al., 2023; Hermawan & Suryono, 2023; Yamin, Darmawan, & Rosyadi, 2021a).

The effort of government included collaboration with 20 local administrations, who pledged support through formal agreements (Kurniawan, Purnomo, Fathani, & Fadhlurrohman, 2023; Purnomo, Idris, & Kurniawan, 2020) to improve sustainable growth in tourism sector across various regions (Laksmidewi, 2022a; Purnomo et al., 2020). The Ministry of Tourism has established a National Working Group to formulate measures and strategies for developing sustainable tourism destinations (Nocca et al., 2023). On the anniversary of World Tourism and Indonesia Day in 2015, the Minister of Tourism for 2014–2019 explained that tourism development had become a global issue and must be given

special attention (Laksmidewi, 2022b; Yamin, Darmawan, & Rosyadi, 2021b, 2021c). Therefore, the Ministry of Tourism signed a joint agreement with Global Sustainable Tourism Council (GSTC), which was witnessed by United Nations Sustainable Development Solutions Network (UNSDSN) (Beritelli, 2011; Kawuryan et al., 2022a; Yusuf, 2020). This was conducted to determine the indicators of sustainable tourism and the assessment of destinations (Niedziółka, 2014a). In 2016, the establishment of Sustainable Tourism Observatory (STO) center was carried out (Kawuryan et al., 2022b). Tourism has been subjected to sustained expansion and diversification over the past six decades, as one of the fastest-growing and largest economic sectors in the world (Muhamad & Prima, 2016). Tourism accounts for 7% of global exports and 10% of GDP (Gross Domestic Product), representing one in every 11 jobs worldwide (Bhakti et al., 2021; Calderón-Vargas, Asmat-Campos, & Chávez-Arroyo, 2021; Kemenkeu, 2016). In 2016, the number of international tourist visits reached 1.2 billion, an increase of 4.7% from the previous year and the sixth consecutive year of above-average growth since the 2009 economic crisis (Hautamäki, 2021; Lemy, Pramezwary, Teguh, & Pramono, 2019).

Tourist destinations are expected to collaborate with local governments, colleges, and other stakeholders. The application can be implemented to realize the well-being of the community and sustainability of nature, whitening the noble values of society. Tourism sustainability is dependent on 4 key principles, 1) the concept should address current demands without jeopardizing future generations, 2) growth must respect and operate in the limits of existing ecosystems, 3) all initiatives should benefit various stakeholder groups, including local communities, and 4) sustainable development aims to improve the quality of human life in all aspects of physical,

spiritual, social, and cultural in the long term by not wasting or damaging existing natural resources (Dumilah, Komarudin, Ubaidillah, Siagian, & Santoso, 2021; O, 2004; Sucahyo et al., 2023; UNEP, 2005; Wahyuni, Tyas, Agnes, Febrianti, & Ukar, 2021; Widowati, Ginaya, & Triyuni, 2019).

There are several reasons for implementing sustainable tourism in Indonesia. Tourism is ranked fourth on GDP contribution in 2014 after petroleum and gas, coal, and palm oil. The contribution to gross national income is projected to be in the first order. From global competitiveness, Indonesian tourism was ranked 50th in 2014 from 70th in the previous year, where the current lowest index is in infrastructure, hygiene, and environmental sustainability. Additionally, tourism sector has not provided a direct and meaningful contribution to the economies of local communities in tourist destinations (Indonesia, 2011; Pariwisata, 2021).

In 1992, United Nations World Tourism Organization (UNWTO) published indicators as a benchmark for developing sustainable tourism destinations (Isetti et al., 2021; SAMIER, Hamman, & Stejskal, 2021). The indicator was refined into "UNWTO Guidebook on Indicators of Sustainable Development for Tourism Destinations," published in 2004 and later formed by International Network of STO (Indonesia, 2011; Isetti et al., 2021). According to UNWTO, Sustainable Tourism Development (STD) considers current and future economic impacts, minimizes negative environmental and social effects, and addresses the needs of tourists, tourism industry, the environment, and local communities (Sucahyo et al., 2023; UNEP, 2005). The development is aimed at (a) economic viability, (b) prosperity of a region, (c) quality of employment, (c) social equity, (d) visitor fulfillment, (e) local control, (f) community well-being, (g) cultural wealth, (h) physical integrity of the destination, (i) biological diversity, as well as (j) resource efficiency and environmental purity (UNEP, 2005; Wahyuni et al., 2021; Widowati et al., 2019).

Commitment to the implementation of STD ecosystem in line with government support efforts is carried out by applying BGCM (business, government, community, academic, and media) model to increase the realization of goals in Strategic National Tourism Area (KSPN) (Niedziółka, 2014b; Nocca et al., 2023; O, 2004; Widowati et al., 2019). Another commitment to promoting the regions is to build and implement STD through collaboration between academic institutions or

research institutes, local governments, and central governments (Kawuryan et al., 2022b; Niedziółka, 2014a). The main problem is implementing a sustainable tourism ecosystem in KSPN as a form of engineering complexity. This produces linkages, value chains, interconnectivity systems, sector subsystems, and components integrated into the products and services that drive tourism system. To create orchestration and ensure quality, activity, facilities, and service, the role of BGCM needs to be optimized. The aim is to create tourism experiences and value benefits for the society and the environment.

The methods are intended to describe the object or subject in depth, broadly, and in detail to solve problems by collecting data, as well as conducting classifications, analyses, conclusions, and reports. This research is conducted in KSPN around the Borobudur area, a World Cultural Heritage Site. Meanwhile, tourism system is examined from various sustainability aspects, including social, economic, cultural, and environmental carrying capacity dimensions.

2. Research Method

A naturalistic investigative strategy is used in this research through an in-depth qualitative method to examine subjects in authentic settings, with the investigator serving as the primary tool for data collection and analysis. Additionally, the exploratory nature allows for a comprehensive understanding of phenomena under scrutiny. Exploratory research digs into the causes of something happening and does not describe a phenomenon, variable, symptom, or condition contextually. However, the concept can form comprehensive data through observations, surveys, interviews, policy research, and documentation. The analysis is conducted through observations collected from various activities within the geographical areas of Borobudur, Yogyakarta, and Prambanan (BYP). Data was obtained from an analysis of 1) The Ministry of Sustainable Tourism Implementation Policy, 2) Sustainable Tourism Implementation Action Plan, 3) Timeline & Schedule Implementation of Sustainable Tourism in 3 Years, 4) The Phases of Sustainable Tourism Application Activities through STD, STO, and STC Processes in KSPN and Other Regions, and 5) The Responsibilities of Each Actor in Sustainable Tourism Implementation, the Participation of Secretariat National Working Group, Facilitator, Local Stakeholders, Central Government, non-governmental organizations (NGOs).

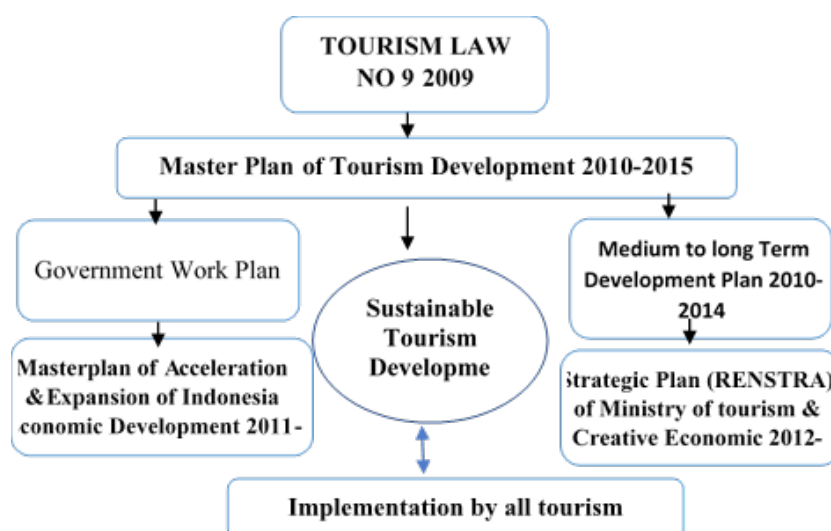


Figure 1. Ministry of Tourism's Sustainable Tourism Implementation Policy Support. Source: (Hautamäki, 2021)

3. Result and Discussion

Sustainable Tourism Ecosystem Implementation Policy Support in KSPN

The support of the Ministry of Tourism, which explicitly poured ideas into the development of sustainable tourism is analyzed. In this context, the development is focused on the diversity, uniqueness, and specificity of culture and nature without neglecting the future. To stimulate economic growth that enhances the well-being of communities, the development of tourist destinations must be conducted responsibly to ensure sustainability. This requires clear guidelines outlining the standards, criteria, and indicators of sustainable tourism destinations (Muhamad & Prima, 2016; Sopjan, 2022).

The support is focused on the foundation, purpose, and principles of the Act. The government supports sustainable development as envisaged in the 2019 Nawa Cita Labour Cabinet.

UNWTO defines sustainable tourism as an activity that considers current and future economic impacts, minimizes negative environmental and social influence, and seeks to meet the needs of tourists, tourism industry, the environment, and local communities (Lemy et al., 2019; Muhamad & Prima, 2016). The objectives are (a) economic viability, (b) local prosperity, (c) quality of employment, (d) social equity, (e) visitor fulfillment, (f) local control, (g) community well-being, (h) cultural wealth, (i) physical integrity of the destination, (j) biological diversity, (k) resource efficiency, and (l) environmental purity (Hautamäki, 2021; Kemenkeu, 2016).

The program equips decision-makers, strategists, and industry professionals to enhance regulatory and organizational capabilities, facilitating the development and execution of sustainable tourism frameworks. The frameworks include policies, strategies, and management practices through methodical implementation. The intricate nature of tourism leads to ecosystems characterized by interconnected networks, value chains, and multifaceted systems. The ecosystems integrate various sectors, disciplines, and components into cohesive products and services for propelling the industry. The collaborative efforts of businesses, government bodies, local communities, academic institutions, and media outlets should be maximized to generate meaningful tourism experiences for society and the environment. This cooperation ensures the orchestration of high-quality activities, amenities, and services in tourism sector.

Sustainable Tourism Application Concept in KSPN BYP

KSPN in BYP adopts a holistic method of tourism development to integrate environmental conservation, economic growth, and cultural preservation. By harmonizing the three crucial elements, the initiative aims to enhance a resilient and enduring tourism industry in the region, ensuring the viability for generations. Balai Ekonomi Desa/ Village Economic Centers (Balkondes) program is an initiative of the Ministry of BUMN responding to the order of the President in increasing development. This initiative was expressed in the Decree No. B-652/Seskab/Maritim/11/2015. Additionally, the establishment of Balkondes is balanced with tourism development goals set for 2015-2019 and the "NawaCita" nine-point agenda. The growth strategy includes 4 key areas, namely enhancing destinations, improving marketing strategies, developing industry infrastructure, and strengthening institutional frameworks. This method was outlined in the 2020 regulations issued by Indonesian Tourism

and Creative Economy Agency, which showed the strategic objectives for the Ministry of Tourism, Creative Economies, and Tourism Agency spanning 2020-2024. Furthermore, the nine agenda of NawaCita to strengthen the implementation of tourism development include 1) The leadership must embody the collective security and protection of the populace, 2) Governance should be transparent, efficient, and democratic, instilling public confidence, 3) Regional development, particularly in rural and peripheral areas, is crucial for national cohesion, 4) A strong state requires systemic reforms and impartial law enforcement, free from corruption, 5) Enhancing the overall well-being of citizens is important, 6) Increasing national productivity and global market competitiveness is essential, 7) Achieving economic self-reliance necessitates the revitalization of key domestic industries, 8) Conducting a revolution of the country, and 9) Strengthen the social restoration (Bhakti et al., 2021; Gúčík & Marciš, 2017; Kemenkeu, 2016).

The implementation of Balkondes Program, specifically Balkondes Karangrejo, with tourism development program, aims to stimulate economic growth and increase resilience. The presence of Balkondes in KSPN and the superior management system positively impact the economic resilience of the region, specifically in Borobudur and KSPN. The implementation of sustainable tourism has the following principles.

Tourism development with the 4 concepts is in line with Sustainable Development Goals (2015) explicitly related to goal number 8 (Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all), 12 (ensure sustainable consumption and production patterns), and 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) (Yusuf, 2020). Therefore, the enhancement of diverse social traditions and communal identities plays a crucial role in safeguarding modern cultural assets and vibrant societal practices. This method contributes to improved cross-cultural empathy and acceptance among different groups. In Borobudur and the surroundings, there are more than 40 historic buildings, including temples with essential sites. The old buildings, which became the icon of Magelang City, are used as a government office, places of worship, residences, and business. However, some old buildings, such as Mount Sari, Pendem, and Asu Temples in the village of Sengi, and old cinema, are closed, unmaintained, purloined, and neglected. Many regulations are related to governing historical buildings and the management is not optimal.

Based on the research, KSPN was designed using the Holyness, Fertility, Beauty, and Strategy Saujana Concepts that develop the territorial landscape. The concept of holiness describes seven mountains surrounding KSPN, supported by two flowing rivers and fertile soil, as well as beautiful scenery. Fertility shows the fertile potential of land in and around Magelang City, which inspires the development of agricultural and plantation land. However, there is a shift in the use of the potential influenced by the economic considerations of the city. The concept of beauty describes the panoramic appearance created by mountains, slopes, rivers, and hills, which inspired the development of the area as a place of rest. There were changes in the use of the potential. The Strategic Concept describes the location of KSPN in the mountain basin and North-South route, which inspires the development of the center of activity and defense.

Table 1 Method to the Concept of Application of Sustainable Tourism in KSPN

Sustainability Principles	Sustainable Tourism Application Concept in Indonesia	Sustainable Tourism Policy at KSPN
Socio-cultural and community	Understanding and managing crucial environmental processes is essential for sustainably growing tourism while safeguarding natural treasures and diverse ecosystems. By carefully considering ecological impacts, responsible tourism development can be promoted to protect the planet and biological variety, honor the genuine social and cultural fabric of communities, safeguard modern-day constructed legacies, vibrant cultural practices, and long-standing principles, and enable mutual comprehension between diverse cultures.	<ul style="list-style-type: none"> • Law of Indonesia No. 11/2010 on the Cultural Reserve. • Indonesia Act No. 5 of 1990 on the Conservation of Biological Resources and Ecosystems. • Indonesia No. 11/2010 on the Cultural Reserve. • Regional Regulations (PERDA) on the Regional Tourism Development Master Plan 2015-2025. • Presidential Decree of Indonesia No. 58 of 2014 on Planning Borobudur Area and its Environs. • STO of Gadjah Mada University. • Regulations of the Governor of Java Tengan on the Regional Action Plan of the Government of Central Java Province in 2019-2023.
Socio-economic utilization	Equitable distribution of socio-economic advantages among stakeholders is crucial. This includes providing steady employment, enhancing community growth, ensuring fair income, and improving access to social services. These factors collectively play a significant role in the ongoing efforts to combat poverty and improve overall societal well-being.	<ul style="list-style-type: none"> • Balkondes in KSPN. • Initiating e-commerce as a marketing strategy. • Establishment of Borobudur as a World Heritage Site as a Cultural Site with Registration No. C 592 1999. • Ministry of Public Employment and People's Housing (PUPR) builds residential infrastructure, preserving the Borobudur area as a World Cultural Heritage Site (World Heritage Site).
Monitoring Participation	Maintaining tourism sustainability is an ongoing challenge. This necessitates continuous assessment of environmental effects and the implementation of proactive and reactive strategies as needed to mitigate negative impacts. Participation of all informed stakeholders and strong political leadership to ensure participation	<ul style="list-style-type: none"> • STO of Gadjah Mada University. • Regulations of the Governor of Java Tengan on the Regional Action Plan of the Government of Central Java Province in 2019-2023. • Cross-stakeholder participation in the management of the Borobudur Temple such as the Ministry of Religion, Tourism Ministry, PUPR Ministry, and the Ministries of Maritime and Investment.
Carrying Capacity and Tourist satisfaction	High level of tourist satisfaction and guarantees a meaningful experience for tourists, sustainable tourism. Local satisfaction is defined as the meeting point between expectations and reality regarding the development of tourism activities in tourist destinations, from the perspective of the local community.	<ul style="list-style-type: none"> • The capacity of the environment to support human life, other living beings, and the balance between them. • Environmental carrying capacity analysis is a development planning tool that provides an overview of the relationship between population, land use, and the environment. • The calculation of the number of tourists and the size of tourism area results in visitor management. • Regulating the number of tourists. • Easy access to information, accessibility, tourism facilities, and relatively cheap rates.

Source: Research Analysis, 2023

Tourism development prioritizes poor communities, growth, job creation, and environmental sustainability. Implementing a sustainable tourism policy aims to improve economic, social, environmental, and cultural aspects. In addition, tourist locations work to make the best use of the environment, which is a crucial component of the industry. Maintaining ecological processes and making a sustainable contribution to the preservation of biodiversity and the natural heritage are also essential. Respecting cultural authenticity and working to maintain the original structures that are a part of heritage will help preserve biodiversity. Preserving indigenous cultural heritage and traditional values and promoting tolerance

among local communities contributes to understanding and respecting diversity. In the long run, economic sustainability provides benefits for all parties, including the creation of stable jobs that provide income opportunities and livelihoods from tourism sector, as well as providing social services to local communities and helping to reduce poverty. An example of success can be seen from the income earned in tourist village destinations in STO area of Gadjah Mada University (UGM).

The four pillars of the STO area must be conducted in balance and interrelated. There will be imbalances in STD that can lead to horizontal and vertical conflict when the pillar requires an improvement. Therefore, the Ministry of Tourism

has taken several steps to support STD, such as awarding green hotel awards, developing green tourism, Trihita Kirana awards, and collaborating with UNSDSN.

Several Balkondes in Borobudur Temple Area have started using e-commerce such as Traveloka, Booking.com, and social media as marketing strategies. However, there are obstacles in exploring and developing the two selected digital marketing platforms. The impact of Balkondes on economic resilience

is limited to human development efforts by increasing resources and empowering communities in the categories of human, enterprise, environmental, and institutional building. Balkondes has a comprehensive impact on the economic resilience of the country. This is due to the remaining uncovered poverty, marked by the limited productivity of the population and the incomes of Balkondes owners, who are also still limited.

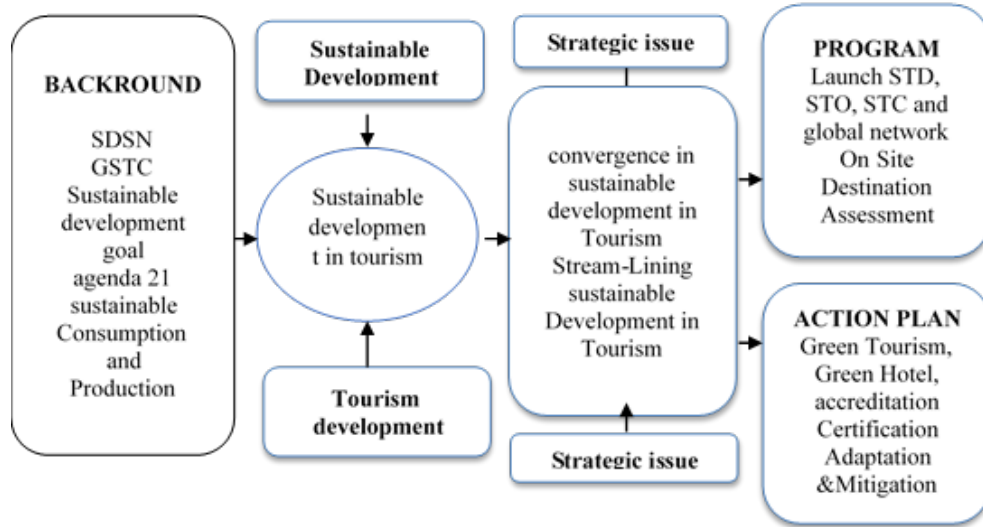
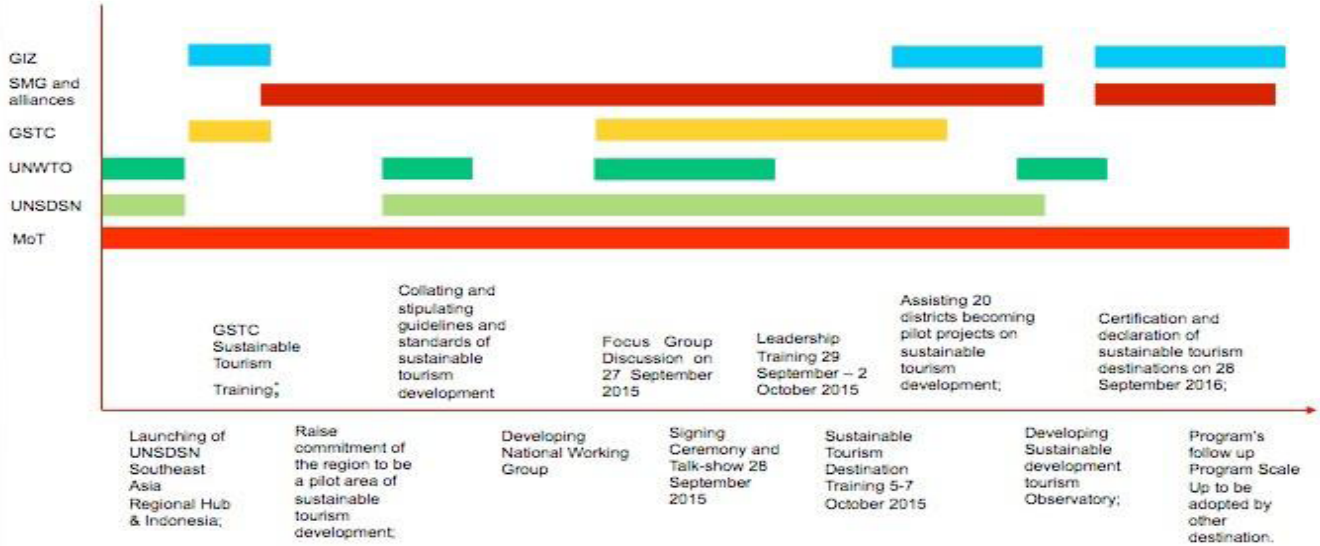


Figure 2. STD Concept in KSPN Source: (Fadli et al., 2022; Yamin et al., 2021c)

Table 2. Road Map TimeLine Sustainable Tourism Program

Year	Activity and Implementation STD in KSPN BYP
2015-2016	Workshop Indicator of Sustainable Development for Tourism Destination in KSPN and developing a national STD and the shaping commitments in 20 area
2016	<ul style="list-style-type: none"> • Sustainable Destination Certification • MoT coordination 20 Destination and 3-5 best • 3-5 Snapshot Assessment (MoT Nominates 3 expert/consultant counterparts for future assessments) • Mentoring Progress review workshop mentored by GSTC • Patta Travelmart- showcase marketing for the best sustainable destination • Annual workshop with all destinations (Before/after PATA Travel Mart) • Develop Indonesia Sustainable Destination Guideline (Based on snapshot assessment and first annual workshop)
2017	<ul style="list-style-type: none"> • Develop Indonesia an observatory for sustainable tourism center in Indonesia (3 locations) • Indonesia Partner with GSTC to Develop GSTC Country Criteria • Indonesia Sustainable Destination Guideline • Snapshot assessment of additional 3-5 destinations (mentored by GSTC) • Indonesia certifies the first 10-20 destination • Indonesia Seek GSTC Approval Of Indonesia Sustainable Destination Program • GSTC International Conference in Indonesia • Indonesia Provides Major Marketing for Best Sustainable Destination and Destination Certification Program at GSTC Global Conference
2018	<ul style="list-style-type: none"> • Indonesia Sustainable Destination Guideline • Snapshot assessment of additional 3-5 destinations (mentored by GSTC) • Indonesia certifies first 10-20 destination • Indonesia Seek GSTC Approval of Indonesia Sustainable Destination Program • GSTC International Conference in Indonesia • Indonesia Provides Major Marketing for Best Sustainable Destination and Destination Certification Program at GSTC Global Conference
2018 - 2019	<ul style="list-style-type: none"> • Follow up and Scale-Up Program for Other Destination • Indonesia Sustainable Tourism Award (ISTA)
2020 -2021	The COVID-19 period and the stagnation period in destinations and many closed for tourist activities for an unlimited time

Figure 3. Sustainable Tourism Implementation Action Plan



Source: (Fadli et al., 2022; Laksmidewi, 2022b; Yamin et al., 2021c)

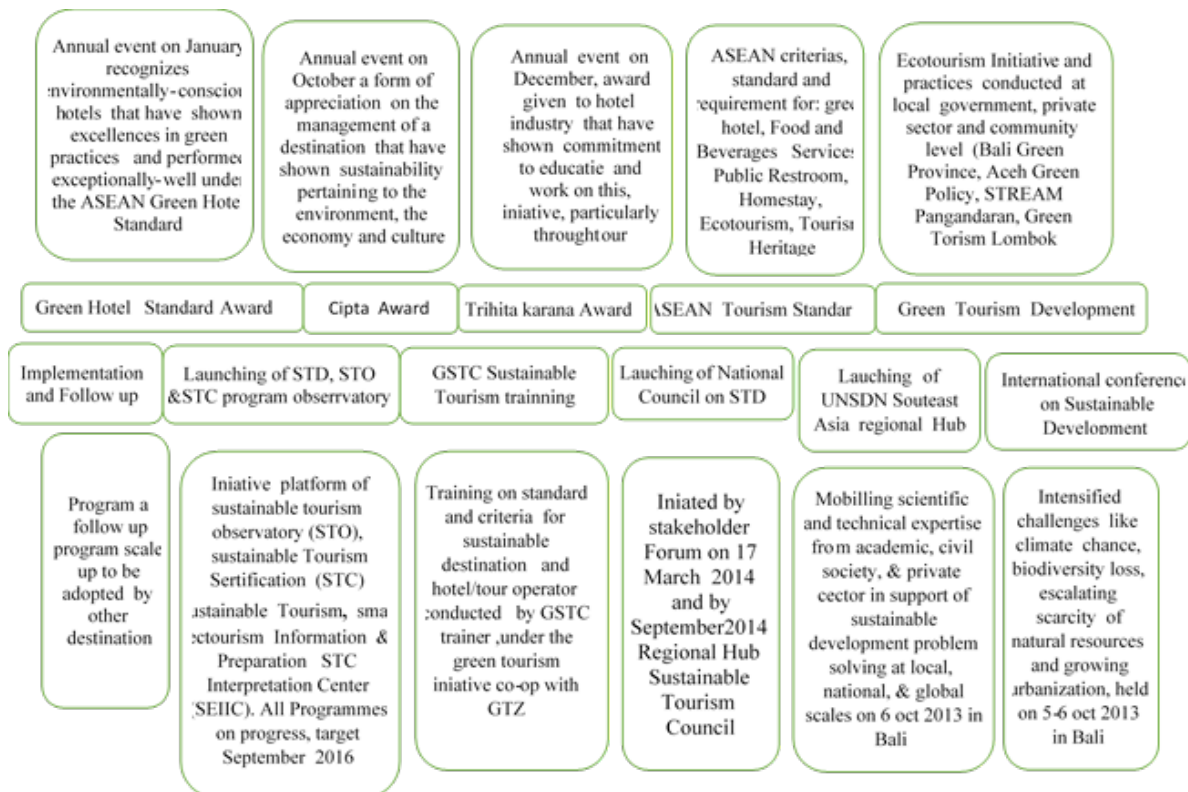


Figure 4. Timeline & Schedule Implementation of Sustainable Tourism in 3 Years

Source: (Laksmidewi, 2022b; Yamin et al., 2021c; Yusuf, 2020)

Table 2 describes the two phases of the program to be achieved in 2016. The first phase is the establishment of STO in collaboration with colleges around KSPN destinations, such as Gadjah Mada University. The second phase is the certification of 20 tourist destinations applying the principles of STD. The program is carried out through a series of steps, including performing snapshot assessments on several selected programs, selecting three experts as sustainable tourism assessors, conducting progress reviews on the pilot project location, developing guidelines on sustainable travel based on snapshot evaluations, and the first annual workshop in cooperation with GSTC. On World Tourism Day, certificates are given to pilot project destinations, including Gadjah Mada University, as STO.

In 2017, Indonesia hosted an international conference of GSTC with a range of programs, such as Signing Joint Statement, Focus Group Discussion, National Working Group, Signing Ceremony and Talk-show, Leadership Training, Sustains Tourism Destination Training, Seminar and Workshop on Sustained Tourism. Sustainable Tourism, Implementation Action Plan, is marked by a Signing Ceremony and Talk-show consisting of two activities. First, a talk show or seminar between the Ministry of Tourism, UNWTO, GSTC, UNSDSN, local governments, and other stakeholders as an attempt to socialize the policy framework. Second, the signing of the memorandum of understanding on sustainable tourism by the Chief Executive Officer (CEO) of GSTC-UNWTO represented by UNSDSN, the Minister

of Tourism of Indonesia, and the Deputy Development of Destinations and Tourism Industry, the Ministry of tourism. Governments and stakeholders, including heads of districts (20), are committed to piloting STD projects, which receive training in formulating policies for sustainable development in tourist destinations. The program includes 20 local partners and facilitators, serving as ambassadors from the pilot project destinations. Table 3 describes implementation phases and achievement strategies for a sustainable tourism ecosystem in KSPN.

In this research, there are three phases of activity, namely STO, STC, and STD. The program seeks to sustain the long-term ecological health of popular tourist sites, ensure economic sustainability, and give local communities social and ethical justice. The program includes convergence, coordination, and research meetings organized by Ministry of Tourism. In the implementation, the program established a monitoring center as an observatory. At the national level, Ministry of Tourism is the Secretary and National Monitoring Center manages the network of regional monitoring centers. The ministry has authorized the recognition of the Monitoring Center as STO, which has met the requirements through the Decision of the Minister of Tourist Affairs. At the sub-national or local level,

monitoring centers are established through initiatives and cooperation between colleges or research institutions with local governments at STO locations (Provincial, Regional, or City Governments). The Monitoring Center established through government initiatives is responsible for completing assigned tasks, reporting results, and sharing experiences.

Academic institutions, including universities and research center, are known as the Monitoring Center for STO. The monitoring center uses systematic applications to analyze the effects on the economy, environment, and society. The concept also uses information management and sustainable tourism metrics to assess tourist sites. A monitoring center is crucial in formulating and implementing policies, strategies, plans, and processes at the destination level. Indonesian Monitoring Center for Sustainable Tourism Observatory (MCSTO) under Ministry of Tourism and Creative Economy serves as the Office of the National Secretariat for STO.

Sustainable Tourism Observatory Program

STO is an activity carried out with a cooperation system between the Ministry of Tourism, Regional Government & local colleges.

Table 3. Phases of Implementation and Achievement Statistics in KSPN

Program	Implementation Phases and Achievement Statistics	Realization
Planning and Development Destination	<ul style="list-style-type: none"> Develop Indonesia Sustainable Guideline (Based on snapshot assessments and the first annual workshop. Indonesia partners with GSTC to develop GSTC country criteria. Minister of Tourism (MoT) coordinates 20 Destinations and identifies the best. Snapshot Assessment (MoT) nominates 3 expert counterparts for future assessments. 	<ul style="list-style-type: none"> Signatory of the Commitment with 20 notes of understanding on the implementation of STD. Establish the objectives and targets of stakeholders in the relevant KSPN to formulate the policy framework and the work agenda. The National Working Group (NWG) is a working group formed by the Ministry of Tourism from various stakeholders. Supporting the development of sustainable tourism in Indonesia.
Execution	<ul style="list-style-type: none"> Indonesia develop destination certification (GSTC) advice). Annual workshop with all destinations (Before/ after PATA Travel Mart). Indonesia Seeks GSTC Approval of Indonesia Sustainable Destination Program. Indonesia certifies the first 10-20 destinations. Indonesia provides major marketing for the best sustainable destinations and the destination certification program at GSTC Global Conference. GSTC International Conference in Indonesia. 	<ul style="list-style-type: none"> As a socialization policy step, talk shows and seminars will be held between the Ministry of Tourism, UNWTO, GSTC, UNSDSN, Regional Government, and other stakeholders. Sustainable Tourism Memorandum of Understanding signed directly by the Chief Executive Officer (CEO) of GSTC – UNWTO representative represented by UNSDSN – Minister of Tourism of Indonesia – Deputy Development of Destinations and Tourism Industry, Ministry of Tourism.
Monitoring	<ul style="list-style-type: none"> Sustainable Tourism Destination Training. Monitoring/progress review workshop mentored by GSTC. 	<ul style="list-style-type: none"> The program is a form of training for trainees who are dedicated to realizing destination sustainability in the form of policy and training. This trainer will be an assessor and policy ambassador in a related program. Monitoring/progress review workshop mentored by GSTC. From 2021 to the present, the next program established ISTC (Indonesia Sustainable Tourism Council) tasked with assessment using indicators adapted to conditions in Indonesia.

Source: (Fadli et al., 2022; Kawuryan et al., 2022a; Yusuf, 2020)

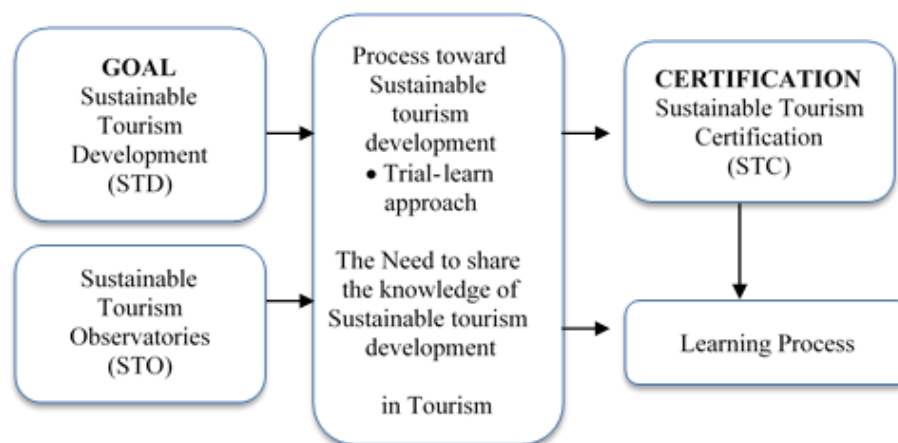


Figure 5. STO Functions

Source: Modified from (Yusuf, 2020)

Table 4. Implementation Process Phase STO

Phase Process	Explanation
Workshop (UNWTO & China)	Conducting workshops and benchmarking on STO in collaboration with representatives of UNWTO and the State of China through representatives from Sun Yat-Sen University.
Application	Applying a pre-planned program with various considerations in advance in three pilot project areas.
Preliminary Research	It is a preliminary research carried out in the region 20 pilot projects based on criteria of sustainable development that have been adapted to the factual and actual conditions in the area.
Stakeholders Meeting	Meetings in the pilot project area were held to support STD.
Agreements	Preparation of an agreement and collaboration on STD between the Ministry of Tourism, Colleges, and Tourism Services. It is implemented through Memorandum of Understanding (MoU).
Monitoring Program	Monitor programs implemented in three pilot project areas at least once a year.
Recommendation	Following the monitoring of STD, recommendations are made to supplement or correct the shortcomings in the program. It is adapted to the characteristics of the respective regions.

Source: Research Analysis, 2023

STO aims to provide recommendations for STD by Central Government, Regional Government, surrounding community, and stakeholders in facilitating the establishment of the observatory network. This is achieved through systematic monitoring, evaluation, and information management methods. The program offers methodological guidelines and recommendations to promote sustainability in tourism, enhances awareness and support for capacity-building among tourism stakeholders regarding sustainable practices, increases public participation, analyzes tourism policy trends, identifies exemplary sustainable tourism practices, promotes the comparison of sustainable travel information, and enhances institutional capabilities for information management and monitoring to aid in decision-making and policy development.

The program was implemented in 2016 with collaboration between Sleman District and Gadjah Mada University, Pangandaran District and Bandung Institute of Technology (ITB), as well as West Lombok District and Mataram University. In the subsequent phase, Sanur Area, Lake Toba Area, and Labuan Bajo collaborated with Udayana University of Bali, University of North Sumatra, and Flores University of West Nusa Tenggara, respectively. Meanwhile, the second and third phases were implemented in 2017 and 2023 by Wakatobi, Berau, Raja Ampat District, Morotai Islands District, Palangkaraya City, Hulu South River District, Pontianak City, Biak Numfor District, Ternate City, Magelang District, Pangandaran District, Probolinggo District, South Coast District, Sabang City, Bintan District, Medan City, Belitung

District, and Palembang City. The implementation process and phases of STO are as follows.

Management Support Sustainable Tourism Implementation at KSPN

Management support is crucial in implementing a sustainable tourism ecosystem since the concept facilitates and provides administrative functions. In addition, the concept is tasked with coordinating and facilitating inter-sectoral and inter-unit cooperation with national and international agencies. Management support includes several actors such as secretariats, national working groups, facilitators, local partners, central government, district/city government, community welfare agencies (NGOs). Each managerial support has the duties, functions, and responsibilities in implementing sustainable tourism.

4. Conclusion

In conclusion, tourism ecosystem is a complex phenomenon including many interrelated and integrated aspects. The concept covers interconnections, value chains, connectivity systems, subsystems, sectors, and components integrated into the products and services driving sustainable tourism sector. In the ecosystem, various elements are interrelated, such as tourist destinations, infrastructure, transportation, accommodation, attractions, and other tourist activities. There are 4 aspects of STD, namely socio-cultural and community, socioeconomic utilization, level of community

participation, environmental carrying capacity, and tourist satisfaction. Monitoring Center must divide and categorize issues based on priorities and urgency of implementation in the application of sustainable tourism. An optimal tourism ecosystem is required to succeed in tourism development. The system includes the roles of BGCM. Every participant plays a unique part in achieving harmony by guaranteeing the quality of activities, facilities, and services that generate valuable tourism experiences and benefits. Effective management support is important for the successful implementation of sustainable tourism ecosystems. Management support can facilitate processes, provide administrative assistance, and coordinate cooperation between sectors and institutions. In this context, STD can be achieved more effectively and efficiently. Developing sustainable tourism ecosystems and paying attention to the impact on society and the surrounding environment is necessary. This is carried out by applying principles, such as sustainable use of resources, environmental conservation, and empowerment of local communities.

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