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## AN OVERVIEW OF THE LITERATURE ON THE HEXA-HELIX KEY STAKEHOLDERS COOPETITION IN DEVELOPING RESPONSIBLE TOURISM IN NATURAL TOURISM PARKS



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### Abstract

This study examines the application of the Hexa-Helix coopetition framework in developing responsible tourism at Gunung Tunak Nature Tourism Park, Central Lombok. Using a qualitative descriptive-analytical approach, data were gathered through purposive and snowball sampling, in-depth interviews, field observations, and document analysis involving six stakeholder groups: government, academia, industry, community, media, and regulatory bodies. The findings reveal that responsible tourism is implemented through a co-management system that integrates the Triple Bottom Line dimensions—economic, social, and environmental sustainability—into tourism governance. The Hexa-Helix model fosters synergy by aligning diverse stakeholder roles, where cooperation and competition coexist to drive innovation, resource optimization, and competitiveness. Community empowerment programs, participatory decision-making, and policy institutionalization are identified as key drivers of sustainability. Practical strategies include capacity-building training, infrastructure improvement, and equitable benefit-sharing mechanisms, which strengthen both conservation outcomes and local livelihoods. Theoretically, this study advances the literature on sustainable tourism by embedding the concept of coopetition within the Hexa-Helix model, offering an adaptable framework for other destinations. Context-specific insights emphasize the critical role of local champions in bridging interests among stakeholders, ensuring long-term collaboration and resilience.

**Keywords:** Responsible Tourism, Hexa-Helix, Coopetition, Triple Bottom Line, Community-Based Conservation

## INTRODUCTION

The proliferation of mass tourism has generated significant adverse effects on both societal structures and natural ecosystems, including resource depletion, environmental degradation, widespread conversion of arable land, socio-cultural exploitation, and rising criminal activity (Baloch et al., 2023). A striking example is Gili Trawangan, where escalating tourist numbers result in approximately 20 tons of waste daily, leading to severe pollution in multiple areas. In response to these challenges, the concept of responsible tourism has emerged as a corrective framework to mitigate the detrimental consequences of conventional tourism practices. In Indonesia, this approach is operationalized through the development of tourist villages (Junaid et al., 2020). Responsible tourism prioritizes social, environmental, and economic accountability within the industry, integrating sustainable principles such as ecological conservation, cultural respect, and community empowerment.

Defined as a tourism model that fosters conservation, poverty alleviation, and local economic growth (Spenceley, 2010), responsible tourism emphasizes long-term positive impacts on destinations, communities, and ecosystems. It advocates for ethical and sustainable practices, including biodiversity preservation, cultural heritage protection, and inclusive stakeholder participation. By embedding sustainability into tourism planning and operations, this approach seeks to harmonize economic gains with ecological integrity and social equity, ensuring mutual benefits for all stakeholders (Weaver, 2006).

At Gunung Tunak Nature Tourism Park (TWA), responsible tourism is implemented through the Triple Bottom Line (TBL) framework, balancing economic, social, and environmental dimensions for sustainable industry growth. The TBL approach, introduced by Elkington (1997), expands traditional profit-centric metrics by incorporating social welfare (people) and environmental stewardship (planet) alongside financial viability (profit). This model aligns with sustainable development goals, ensuring that tourism activities contribute to economic resilience, community empowerment, and ecological preservation (Hidayat, 2023; Savitz, 2013). Furthermore, TBL serves as a performance assessment tool, encouraging businesses to adopt holistic accountability beyond mere financial returns (Elkington, 1994; Vanclay, 2004).

The tourism sector, with its diverse stakeholders, presents a unique opportunity to advance TBL principles by fostering cooptation—a hybrid of cooperation and competition among entities (Bouncken et al., 2015; Walley, 2007). This dynamic requires careful management to balance collaborative synergies with competitive advantages, particularly in knowledge-sharing and conflict resolution (Bengtsson & Kock, 1999; Hessburg et al., 2021). Effective cooptation can enhance innovation, trust, and sustainable outcomes, though its success depends on strategic alignment among participants (Ketchen Jr et al., 2004).

To optimize TBL implementation, the Hexa-Helix model—an extension of the Triple Helix (academia, business, government)—integrates six key sectors: academia, business, community, government, media, and legal institutions (Etzkowitz & Leydesdorff, 1995). This collaborative framework ensures multi-stakeholder engagement, fostering policy innovation and sustainable tourism development. At Gunung Tunak TWA, Hexa-Helix cooptation could establish a robust, holistic system for achieving TBL equilibrium, enhancing local welfare without compromising environmental sustainability.

Despite its potential, further research is needed to clarify sectoral roles, challenges, and mitigation strategies within Hexa-Helix collaboration. Addressing these gaps will

strengthen the framework's applicability, ensuring inclusive growth, ecological conservation, and cultural preservation in responsible tourism development.

## REVIEW OF LITERATURE

### A. Responsible Tourism

The term *responsible tourism* first appeared in academic discourse in the early 1990s, notably in Smith (1990) report on a World Tourism Organization seminar in Algeria, which explored *alternative tourism* as a sustainable model. This forum, attended by 40 international researchers and local representatives, concluded that *responsible tourism*—a more precise term than *alternative tourism*—encompasses tourism practices that prioritize environmental conservation, cultural integrity, and community welfare (Smith, 1990). Duffy (2008) further define it as tourism that integrates the preservation of natural, built, and cultural environments while addressing the needs of diverse stakeholders.

Behavioral accountability is central to responsible tourism (Mihalic, 2016), emphasizing proactive responsibility among tourists, businesses, and governments (Goodwin, 2011). This paradigm seeks to mitigate negative impacts while amplifying socio-economic benefits, aligning with broader sustainability goals.

### B. Responsible Tourism Development

Giourgali et al. (2024) identify responsible tourism as a response to global crises like climate change and inequality, driven by tourist demand for authentic, culturally immersive experiences. Tearfund (2002) research underscores the ethical imperative for tourists and businesses to minimize harm to host communities.

National guidelines advocate for tourism models that empower marginalized groups through entrepreneurship and training, preventing cultural exploitation (Saputra, 2024). This aligns with *pro-poor tourism*, which prioritizes poverty alleviation (Spenceley, 2010).

### C. Triple Bottom Line (TBL)

Elkington's (1997) TBL framework expands traditional profit-centric metrics to include *social equity (people)* and *environmental stewardship (planet)* (Elkington, 2004). Originally a corporate accountability tool (Elkington, 1994), TBL has been adapted to tourism to balance economic growth with ecological and community well-being (Buckley, 2003; Faux & Dwyer, 2009).

### D. TBL in Responsible Tourism Development

Elkington's TBL model (1997) asserts that businesses must harmonize profit with societal and environmental welfare (Yanti & Rasmini, 2015). Savitz (2013) frames TBL as sustainability's core, evaluating organizational impacts across financial, social, and ecological domains. (Kartawijaya, 2016) emphasize the interdependence of these dimensions: economic viability requires social commitment and environmental care.

Wibisono in (Sofyanty et al., 2017) illustrates this symbiosis: profits sustain businesses, societies influence longevity, and environmental health dictates operational feasibility. Hutasoit & Wau (2017) argue that TBL's equilibrium is critical for sustainable tourism, necessitating community-inclusive policies.

### E. Coopetition

Coopetition merges *competition* and *cooperation* to foster mutual value creation (Nalebuff & Brandenburger, 1996). Luo (2007) defines it as simultaneous rivalry and

collaboration, while Aladag (2013) highlights its strategic role in resource-sharing among industry peers.

Nalebuff & Brandenburger (1996) "business game" analogy rejects zero-sum competition, advocating for shared success (Matwijkiw, 2024). However, cooperation's dual nature demands careful management to balance collaboration (e.g., joint R&D) with competition (e.g., market share) (Bengtsson & Kock, 1999).

#### **F. Hexa-Helix**

Evolving from Etzkowitz & Leydesdorff (1995) *Triple Helix* (academia, business, government), the *Hexa-Helix* incorporates *community, media, and legal frameworks* (Zakaria et al., 2022). This model fosters democratic innovation in tourism, leveraging multi-stakeholder synergies (Galvão et al., 2017).

#### **G. Hexa-Helix Cooperation in Responsible Tourism**

(Khater et al., 2024) early advocated for ethical tourism, urging accountability among tourists, businesses, and policymakers. Contemporary research explores behavioral drivers (Mohammed et al., 2021), responsibility distribution (Maki et al., 2023), and ethical frameworks (Duffy, 2008).

(Zubiaga et al., 2024) stress industry accountability, proposing guidelines for environmental/cultural preservation. Hexa-Helix cooperation institutionalizes this by aligning six sectors to advance sustainable tourism (Hasche et al., 2020).

#### **H. Previous Research**

1. Hidayat (2023) reveals gaps in TBL implementation at Takapala Waterfall, Indonesia, citing weak community engagement and unstructured planning. Recommendations include formalized tourism groups and integrated master plans.
2. Irwanti et al. (2023) demonstrate Hexa-Helix's success in branding *Ciletuh Palabuhanratu Geopark*, where stakeholder collaboration secured UNESCO recognition and boosted local economies.

### **RESEARCH METHOD**

This study adopts a qualitative descriptive-analytical approach (Hlehel & Shalaka, 2022) to explore responsible tourism development at Gunung Tunak Nature Tourism Park, Central Lombok. Following Lim (2025), qualitative research enables rich, detailed understanding rather than numerical measurement. Fieldwork was conducted from July 2023 over several months, allowing prolonged engagement as emphasized by Spradley (1980) to capture seasonal variations in tourism activities.

Participants were selected through purposive and snowball sampling (Joseph et al., 2025) targeting individuals with direct involvement in park management and tourism development, representing all six sectors of the Hexa-Helix framework (Zakaria et al., 2022).

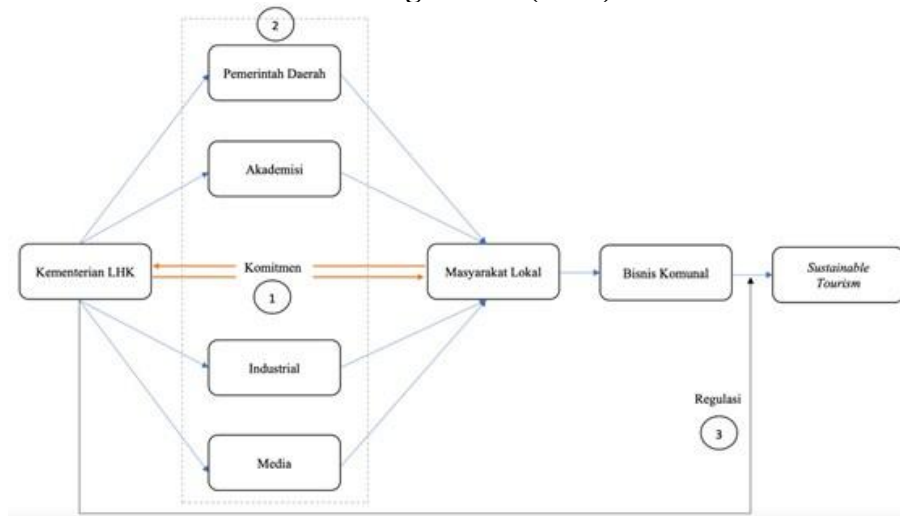
Data collection combined semi-structured interviews (Moleong & Surjaman, 2014), systematic field observations, and document analysis of policies and promotional materials, employing methodological triangulation to enhance validity (Miles et al., 2014). Data were transcribed, coded, and thematically analyzed (Moleong & Surjaman, 2014) through an iterative process between specific observations and broader conceptual frameworks, with member checking to refine interpretations (Spradley., 1980).

This methodological design meets qualitative research standards while capturing the complexity of Hexa-Helix collaboration in sustainable tourism (Bramwell & Lane, 2011; Galvão et al., 2017; Kriyantono, 2006).

**RESULTS AND DISCUSSION**

The research findings from Gunung Tunak Nature Tourism Park reveal a comprehensive picture of responsible tourism development through eight analytical tables and the hexa-helix conceptual diagram. These elements collectively demonstrate how multi-stakeholder collaboration drives sustainable tourism outcomes.

**Figure 1.**  
**Hexa Helix Engagement Model in the Development of Responsible Tourism in TWA Gunung Tunak (2024)**



Source: Qualitative data reduction, 2024

**Stakeholder Perspectives on Forest Stewardship**

**Table 1.**  
**Informants’ Statements on Sense of Belonging**

Stakholder	Pernyataan	Statement
BKSDA NTB	"Hutan Gunung Tunak bukan hanya milik negara, tetapi juga milik bersama yang menjadi sumber kehidupan bagi kita semua. Kami melihat masyarakat sebagai mitra utama dalam upaya konservasi ini." (Afifa, 2024)	"The Gunung Tunak forest is not only owned by the state, but also a shared asset that serves as a source of life for all of us. We see the community as the main partner in this conservation effort." (Afifa, 2024)
	"BKSDA NTB menjalankan program-program pelatihan untuk meningkatkan kapasitas masyarakat lokal dalam sektor pariwisata" (Afifa, 2024)	"BKSDA NTB runs training programs to enhance the capacity of local communities in the tourism sector." (Afifa, 2024)

Komunitas   Community/ Masyarakat Lokal	"Pengelolaan lingkungan dengan melibatkan peran masyarakat secara langsung untuk menjaga ekosistem hutan" (Salim, 2024)	"Environmental management involving the direct participation of the community to preserve the forest ecosystem." (Salim, 2024)
	"masyarakat dapat terlibat aktif dalam proses pengembangan dan pengelolaan" (Anom, 2024)	"The community can be actively involved in the development and management process." (Anom, 2024)
	"Hutan ini adalah sumber kehidupan kami. Kami tidak hanya mengambil manfaat dari hutan, tetapi juga berkomitmen untuk melestarikannya (Anom, 2024)	"This forest is our source of life. We not only benefit from it, but are also committed to preserving it." (Anom, 2024)
	"Hutan Gunung Tunak adalah warisan leluhur yang harus dijaga" (Salim, 2024)	"The Gunung Tunak forest is an ancestral heritage that must be preserved." (Salim, 2024)

Source: Qualitative data reduction, 2024

Table 1. presents compelling evidence of shared ownership between BKSDA NTB, and local communities. Government officials emphasize collaborative conservation "Hutan Gunung Tunak bukan hanya milik negara, tetapi juga milik bersama yang menjadi sumber kehidupan bagi kita semua. Kami melihat masyarakat sebagai mitra utama dalam upaya konservasi ini." (Afifa, 2024), while community members express deep cultural connections "warisan leluhur yang harus dijaga" – (Salim, 2024). This mutual recognition of joint responsibility aligns with Esmail et al. (2023) principles of community-based conservation, where emotional and cultural ties to land enhance protection efforts. The visual model Figure 1. reflects this through its central "Sustainable Tourism" node connecting all stakeholders.

### Synergistic Role Distribution

**Table 2.**  
**Informants' Statements on Role Synergy**

Stakeholder	Pernyataan	Statement
BKSDA NTB	"Pemerintah, khususnya BKSDA NTB, menjalankan program-program pelatihan untuk meningkatkan kapasitas masyarakat lokal dalam sektor pariwisata" (Afifa, 2024)	"The government, particularly BKSDA NTB, conducts training programs to enhance the capacity of local communities in the tourism sector." (Afifa, 2024)
	"BKSDA NTB merekrut masyarakat setempat menjadi penjaga portal untuk memantau aktivitas masyarakat baik dari dalam dan luar Kawasan TWA Gunung Tunak" (Afifa, 2024)	"BKSDA NTB recruits local residents as gatekeepers to monitor community activities both inside and outside the TWA Gunung Tunak area." (Afifa, 2024)
Komunitas   Community/	"Setiap pengambilan keputusan, maupun kegiatan-kegiatan lainnya selalu melibatkan masyarakat lokal	"Every decision-making process and other activities always involve local

Masyarakat Lokal	<p>agar manfaat ekonomi dari pariwisata dapat dirasakan langsung oleh masyarakat setempat." (Anom, 2024)</p> <p>"Sebelum-sebelumnya banyak program pemberdayaan masyarakat seperti peningkatan kapasitas dan sertifikasi keahlian."(Anom, 2024)</p> <p>"Masyarakat lokal aktif terlibat dalam pengelolaan dan pengembangan pariwisata di TWA Gunung Tunak." (Salim, 2024)</p>	<p>communities so that the economic benefits of tourism can be directly felt by the local people." (Anom, 2024)</p> <p>"Previously, there were many community empowerment programs such as capacity building and skills certification." (Anom, 2024)</p> <p>"Local communities are actively involved in the management and development of tourism in TWA Gunung Tunak." (Salim, 2024)</p>
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**Source: Qualitative data reduction, 2024**

Table 2. illustrates the complementary functions in park management. BKSDA's capacity-building programs ("program pelatihan untuk meningkatkan kapasitas" - Afifa, 2024) combine with community monitoring roles to create what Kiss et al. (2022) term "hybrid governance." Local participants highlight inclusive decision-making ("setiap pengambilan keputusan...melibatkan masyarakat" - Anom, 2024), demonstrating participatory approaches that Cronkleton et al. (2021) identify as crucial for sustainable resource management.

**Economic Incentive Structures**

**Table 3.**  
**Informants' Statements on Incentives**

Stakeholder	Pernyataan	Statement
BKSDA NTB	<p>"Anak-anak muda setempat banyak yang bekerja di property-property yang ada, disamping itu juga banyak yang mengelola usaha penunjang pariwisata seperti menjual jasa paket tour dan penyewaan kendaraan" (Afifa, 2024).</p> <p>"Komunitas lokal sangat berperan di Kawasan hutan" (Afifa, 2024)</p>	<p>"Many local youths work in existing properties, and many also manage tourism-supporting businesses such as selling tour packages and renting vehicles." (Afifa, 2024)</p> <p>"The local community plays a very important role in the forest area." (Afifa, 2024)</p>
Komunitas   Community/ Masyarakat Lokal	<p>"Pariwisata membantu usaha masyarakat berkembang dan juga membuka kesempatan kepada warga lokal, khususnya para pemuda, untuk bekerja dan berkarir di dunia hospitality" (Anom, 2024)</p>	<p>"Tourism helps community businesses grow and also opens opportunities for local residents, especially young people, to work and build careers in the hospitality industry." (Anom, 2024)</p>

"Sangat memberikan dampak terhadap peningkatan taraf hidup masyarakat sekitar" (Salim, 2024).  "Pengelolaan lingkungan dengan melibatkan peran masyarakat secara langsung untuk menjaga ekosistem hutan" (Salim, 2024)	"It has a significant impact on improving the standard of living of surrounding communities." (Salim, 2024)  "Environmental management involving the direct role of the community to preserve the forest ecosystem." (Salim, 2024)
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Source: Qualitative data reduction, 2024

**Table 4.**  
**Forest Management Incentives for Stakeholders**

Stakeholder	Statement
BKSDA NTB	Improved community welfare supports conservation goals
	Trained communities assist BKSDA in managing the forest through tourism
	Community participation reduces the burden of forest management
Komunitas   Community/ Masyarakat Lokal	Increases income and job opportunities through tourism
	Opportunities to improve job skills
	Improvement in infrastructure and job opportunities

Source: Qualitative data reduction, 2024

Tables 3. and 4. reveal the dual benefits of tourism development. Youth employment in hospitality ("banyak yang bekerja di property-property" - Afifa, 2024) and skill development opportunities confirm Spenceley (2010) findings about pro-poor tourism mechanisms. The incentive matrix shows how economic gains for communities (increased income, infrastructure) simultaneously support BKSDA's conservation goals through reduced management burdens - a win-win scenario documented by Zhang et al. (2022) in community-based ecotourism projects.

**Hexa-Helix Stakeholder Mapping**

**Table 5.**  
**Identification of Tourism Stakeholders**

Elemen (Element)	Stakeholder	Work Priority (English)
Pemerintah Daerah (Local Government)	Dinas Pariwisata Lombok Tengah	Human resource development, Tourism promotion
	Dinas PUPR Lombok Tengah	Construction and maintenance of road infrastructure (accessibility)
	DPRD Lombok Tengah	Regulatory and policy support for community welfare
Akademisi (Academia)	Universitas Mataram	Research and community service in the tourism sector
	Politeknik Pariwisata Lombok	Research and community service in the tourism sector

	SMKN 1 Pujut	Education and practical training in the tourism sector
Media Massa (Mass Media)	PT. Lensa Mandalika Media	Mass communication and tourism promotion
Regulator	Kementerian Lingkungan Hidup, BKSDA NTB	Responsible for natural resource conservation
Pemerintah Desa (Village Government)	–	Community welfare
Komunitas (Community)	Pokdarwis Karang Taruna	Community welfare Youth welfare and participation
Industri / Bisnis (Industry / Business)	Desa Wisata Hijau Bilebante	Development of nature-based tourism industry
	JM Hotel	Hospitality industry
NGO	Korea Indonesia Forest Cooperation Center (KIFC)	Community empowerment in the tourism business sector

Source: Qualitative data reduction, 2024

Table 5.'s comprehensive inventory validates the conceptual diagram's Figure 1. six-sector framework. Each element - from academia (Universitas Mataram's research) to media (PT Lensa Mandalika's promotion) - contributes distinct but interconnected functions. This expanded helix model builds on Etzkowitz & Leydesdorff (1995) original concept by incorporating media and regulation as equal partners, as advocated by Zakaria et al. (2022) in sustainable tourism contexts.

### Conceptualizing Responsible Tourism

**Table 6.**  
**Understanding of Responsible Tourism**

<b>Informen (Informant)</b>	<b>Statement on Responsible Tourism (English)</b>
H. Samsul Bahri	Responsible tourism means running a business while minimizing negative impacts on the environment and local culture.
Mahrup	Responsible tourism is an investment in environmentally and socially sustainable projects, while providing fair economic benefits to local communities.
Pahrul Azim	The concept of responsible tourism is applied through policies and programs that support sustainable and environmentally friendly tourism.
Lalu Sungkul	Responsible tourism includes the protection of the environment and culture, as well as the social and economic well-being of local communities. It also involves collaboration between government, the private sector, and communities to create mutually supportive programs.
Abdurrahman	Responsible tourism is the study of how tourism can develop sustainably, involve all stakeholders, and minimize negative impacts. The involvement of local communities in tourism development is important to ensure they benefit from tourism activities in their area.

Salim	Being responsible for what we do. The implementation in TWA Gunung Tunak is very good, but there is hope for increased community involvement.
Lalu Hadinata	Responsible tourism involves research and the development of best practices to reduce negative impacts. Its implementation in TWA needs more research and recommendations from academics.
Sri Anom Putra Sanjaya	Responsible tourism is when communities can actively participate in the development process. There is satisfaction with programs involving communities, but there is hope for more equitable benefits.

Source: Qualitative data reduction, 2024

Table 6 captures stakeholder definitions that converge on sustainability principles despite sectoral differences. While industry focuses on minimizing negative impacts (H Samsul Bahri), academics emphasize research-based solutions (Lalu Hadinata). This diversity within shared parameters reflects Bramwell & Lane (2011) observation that effective collaboration requires "unity in diversity" - a dynamic visually represented in the diagram's radiating connections

### Multi-Stakeholder Collaboration Patterns

Table 7.

#### Engagement and Forms of Multi-Stakeholder Collaboration in Tourism

Element	Stakeholder	Form of Cooperation	Results of Cooperation
Local Government	Central Lombok Tourism Office	- Barista training	- Improved skills for local communities
		- Tour guide training	- Availability of skilled tourism worker
		- Teamwork skills implemented directly	- Increased tourism products and packages offered
Local Government	Central Lombok Public Works and Housing Office (PUPR)	- Creation and sale of tour packages	- Adequate road access to Mount Tunak Nature Tourism Park
		- Road access improvement to Mount Tunak Nature Tourism Park (TWA)	- Parking facilities available
Local Government	Central Lombok Regional House of Representatives (DPRD)	- Construction of tourist parking area	- Implementation of several Central Lombok local government programs in Mount Tunak
		- Approval of local government programs related to Mount Tunak Nature Tourism Park	

Academia	University of Mataram	- Designating Mount Tunak as a study and fieldwork location for students	
		- Conducting research and development in Mount Tunak	- Research outputs for tourism interpretation
		- Identifying biodiversity of flora and fauna for nature tourism interpretation	- Scientific publications and recommendations for sustainable tourism
		- Producing academic journals and studies on governance and natural resource potential of Mount Tunak	
	Lombok Tourism Polytechnic	- Using Mount Tunak for industrial internships and research	- Improved capacity of local tourism groups
		- Organizing campus activities in Mount Tunak	- Strengthened tourism collaboration between academia and community
		- Assisting local groups in applying academic knowledge	
		- Utilizing tourism services provided by Tunak Besopok Group	
		- Using Tunak Cottage for industrial internships	
		- Partnering with Tunak Cottage for flagship vocational school programs	- Increased student industry readiness
SMKN 1 Pujut	- Assisting culinary and tourism businesses at Tunak Cottage	- Successful flagship vocational programs	
	- Successful implementation of industry-based curriculum		

Mass Media	PT. Lensa Mandalika Media	<ul style="list-style-type: none"> <li>- Coverage of tourism potential in Mount Tunak</li> <li>- Advertising tour packages</li> </ul>	<ul style="list-style-type: none"> <li>- Wider public awareness of Mount Tunak tourism potential</li> <li>- Increased sales of Mount Tunak tour packages</li> </ul>
Regulator	Ministry of Environment & Forestry, NTB BKSDA	<ul style="list-style-type: none"> <li>- Granting tourism business licenses</li> <li>- Mentoring and supervision</li> <li>- Community capacity building</li> <li>- Assigning and funding technical experts</li> <li>- Authorizing use of state-owned assets (BMN)</li> <li>- Creating regulations supporting Tunak Besopok Group activities</li> <li>- Enhancing conservation programs</li> <li>- Providing security oversight for tourism activities</li> <li>- Issuing culinary and tour guide service licenses</li> <li>- Managing state-owned buildings and facilities</li> <li>- Facilitating G2G cooperation with South Korea</li> <li>- Increasing state revenue (PNBP)</li> <li>- Preserving Mount Tunak as a national tourism management role model</li> <li>- Providing business assistance to communitie</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthened environmental conservation</li> <li>- Sustained tourism operations</li> <li>- Improved community income and employment</li> </ul>

		<ul style="list-style-type: none"> <li>- Assigning civil servants and technical experts to support activities</li> </ul>	
Village Government	—	<ul style="list-style-type: none"> <li>- Community capacity building for tourism services</li> <li>- Cooperation between Village-Owned Enterprise (BUMDES) and Tunak Besopok Group</li> </ul>	<ul style="list-style-type: none"> <li>- Availability of competent local workforce</li> <li>- Mutually beneficial partnerships</li> </ul>
Community	<p>Tourism Awareness Group (Pokdarwis)</p> <p>Youth Organization (Karang Taruna)</p>	<ul style="list-style-type: none"> <li>- Cooperation in selling tour packages</li> <li>- Collaboration in developing Mertak Village tourism</li> <li>- Joint use of Mount Tunak's natural resources for tourism</li> <li>- Social and human resource development programs</li> <li>- Training programs conducted at Mount Tunak</li> <li>- Employment opportunities for youth in Mount Tunak</li> <li>- Preservation of local wisdom values</li> <li>- Reduction in crime and social issues</li> </ul>	<ul style="list-style-type: none"> <li>- Mertak Village becomes a leading tourism village supported by Mount Tunak</li> <li>- Increased youth engagement in tourism</li> <li>- Lower social problems</li> </ul>
Industry/Business	Bilebante Green Tourism Village	<ul style="list-style-type: none"> <li>- Joint tourism promotion in a single package</li> </ul>	<ul style="list-style-type: none"> <li>- Market share distribution between destinations based on different selling points</li> <li>- Increased visitor numbers for both Bilebante</li> </ul>

			and Mount Tunak
			- Market share distribution between nature tourism and conventional tourism
	JM Hotel	- Tourism promotion and cooperation	- Joint tourism promotion efforts
		- Capacity building for Tunak Besopok community	
		- Infrastructure development in Mount Tunak	
		- Tourism promotion	- Improved tourism infrastructure
		- Interpretation training	- Increased international exposure
		- Comparative study to South Korea	- Stronger local tourism capacity
NGO	Korea Indonesia Forest Cooperation Center (KIFC)	- Construction of facilities (lodges, visitor center, multipurpose building, butterfly development center)	
		- Promotion in Korean magazines	
		- Mount Tunak assisting KIFC programs	

Source: Qualitative data reduction, 2024

Table 7's detailed activity matrix demonstrates the "coopetition" dynamics theorized by Nalebuff & Brandenburger (1996). The Korea-Indonesia partnership (KIFC infrastructure projects) exemplifies international knowledge transfer, while local academia contributes place-based research - both validating McEwen et al. (2022) emphasis on contextualized capacity building. The table's comprehensive partnerships mirror the diagram's Figure 1. interconnected nodes.

**Regulatory Framework Analysis**

**Table 8.**  
**Regulations Supporting the Management of TWA Gunung Tunak**

Aspect	Description
Regulatory Support	Improving the Local Community's Economy – Regulations aim to promote nature tourism in order to improve the economy of communities around conservation areas.
Priority for Surrounding Communities in Tourism Management	Nature tourism service businesses can be facilitated by Technical Implementation Units (UPT) or Regional Technical Implementation Units (UPTD) and are prioritized for communities around conservation areas.
Obligation of License Holders to Involve Local Communities	Holders of Nature Tourism Facility Business Licenses (IUPSWA) are required to involve conservation experts and local communities in the implementation of activities.
Opportunities for Communities to Participate in Nature Tourism Businesses	Communities can be involved in providing nature tourism services such as tourism information, tour guiding, transportation, tour operations, souvenirs, food and beverages, and nature tourism equipment rentals.
Community Involvement in Business Development and Promotion	In the supervision, guidance, and evaluation of nature tourism businesses, one of the assessed aspects is the involvement of communities in business activities.

Source: Qualitative Data Reduction, 2024

Table 8 shows how policy instruments operationalize responsible tourism principles. Provisions prioritizing local employment and benefit-sharing align with Rycroft-Smith, (2022) criteria for genuine empowerment, while mandatory community participation in decision-making addresses Bramwell & Lane (2011) call for institutionalized inclusion. These regulations provide the governance "backbone" suggested by the diagram's Figure 1. "Regulasi" element.

**Discussion: Integrated Sustainability Model**

The hexa-helix framework Figure 1. emerges as an effective mechanism for balancing conservation and development. Three key findings stand out:

1. Cultural values underpin economic and ecological sustainability, with traditional forest connections (Table 1.) enhancing modern conservation compliance
2. Coopetition creates productive tension - stakeholders compete for resources while collaborating on destination development (Tables 5, 7)
3. Policy institutionalization (Table 8.) ensures short-term projects translate into long-term systems

This model advances Elkington's (1997) triple bottom line by adding governance, cultural, and knowledge dimensions through its six-sector approach. The diagram Figure 1. visually captures this complexity, showing how sustainable tourism requires simultaneous attention to multiple interconnected factors rather than sequential treatment of economic, social, and environmental pillars.

The research confirms that Gunung Tunak's success stems from transforming potential stakeholder conflicts into complementary roles through structured collaboration frameworks. As Tables 1-8 demonstrate, this requires both top-down policy support (Table

8) and bottom-up community engagement (Tables 1-3) - a dual approach the hexa-helix model Figure 1. uniquely facilitates by giving equal weight to all sectors' contributions.

## CONCLUSION

This study finds that the management of the Mount Tunak Nature Tourism Park demonstrates a co-management approach built on collaborative governance among multiple stakeholders. The process actively engages government institutions, local communities, academic bodies, media, industry, and the private sector in conservation efforts through the development of ecotourism. This cooperation not only strengthens community capacity and readiness to manage natural resources sustainably but also generates economic opportunities for local residents through community-based tourism enterprises. The involvement of these diverse actors follows the hexa-helix model, in which each stakeholder plays a strategic role. The Ministry of Environment and Forestry, through the West Nusa Tenggara Environmental and Forestry Office, functions as both regulator and facilitator. Local communities, organized into tourism awareness groups, operate the daily management of ecotourism. Academic institutions provide research-based guidance, while industry and media contribute through promotion and investment. This multi-sector synergy enhances the destination's appeal while improving community well-being.

In the context of *coopetition*, collaboration and competition occur simultaneously, as the varied interests of stakeholders can lead to differences in priorities. Nonetheless, the role of the Environmental and Forestry Office as both regulator and facilitator helps to create a conducive collaborative environment by establishing flexible regulations, maintaining continuous community empowerment, and fostering a shared vision to preserve ecosystem harmony and increase the competitiveness of conservation-based ecotourism.

The research makes a theoretical contribution by incorporating the concept of *coopetition* into the hexa-helix model, which integrates six core elements: government, academia, industry, community, media, and regulatory mechanisms. This integration expands the understanding of how diverse stakeholders can work collectively toward shared objectives, especially in advancing responsible tourism. It also reinforces the theoretical foundations of community-based conservation and co-management, highlighting the essential role of local community participation in managing natural resources.

From a practical standpoint, the findings offer a framework for policymakers and other stakeholders to develop responsible tourism strategies. The hexa-helix model could be applied to other destinations to build synergy among actors and strengthen tourism sustainability. Establishing regular communication forums would help maintain harmonious and effective governance. The study also emphasizes the need for comprehensive training and empowerment of local communities to enable active participation in tourism management while securing economic benefits. This could be achieved through standardized ecotourism management training, collective marketing strategies, and the cultivation of unique tourism products or attractions that differentiate each destination without undermining others. Moreover, enhancing collaboration in destination branding and developing integrated tour packages would further solidify the positioning of responsible tourism destinations.

The research was conducted in the Mount Tunak Nature Tourism Park in Mertak Village, Pujut Subdistrict, Central Lombok Regency, an area with distinctive geographical,

ecological, social, and institutional characteristics. For this reason, results obtained in other locations may vary, and the findings should be interpreted as context-specific rather than broadly generalizable. Another aspect warranting attention is the role of key individuals or local champions, who often act as connectors among stakeholders despite lacking formal positions within institutional structures. These individuals frequently play a pivotal role in coordinating communication, mediating conflicts of interest, and sustaining collaborative initiatives at the local level. In ethnographic research, such figures could serve as contextual key informants, offering comprehensive insights into the processes of initiation, negotiation, and implementation of collaborative programs or policies. Documenting their contributions not only enriches empirical evidence but also deepens understanding of the informal yet vital managerial processes that underpin sustainable, community-driven tourism governance.

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