

From Sustainability to Regeneration: The Evolution of Responsible Tourism

Aaul Beeters¹, Lim Centley^{2*}

1. NHTV Breda University of Applied Sciences, Centre for Sustainable Tourism and Transport, P.O. Box 3917, 4800 DX Breda, Netherlands

2. Department of Management and International Business, Massey University, Private Bag 102904, Auckland, New Zealand

Abstract

This paper explores the evolution of responsible tourism from sustainability to regenerative tourism, highlighting the limitations of traditional sustainable practices in addressing global challenges like climate change, biodiversity loss, and social inequality. Regenerative tourism goes beyond harm reduction by actively restoring ecosystems, empowering local communities, and fostering resilience. Through case studies such as New Zealand's Tiaki Promise and Costa Rica's ecotourism, the paper demonstrates the practical application of regenerative principles. It also discusses the challenges and opportunities of this shift, including greenwashing and over-tourism. Ultimately, regenerative tourism offers a transformative path for the industry to contribute to ecological restoration and cultural preservation while creating a more equitable and sustainable future.

Keywords: Regenerative, Ecosystems, Resilience, Local community

1. Introduction

Tourism is one of the world's largest and most dynamic industries, contributing significantly to global economic growth, cultural exchange, and employment. In 2019, the sector accounted for 10.4% of global GDP and supported over 330 million jobs worldwide (WTTC, 2020). However, the rapid expansion of tourism has come at a cost. Environmental degradation, cultural commodification, and social inequities have raised urgent questions about the industry's long-term viability and its role in exacerbating global challenges such as climate change, biodiversity loss, and inequality. In response, the concept of *responsible tourism* has emerged as a framework for addressing these issues, evolving from early efforts in sustainability to the more transformative paradigm of regeneration(1,2).

The roots of responsible tourism can be traced back to the 1980s and 1990s, when the environmental and social impacts of mass tourism became increasingly apparent. The publication of the Brundtland Report in 1987, with its emphasis on sustainable development, marked a turning point in global consciousness(3). This was followed by the Earth Summit in 1992, which laid the groundwork for integrating sustainability into various sectors, including tourism. Sustainable tourism was defined as tourism that “meets the needs of present tourists

and host regions while protecting and enhancing opportunities for the future” (UNWTO, 1995). It sought to balance economic growth with environmental conservation and social equity, promoting practices such as eco-certifications, waste reduction, and community-based tourism(1,3–5).

For decades, sustainable tourism has been the dominant framework for addressing the industry’s negative impacts. It has led to significant achievements, such as the establishment of protected areas, the promotion of eco-friendly accommodations, and the empowerment of local communities through tourism revenue. However, as global crises have intensified, the limitations of sustainability have become increasingly evident. Critics argue that sustainable tourism often prioritizes economic growth over ecological and social well-being, leading to superficial commitments and “greenwashing.” For example, carbon offset programs, while well-intentioned, have been criticized for enabling business-as-usual practices rather than driving meaningful reductions in emissions. Similarly, eco-certifications, though valuable, often fail to address the root causes of environmental degradation or ensure equitable benefits for local communities(3,6).

The urgency of addressing these limitations has given rise to a new paradigm: *regenerative tourism*. Unlike sustainability, which focuses on minimizing harm and maintaining the status quo, regeneration seeks to actively restore and enhance natural and social systems. Rooted in Indigenous knowledge and ecological principles, regenerative tourism emphasizes reciprocity, resilience, and renewal. It challenges the tourism industry to move beyond “doing less harm” and instead become a force for healing and transformation. This paradigm shift is not merely theoretical; it is already being put into practice by forward-thinking destinations, businesses, and communities around the world(7,8).

The transition from sustainability to regeneration reflects a broader cultural and philosophical shift in how we understand humanity’s relationship with the planet. In the face of climate change, biodiversity loss, and social inequality, incremental approaches are no longer sufficient. Regenerative tourism offers a holistic framework that addresses the interconnectedness of ecological, social, and economic systems. It calls for a reimagining of tourism as a catalyst for positive change, one that fosters resilience, empowers communities, and restores ecosystems. This is not just a moral imperative but a practical necessity, as the long-term viability of the tourism industry depends on the health of the planet and the well-being of its inhabitants(9,10).

This review paper explores the evolution of responsible tourism, from its origins in sustainability to its future in regeneration. It begins by examining the historical development of sustainable tourism, highlighting its achievements and limitations. It then introduces the concept of regenerative tourism, outlining its principles and practices. Through case studies and examples, the paper demonstrates how regenerative tourism is being implemented in diverse contexts, from Indigenous-led initiatives to national policies. Finally, it discusses the challenges and opportunities associated with this paradigm shift, arguing that regenerative tourism represents a necessary evolution in addressing the interconnected crises of our time.

The importance of this topic cannot be overstated. Tourism is not just an industry; it is a powerful force that shapes landscapes, economies, and cultures. As the world grapples with unprecedented environmental and social challenges, the tourism industry has a unique opportunity—and responsibility—to lead the way in creating a more just and sustainable future. By embracing regenerative principles, tourism can become a catalyst for positive change, contributing to the flourishing of both people and the planet. This paper aims to inspire and inform stakeholders—governments, businesses, communities, and travelers—to rethink their approach to tourism and embrace the transformative potential of regeneration.

2. The Emergence of Sustainable Tourism

The concept of sustainable tourism emerged as a response to the growing recognition of tourism's negative impacts on the environment, societies, and cultures. As global travel expanded in the mid-20th century, the industry began to grapple with the consequences of its rapid growth, including environmental degradation, cultural commodification, and economic inequality. This section explores the historical development of sustainable tourism, its key principles, major milestones, and early successes in the tourism industry(11).

2.1 Historical Development of Sustainable Tourism

The roots of sustainable tourism can be traced back to the broader environmental and social movements of the 1960s and 1970s. During this period, concerns about pollution, resource depletion, and social justice began to gain traction globally. The publication of Carson's *Silent Spring* (1962) (12) and the Club of Rome's *Limits to Growth* (1972) highlighted the fragility of the planet's ecosystems and the need for more responsible approaches to development(13). These ideas gradually permeated the tourism sector, which was increasingly seen as both a contributor to and a victim of environmental and social problems.

The 1980s marked a turning point for sustainable tourism, as the concept of sustainable development gained prominence. The Brundtland Report, formally titled *Our Common Future* (1987), defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This definition provided a foundation for applying sustainability principles to tourism, emphasizing the need to balance economic growth with environmental protection and social equity(3).

By the 1990s, sustainable tourism had become a recognized framework within the industry. The United Nations World Tourism Organization (UNWTO) and other international bodies began to promote sustainable tourism as a way to address the negative impacts of mass tourism while maximizing its benefits. This period also saw the rise of ecotourism, a niche form of sustainable tourism focused on nature-based experiences and conservation.

2.2 Key Principles of Sustainable Tourism

Sustainable tourism is built on three interconnected pillars: environmental conservation, social equity, and economic viability. These principles guide the development and

management of tourism activities to ensure they are environmentally sound, socially inclusive, and economically beneficial.

2.2.1 Environmental Conservation

Sustainable tourism seeks to minimize the environmental impact of tourism activities by promoting resource efficiency, reducing waste, and protecting natural ecosystems. This includes measures such as reducing carbon emissions, conserving water, and preserving biodiversity. For example, eco-lodges and green certifications have become popular ways to promote environmentally friendly tourism practices(3,14,15).

2.2.2 Social Equity

Social equity in sustainable tourism emphasizes the importance of respecting and benefiting local communities. This includes ensuring that tourism development is inclusive, respects cultural heritage, and provides fair economic opportunities for local residents. Community-based tourism initiatives, where local communities have control over tourism activities and receive a fair share of the benefits, are a key example of this principle in action(16–18).

2.2.3 Economic Viability

Sustainable tourism recognizes the importance of economic sustainability, ensuring that tourism generates long-term economic benefits for destinations. This includes creating jobs, supporting local businesses, and contributing to the overall economic development of the region. However, economic viability must be balanced with environmental and social considerations to avoid overexploitation and inequitable distribution of benefits(5,19).

2.3 Milestones in Sustainable Tourism

Several key milestones have shaped the development of sustainable tourism over the past few decades:

2.3.1 The Brundtland Report (1987)

This landmark report introduced the concept of sustainable development, providing a theoretical foundation for sustainable tourism. It emphasized the need to balance economic growth with environmental protection and social equity, principles that remain central to sustainable tourism today(3).

2.3.2 The Earth Summit (1992)

Held in Rio de Janeiro, the Earth Summit (officially the United Nations Conference on Environment and Development) brought global attention to the importance of sustainable development. Agenda 21, a comprehensive action plan adopted at the summit, included specific recommendations for sustainable tourism, encouraging governments and businesses to adopt environmentally and socially responsible practices(20).

2.3.3 The Global Sustainable Tourism Council (GSTC) (2010)

The establishment of the GSTC marked a significant step in standardizing sustainable tourism practices. The GSTC developed a set of global criteria for sustainable tourism, providing a framework for destinations, businesses, and organizations to measure and improve their sustainability performance(21).

2.3.4 The United Nations Sustainable Development Goals (SDGs) (2015)

The adoption of the SDGs by the United Nations further reinforced the importance of sustainable tourism. Several of the 17 goals, including Goal 8 (Decent Work and Economic Growth), Goal 12 (Responsible Consumption and Production), and Goal 14 (Life Below Water), are directly relevant to the tourism industry(21–23).

2.4 Early Successes and Adoption in the Tourism Industry

The principles of sustainable tourism have been adopted in various forms across the globe, leading to notable successes in environmental conservation, community empowerment, and economic development. Some early examples include:

2.4.1 Costa Rica's Ecotourism Model

Costa Rica is often cited as a pioneer in sustainable tourism. The country has leveraged its rich biodiversity to develop a thriving ecotourism industry, with a focus on conservation and community involvement. National parks, private reserves, and eco-lodges have become key attractions, generating revenue while protecting natural ecosystems(24).

2.4.2 Bhutan's High-Value, Low-Impact Tourism

Bhutan's unique approach to tourism emphasizes quality over quantity. The country imposes a daily fee on tourists, which includes accommodations, meals, and a sustainable development fee. This model ensures that tourism contributes to the country's economic development while minimizing environmental and cultural impacts(25,26).



Figure 1: Natural beauty in Bhutan

2.4.3 Community-Based Tourism in Kenya

In Kenya, community-based tourism initiatives have empowered local communities to take control of tourism activities. The Maasai Mara region, for example, has seen the establishment of community-owned conservancies that provide economic benefits to local residents while protecting wildlife and habitats(27,28).

2.4.4 Eco-Certifications and Green Labels

The rise of eco-certifications, such as Green Globe and EarthCheck, has helped businesses and destinations demonstrate their commitment to sustainability. These certifications provide a framework for measuring and improving environmental performance, while also appealing to environmentally conscious travelers.

The emergence of sustainable tourism marked a significant step forward in addressing the negative impacts of the tourism industry. By emphasizing environmental conservation, social equity, and economic viability, sustainable tourism has provided a framework for more responsible travel practices. However, as global challenges have intensified, the limitations of sustainability have become increasingly apparent, paving the way for the next evolution in responsible tourism: regeneration. The historical development, key principles, and early successes of sustainable tourism provide a foundation for understanding this transition and the need for more transformative approaches in the future(29–31).

3. The Limitations of Sustainability

The concept of sustainability, particularly in tourism, has been a significant focus in recent years, but it comes with a set of limitations that prevent it from being as effective as it should be in addressing the ongoing environmental crisis. Sustainable tourism, which is often seen as

a way to minimize negative impacts on the environment while fostering economic and social benefits, faces several challenges and critiques. Below, I will detail the limitations and shortcomings, provide examples, and discuss the growing recognition for transformative solutions.

3.1 Critique of Sustainable Tourism's Incremental Approach

Sustainable tourism often takes an incremental or "step-by-step" approach, seeking gradual improvements rather than a wholesale shift. While incremental changes are important, this slow pace can be ineffective when confronted with urgent global environmental issues like climate change, resource depletion, and biodiversity loss. This approach tends to focus on mitigating the negative impacts of tourism rather than addressing the root causes of over-consumption, exploitation, and environmental degradation(3,14).

Many tourism businesses adopt simple measures, like reducing plastic usage or encouraging tourists to reuse towels, but these steps, while beneficial, are often superficial and do not address the deeper, systemic issues like the overall environmental footprint of tourism. Incrementalism can create a false sense of progress while not making the necessary transformative changes to the industry(32).

3.2 Challenges of Greenwashing

A significant limitation in the realm of sustainable tourism is the prevalence of greenwashing. Greenwashing occurs when companies claim to be environmentally friendly or sustainable without making substantial efforts to back up these claims. It is a marketing tool used to attract

Many tourism operators or hotels advertise themselves as "eco-friendly" or "green" because they might have a few sustainable practices, like offering organic toiletries or using energy-efficient lighting. However, behind these claims, they might still engage in environmentally harmful practices, such as excessive water usage, high carbon emissions from tourism transportation, or large-scale development projects that damage ecosystems. Greenwashing misleads consumers and undermines the true goals of sustainability(33,34).

3.3. Prioritization of Economic Growth over Environmental Sustainability

Another significant challenge is the tendency to prioritize economic growth over environmental sustainability. Tourism is a major driver of the global economy, and governments and businesses often focus on economic growth as a primary goal. In this pursuit, they may overlook or minimize the environmental and social impacts of tourism.

In some destinations, the rapid expansion of tourism infrastructure (hotels, airports, attractions) leads to environmental degradation and social inequality, as communities are displaced or overwhelmed by the influx of visitors. Even if these destinations claim to be "sustainable," the economic pressures may undermine long-term sustainability efforts. Economic growth in tourism, when unchecked, can exacerbate problems such as overcrowding, resource depletion, and waste(33,34).

3.4. Lack of Systemic Change

Sustainability in tourism often focuses on individual or localized solutions rather than systemic changes. This results in isolated, patchwork efforts that do not address the underlying systemic issues that drive unsustainable tourism practices. Systemic change requires a comprehensive reevaluation of tourism models, infrastructure, policies, and behaviors on a global scale.

Carbon offset programs, while well-intentioned, often fail to address the root causes of carbon emissions. Tourists may purchase carbon offsets to mitigate the environmental impact of their travel, but these programs do not address the larger structural issue of high-carbon tourism or the need to reduce air travel in the first place. They can sometimes serve as a "get-out-of-jail-free card" for consumers and companies, rather than fostering true behavioral change(35,36).

3.5. Shortcomings of Carbon Offset Programs and Eco-Certifications

Carbon offset programs are one of the most common tools used to make travel more "sustainable." However, many offset programs have been criticized for being ineffective or lacking transparency. The idea behind carbon offsetting is that tourists or companies can invest in projects that reduce or capture carbon emissions elsewhere, like planting trees or supporting renewable energy initiatives. However, not all offset programs are reliable or lead to genuine environmental benefits(37–40).

Some carbon offset programs invest in projects that lack rigor in terms of actual emissions reduction, or they fund projects that might not be as sustainable or long-term as promised. In some cases, these projects might not have a clear impact on local communities, leading to accusations of "sham offsets." Furthermore, these programs often allow tourists to continue their high-carbon behaviors without making significant changes to their own consumption patterns.

Eco-certifications, another tool often used to promote sustainable tourism, also have limitations. While eco-certifications may encourage businesses to improve certain environmental practices, many of these certifications do not have strict or meaningful criteria, and they can sometimes be awarded to companies that still have harmful environmental practices.

The "Green Key" or "Green Globe" certification might be awarded to hotels or resorts for relatively minor eco-friendly practices, like using energy-efficient bulbs, but it doesn't address larger issues like water overuse, waste management, or the environmental impact of their supply chains. As a result, these certifications can mislead consumers into thinking they are supporting truly sustainable businesses when, in reality, the business may still be contributing to environmental degradation.

3.6. Growing Recognition for Transformative Solutions

Despite the challenges of incrementalism, greenwashing, and systemic inertia, there is growing recognition that more transformative solutions are needed to address the

environmental crisis. Transformative change requires rethinking the tourism industry from the ground up, focusing not only on minimizing harm but also on creating a new vision of tourism that prioritizes environmental health, social equity, and long-term sustainability(41).

This could involve:

- **Reforming tourism business models** to focus on regenerative practices, such as restoring ecosystems and fostering local economic development in ways that reduce reliance on mass tourism.
- **Reducing overall demand for tourism** by promoting slower travel, alternative forms of tourism (e.g., eco-tourism, responsible travel), and changes in consumer behavior that reduce the need for long-haul flights.
- **Implementing more stringent regulations** and policies to ensure that tourism operates within planetary boundaries and respects local cultures and environments.
- **Promoting circular economy models** in the tourism industry to reduce waste and create more sustainable production and consumption cycles.

The concept of "degrowth" in tourism advocates for reducing the overall scale of tourism and focusing on quality over quantity. Instead of continuously expanding tourism infrastructure, the focus would be on reducing environmental impacts while improving local well-being and community benefits(42).

In conclusion, while sustainable tourism has made strides in promoting awareness and small-scale improvements, the current model faces significant limitations. Incremental approaches, greenwashing, economic priorities, and the lack of systemic change all contribute to the shortcomings of current sustainability efforts. The growing recognition of the need for transformative change is encouraging, but it will require bold action, a reevaluation of priorities, and innovative solutions to create a truly sustainable tourism industry.

4. The Rise of Regenerative Tourism

Regenerative tourism is an emerging concept that goes beyond traditional sustainability efforts to focus on revitalizing and improving the natural environment and local communities. Rather than simply minimizing negative impacts, regenerative tourism seeks to leave destinations better than they were before, enhancing ecosystems, cultures, and the well-being of local populations. This approach marks a paradigm shift in how the tourism industry interacts with the planet and its people.

4.1. Definition and Principles of Regenerative Tourism

Regenerative tourism is about going beyond sustainability. While sustainability focuses on maintaining the status quo and ensuring that tourism doesn't deplete resources, regenerative tourism aims to actively restore and renew both the environment and communities affected by tourism. It involves practices that go further than minimizing harm; it seeks to create positive, lasting change. The idea is to leave places more vibrant, diverse, and resilient for future generations(7,8).

Principles of regenerative tourism include:

- **Restoration of ecosystems:** Regenerative tourism actively seeks to repair and restore damaged ecosystems, whether through planting trees, protecting wildlife habitats, or cleaning up natural areas.
- **Community empowerment:** Local communities are at the heart of regenerative tourism. This involves giving them control over the development of tourism, ensuring they have a voice in decision-making, and supporting them in reaping the benefits of tourism in a way that supports long-term well-being.
- **Resilience-building:** Regenerative tourism focuses on building resilience in both ecosystems and communities, enabling them to adapt to challenges such as climate change or over-tourism.
- **Economic regeneration:** A key focus is on creating a tourism model that strengthens local economies, rather than exploiting them. This could involve sustainable employment opportunities, support for local businesses, and equitable distribution of tourism revenue(7,8).

4.2. Roots in Indigenous Knowledge and Ecological Thinking

Regenerative tourism has deep roots in Indigenous knowledge and ecological thinking. Indigenous communities have long understood the importance of living in harmony with nature, respecting the land, and fostering relationships that sustain both human and environmental health. Many traditional ecological practices focus on restoring balance and ensuring the continuity of the natural world through a holistic, long-term perspective(43–45).

For example, many Indigenous groups practice methods like **controlled burns** to prevent wildfires, or **agroforestry**, which integrates tree planting with crop farming to enhance soil health. These practices work in tandem with the natural environment to regenerate rather than deplete resources.

Regenerative tourism draws on these practices by respecting the wisdom of Indigenous communities and recognizing that their ways of living offer valuable insights into sustainable interactions with the land. It encourages collaboration with local people to restore ecosystems and protect cultural heritage, ensuring that the benefits of tourism are shared equitably and in a culturally sensitive way.

4.3. Key Differences Between Sustainability and Regeneration

While both sustainability and regeneration aim to protect the environment, the key difference lies in the ultimate goal and approach.

- **Sustainability:** The primary goal of sustainability is to minimize negative impacts on the environment and society. Sustainable tourism focuses on reducing resource consumption, waste, and pollution, aiming to achieve a balance between tourism and the environment. It's about maintaining the status quo or preventing degradation,

essentially ensuring that future generations will be able to enjoy similar conditions to the present(46).

- **Regeneration:** Regenerative tourism takes a more proactive approach. The goal is not just to maintain the status quo but to improve conditions. Regeneration actively seeks to restore ecosystems, revitalizing damaged or degraded areas, and ensuring that tourism provides tangible benefits to both the environment and local communities. It aims to go beyond harm reduction, creating a positive, healing impact on the planet and people(7).

Example of the Difference: A sustainable tourism model might focus on minimizing water use in a resort, while a regenerative tourism model might work to restore the local watershed by planting trees, cleaning up waterways, and engaging with local communities to manage the river in a way that improves its health over time.

4.4. Core Practices of Regenerative Tourism

Regenerative tourism emphasizes several core practices that distinguish it from traditional sustainable tourism approaches. These practices focus on not only reducing harm but actively improving environmental, social, and cultural conditions(7,8).

4.4.1 Restoration

Restoration is a fundamental aspect of regenerative tourism. Rather than simply avoiding damage to the environment, regenerative tourism aims to actively heal ecosystems that have been affected by previous activities, such as over-tourism, deforestation, or pollution. This can involve:

- **Reforestation and afforestation:** Planting native trees and restoring damaged forests to increase biodiversity and sequester carbon(47).
- **Habitat restoration:** Rehabilitating damaged ecosystems such as wetlands, coral reefs, or grasslands to restore their function and biodiversity(48).
- **Soil regeneration:** Implementing regenerative agricultural practices that restore soil health, increase water retention, and enhance food security for local communities.

In a regenerative tourism project, a national park might partner with tourists and local organizations to restore a section of forest that has been impacted by logging or human activity, planting native species and monitoring the recovery of local wildlife populations.

4.4.2 Community Empowerment

Empowering local communities is a core principle of regenerative tourism. This practice seeks to put decision-making power in the hands of the people most affected by tourism, ensuring that they benefit both economically and socially. It focuses on equitable economic development, fostering local ownership of tourism-related enterprises, and building strong, culturally sensitive relationships between tourists and residents(27,28,49,50).

Key strategies include:

- **Incorporating local knowledge** in the design and management of tourism experiences.
- **Providing training and employment** opportunities for local people in areas like guiding, hospitality, or sustainable farming.
- **Supporting local businesses** to keep tourism revenue within the community and reduce economic leakages.

Example: In a regenerative tourism project in a remote village, local guides might be trained in ecological restoration techniques or traditional practices, while local artisans could sell sustainable crafts to tourists, ensuring that the community benefits directly from tourism activities.

4.4.3 Resilience-Building

Regenerative tourism also focuses on building resilience within both the environment and local communities. Resilience refers to the ability of a system—whether an ecosystem, community, or economy—to adapt to challenges and recover from shocks, such as climate change, natural disasters, or economic downturns(51).

Resilience-building practices in regenerative tourism might include:

- **Ecological restoration efforts** that enhance the resilience of natural systems, such as planting vegetation to prevent soil erosion or restoring wetlands to improve flood control.
- **Cultural resilience**, where tourism helps to preserve local traditions, languages, and cultural practices by offering platforms for local communities to share their heritage.
- **Economic resilience**, by diversifying income sources and promoting alternative, sustainable livelihoods, ensuring that local communities are less reliant on tourism alone.

In a coastal area impacted by rising sea levels, a regenerative tourism initiative could support the restoration of mangrove forests to protect against coastal erosion, while providing local communities with training in sustainable fishing practices to ensure they have alternative

The rise of regenerative tourism represents a shift in how we think about our relationship with the natural world and local communities. Moving beyond the concept of sustainability, regeneration encourages us to not only minimize harm but to actively improve and restore the ecosystems, cultures, and economies impacted by tourism. By drawing on Indigenous knowledge and ecological thinking, regenerative tourism provides an opportunity to create more resilient, equitable, and thriving destinations that benefit both people and the planet. Through core practices such as restoration, community empowerment, and resilience-building, regenerative tourism holds the potential to transform the tourism industry into a force for positive, lasting change.

5. Case Studies in Regenerative Tourism

Regenerative tourism is becoming more widely adopted, with innovative initiatives that go beyond sustainability and actively restore the environment and empower local communities. Below are some key case studies that highlight regenerative tourism in action, including New Zealand's Tiaki Promise, Costa Rica's ecotourism and rewilding initiatives, and Indigenous-led tourism models such as those of the Guna Yala and Maasai communities.

5.1. New Zealand's Tiaki Promise

New Zealand's Tiaki Promise is an initiative launched by Tourism New Zealand aimed at fostering a sense of responsibility and stewardship among both locals and visitors. The Tiaki Promise encourages travelers to protect and preserve the country's natural and cultural heritage by acting as responsible tourists.



Figure 2: Logo of New Zealand's Tiaki Promise

It aligns with the values of regenerative tourism by promoting not just sustainable practices, but a deeper, more restorative approach to tourism (52,53). Principles of the Tiaki promise include;

- **Protect the environment:** Visitors are encouraged to respect and care for New Zealand's landscapes, wildlife, and ecosystems. This includes following Leave No Trace principles, such as respecting wildlife and minimizing the ecological footprint while traveling.
- **Respect the culture:** The promise emphasizes understanding and respecting the culture and traditions of the Māori people, New Zealand's Indigenous population. Visitors are encouraged to learn about Māori customs, traditions, and their relationship with the land.
- **Support local communities:** The Tiaki Promise promotes positive interactions with local communities by encouraging travelers to support local businesses, respect local traditions, and engage in meaningful cultural exchanges.
- **Regeneration of natural areas:** The Tiaki Promise goes beyond sustainability, encouraging tourists to take part in environmental restoration activities, such as

participating in tree planting, conservation projects, or supporting efforts to protect endangered species.

The Tiaki Promise has helped to shift the focus of tourism in New Zealand from purely economic benefits to ensuring that the land and its people benefit in the long term. It also aims to educate visitors about the concept of regenerative tourism, fostering a new model of responsible tourism that goes beyond minimizing negative impacts(52,53).

5.2. Costa Rica's Ecotourism and Rewilding Initiatives

Costa Rica is a pioneer in ecotourism and regenerative tourism, having long recognized the importance of its rich biodiversity and ecosystems. The country has successfully integrated conservation efforts with tourism, using ecotourism as a tool for environmental protection and regeneration(24).



Figure 3: Eco-friendly housing in the rainforests of Costa Rica

Costa Rica's ecotourism model focuses on promoting tourism activities that are in harmony with the environment, such as wildlife observation, hiking in national parks, and visits to cloud forests and tropical rainforests. The country is home to over 5% of the world's biodiversity despite its small size, and its tourism industry plays a key role in its environmental protection efforts.

Rewilding refers to the process of restoring ecosystems to their natural, pre-human condition. In Costa Rica, rewilding is part of the national conservation strategy. The country has implemented successful rewilding projects, such as the restoration of tropical dry forests and

the reintroduction of species like the jaguar and scarlet macaw into areas where they had been previously extirpated(54,55).

Costa Rica's **National System of Protected Areas (SINAC)** has made significant strides in using ecotourism funds to support conservation projects and restore degraded habitats. For example, the country's **Osa Peninsula** has become a key hub for rewilding efforts, with ecotourism playing a crucial role in funding local conservation activities. Moreover, initiatives like the **Corcovado National Park**, with its focus on preserving biodiversity and regenerating ecosystems, have demonstrated how tourism can directly contribute to environmental restoration(24,54,55).

Costa Rica's ecotourism and rewilding initiatives have successfully turned conservation into a sustainable economic model for local communities. Through ecotourism, the country generates revenue while simultaneously preserving and regenerating its ecosystems. This model has also set a global example, encouraging other countries to invest in ecotourism and use it as a tool for environmental regeneration.

5.3. Indigenous-Led Tourism Models

Indigenous communities around the world are increasingly leading the charge in regenerative tourism, utilizing their deep knowledge of the land and traditional practices to foster tourism models that respect and regenerate both the environment and local cultures. Two examples of Indigenous-led regenerative tourism initiatives are the Guna Yala (formerly known as the San Blas Islands) in Panama and the Maasai people in Kenya and Tanzania(27,28,56).

5.3.1 Guna Yala (Panama)

The Guna Yala people, an Indigenous group in Panama, have long practiced a sustainable and regenerative relationship with their land and seas. In recent years, they have developed tourism models that not only protect their unique culture but also contribute to environmental regeneration. They use the following regenerative tourism practices(57).

- **Cultural Preservation:** The Guna people offer visitors an opportunity to experience their culture, which is centered around their ancestral islands and natural resources. Indigenous guides share knowledge about their way of life, traditional crafts, and the spiritual connection they have with the land and ocean.
- **Environmental Conservation:** In Guna Yala, tourism is structured around respecting the natural environment, with visitors engaging in low-impact activities like snorkeling, hiking, and learning about sustainable fishing practices. The Guna people actively protect their coral reefs and surrounding ecosystems, involving tourists in efforts to protect and regenerate marine biodiversity.

By directly involving tourists in conservation efforts and cultural experiences, the Guna people are ensuring that tourism remains a force for good in their communities. The model promotes both environmental regeneration and cultural preservation while empowering the Guna to maintain sovereignty over their land and tourism practices.



Figure 4: Traditional houses in Guna Yala, Panama

5.3.2 Maasai (Kenya and Tanzania)

The Maasai people, who are spread across Kenya and Tanzania, have become global symbols of Indigenous knowledge and resilience. In recent decades, the Maasai have embraced regenerative tourism as a way to preserve their culture and restore the land in which they live, while also sharing their knowledge with travellers(58). Their practices include;

- **Community-Led Conservation:** The Maasai have entered into agreements with national parks and reserves, such as the Maasai Mara, to create tourism partnerships that benefit local communities and foster conservation. These initiatives often involve sustainable land management practices that regenerate grasslands and protect wildlife, including the iconic African Big Five.
- **Cultural Experiences:** The Maasai offer tourists the chance to stay in eco-friendly camps and experience traditional Maasai life, including learning about their farming, herding, and spiritual practices. Visitors also gain insight into Maasai efforts to coexist with wildlife, such as through sustainable grazing practices that help regenerate grasslands.

The Maasai's regenerative tourism model is helping to preserve their culture, regenerate degraded land, and promote sustainable wildlife management. It allows the Maasai to remain in control of their land and resources, ensuring that tourism is both beneficial to the community and in harmony with the natural environment(25,27,58).

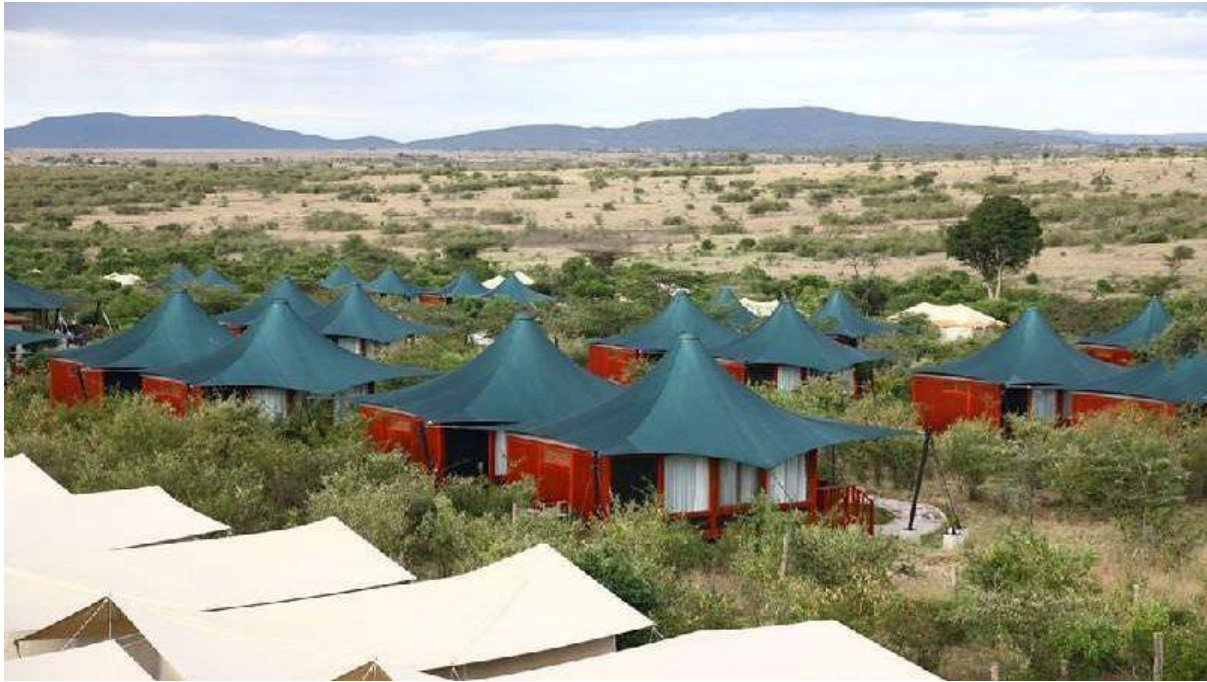


Figure 5: Eco-friendly lodges in Maasai Mara, Kenya

5.4. Lessons Learned and Best Practices

From these case studies, several key lessons and best practices emerge:

- **Community Engagement:** Successful regenerative tourism models actively involve local communities in decision-making and ensure that tourism benefits are equitably distributed. This leads to stronger community buy-in and ensures that tourism supports long-term goals of regeneration.
- **Cultural Sensitivity:** Regenerative tourism is most effective when it respects local cultures and traditions, enabling tourists to learn from Indigenous knowledge and engage in authentic, meaningful cultural exchanges.
- **Environmental Stewardship:** The integration of environmental restoration into tourism is a powerful tool for regeneration. Whether it's rewilding initiatives, habitat restoration, or sustainable land management, tourism can be a catalyst for positive environmental change.
- **Long-Term Vision:** Regenerative tourism requires a shift in mindset from short-term profits to long-term regeneration. This includes focusing on the health and sustainability of ecosystems, communities, and economies for future generations.

These case studies demonstrate how regenerative tourism, when guided by principles of sustainability, empowerment, and ecological restoration, can transform the way we travel. By adopting regenerative models, destinations can not only mitigate the negative impacts of tourism but actively work towards improving the environment and enriching local communities. The success of these initiatives shows that tourism can be a force for good, contributing to the regeneration of both natural landscapes and cultural heritage.

6. Challenges and Opportunities

As tourism continues to grow globally, the concepts of sustainability and regeneration are becoming increasingly vital in shaping how tourism industries evolve. While the focus on sustainable and regenerative tourism holds immense potential for both the environment and local communities, it also faces several challenges. At the same time, these challenges present new opportunities for innovation, transformation, and collaboration. Below, I'll dive into the challenges and opportunities within sustainable and regenerative tourism.

6.1 Challenges in Sustainable and Regenerative Tourism

6.1.1. Greenwashing and Lack of Transparency

One of the most pervasive challenges is **greenwashing**, where businesses or organizations make misleading claims about their sustainability efforts to attract environmentally conscious consumers. This undermines the credibility of genuine efforts and makes it difficult for consumers to discern which initiatives are truly sustainable or regenerative(34).

A hotel might advertise itself as "eco-friendly" because it uses energy-efficient lighting or offers towels on request to reduce laundry waste, but its actual environmental impact may still be significant, such as water overuse, waste mismanagement, or unsustainable sourcing of goods. Greenwashing dilutes the effectiveness of both sustainable and regenerative tourism by fostering consumer mistrust and making it harder for travelers to support truly responsible businesses.

6.1.2. Over-Tourism and Resource Depletion

Tourism has put tremendous pressure on natural resources, such as water, land, and energy, especially in popular tourist destinations. While sustainable tourism aims to minimize these pressures, **over-tourism** continues to be a significant challenge. Destinations like Venice, Barcelona, and Machu Picchu face overcrowding, leading to environmental degradation, loss of cultural heritage, and strained local infrastructure(52,59).

While regenerative tourism seeks to restore ecosystems, over-tourism exacerbates the problem by focusing on increasing visitation to already overburdened areas. The paradox is that the more successful tourism is at generating income, the more resources are depleted, making regeneration even harder.

6.1.3. Balancing Economic Growth with Regeneration

Tourism is a major driver of economic growth in many countries, especially in developing regions. However, the **conflict between economic development** and environmental or social regeneration can create tension. Regenerative tourism often requires a long-term vision and slower economic returns, which can be at odds with the immediate financial needs of communities dependent on mass tourism(7).

A destination may rely on large-scale resort development for economic gain, but regenerative tourism might call for limiting construction in favor of ecosystem restoration or community-led conservation initiatives, which may not offer quick financial rewards. Finding a balance

between immediate economic growth through tourism and the long-term regeneration of the environment and community wellbeing is a significant hurdle.

6.1.4. Lack of Systemic Change and Policy Support

In many places, tourism policy remains focused on short-term economic growth rather than long-term sustainability or regeneration. Governments may lack the policies, frameworks, and regulations that would encourage regenerative tourism practices, such as incentivizing sustainable businesses or supporting ecosystem restoration efforts(60,61).

Without supportive policies, regenerative tourism models cannot scale, and tourism industries are likely to continue with business-as-usual practices, which might focus on economic expansion over regeneration. Local authorities may lack the political will to regulate the tourism sector or address the environmental issues it creates.

6.1.5. Cultural Appropriation and Disrespect

While Indigenous and local cultures can benefit from regenerative tourism, there is always the risk of **cultural appropriation** or exploitation. Tourism that showcases Indigenous culture without proper context or understanding can lead to cultural dilution or even harm. Furthermore, there is the risk that local communities might be left out of the economic benefits of their own cultural heritage(62).

A tourism company might capitalize on a cultural tradition without consulting the community or compensating them fairly. Tourists might visit sacred sites without respecting local customs, leading to the commercialization of traditions and potential loss of cultural identity. Ensuring that local communities are the primary beneficiaries of regenerative tourism, and that their culture is respected and preserved, is a complex but crucial task.

6.2 Opportunities in Sustainable and Regenerative Tourism

6.2.1. Increased Awareness and Consumer Demand

There has been a growing awareness among consumers about the environmental and social impacts of tourism. As people become more concerned with the climate crisis, biodiversity loss, and social justice issues, many are seeking more responsible and regenerative travel options. This shift in consumer behavior presents a huge opportunity for the tourism industry to align with these values(63).

Businesses that invest in sustainable and regenerative practices can tap into this growing demand for eco-friendly, socially responsible tourism options. By adopting practices such as using renewable energy, reducing waste, and supporting local communities, tourism providers can attract conscious travelers and build long-term customer loyalty.

6.2.2. Collaboration and Multi-Stakeholder Partnerships

Achieving true sustainability and regeneration requires collaboration among a variety of stakeholders: governments, local communities, businesses, NGOs, and tourists. The collaborative nature of regenerative tourism opens up opportunities for collective action,

which can amplify positive impacts and help overcome challenges like resource depletion or environmental degradation. Multi-stakeholder partnerships, such as those between tourism companies, local communities, and environmental organizations, can pool resources, expertise, and knowledge to create scalable regenerative projects. These collaborations could include large-scale rewilding efforts, ecosystem restoration programs, or educational campaigns for tourists(64–67).

6.2.3. Technological Innovation and Data

Technology can play a pivotal role in advancing sustainable and regenerative tourism. From **smart travel solutions** that optimize transport routes and reduce emissions to **blockchain technology** for more transparent carbon offsetting, innovation in technology can help address key challenges. Data-driven tools can help monitor the environmental impact of tourism and ensure that regeneration efforts are effective(68,69).

Digital platforms can help businesses and tourists track their sustainability efforts, such as the carbon footprint of a trip or the local impact of a tourism activity. Emerging technologies, such as artificial intelligence and the Internet of Things (IoT), could assist in managing resources more efficiently, improving waste management, and ensuring the restoration of ecosystems.

6.2.4. Promotion of Local Economies and Community Empowerment

Regenerative tourism provides an opportunity for **local communities to thrive** by integrating tourism into their own regenerative practices. By shifting from mass tourism to community-driven initiatives, local businesses and residents can be more directly involved in the decision-making process, ensuring that the economic benefits of tourism remain within the community(49).

By investing in local entrepreneurship and small businesses, regenerative tourism supports diverse, resilient, and sustainable local economies. For example, community-run ecotourism ventures, such as eco-lodges, craft markets, or traditional farming experiences, can directly contribute to both cultural preservation and economic regeneration.

6.2.5. Restoring Ecosystems and Protecting Biodiversity

Regenerative tourism offers a chance to not just mitigate environmental harm but actively restore ecosystems and protect biodiversity. Through initiatives like **reforestation**, **habitat restoration**, or **wildlife protection**, tourism can act as a tool for environmental regeneration. Travelers can participate in activities that directly contribute to conservation, such as volunteer tourism, wildlife monitoring, or coral reef restoration(25,55).

Tourism could become a catalyst for widespread ecosystem regeneration, with tourists engaging in hands-on activities that contribute to the restoration of forests, wetlands, marine habitats, and more. Additionally, tourism revenue could fund conservation efforts, enabling large-scale, long-term environmental protection.

6.2.6. Empowering Indigenous and Local Communities

Indigenous-led tourism models have great potential to empower local and Indigenous communities, allowing them to control their tourism industry, preserve their heritage, and benefit from the economic opportunities it offers. This is a significant opportunity for **cultural regeneration**, where the value of heritage, traditions, and local knowledge is celebrated and shared with visitors in an authentic and respectful manner(7).

Indigenous communities can drive regenerative tourism by sharing their traditional knowledge on sustainable land management, farming, and conservation. By creating authentic cultural experiences and regenerating landscapes, these communities can benefit from sustainable tourism while ensuring their cultural heritage is preserved.

Sustainable and regenerative tourism holds immense promise for addressing the ecological and social challenges caused by mass tourism. While there are significant challenges—including greenwashing, over-tourism, and a lack of systemic policy support—there are also numerous opportunities to create positive change. Through greater consumer demand, collaborative partnerships, technological innovation, and community empowerment, regenerative tourism can shift the industry toward a model that not only minimizes harm but actively contributes to regeneration. The future of tourism depends on how effectively we embrace these opportunities and work together to overcome the challenges(3,14).

7. The Future of Responsible Tourism

The future of sustainable and regenerative tourism is one that increasingly focuses on restorative, inclusive, and responsible travel practices. As the world grapples with environmental degradation, climate change, and social inequalities, the tourism industry must shift its mindset and practices to align with a broader global sustainability agenda. The future of tourism lies not only in minimizing its negative impacts but in actively contributing to the restoration of ecosystems, cultural preservation, and the well-being of local communities. Below, I'll discuss in detail how sustainable and regenerative tourism may evolve, highlighting the trends, challenges, and transformative shifts we can expect to see in the years ahead(15).

7.1. Growing Shift Toward Regenerative Models

The future of tourism will likely see a growing shift away from traditional "sustainable" tourism—focused primarily on minimizing harm—to a more ambitious **regenerative tourism** model. Regenerative tourism goes beyond sustainability by actively focusing on the restoration and improvement of the natural environment and local communities(29–31).

In the future:

Ecosystem Restoration will become a central part of tourism development. Regenerative tourism will focus on actively restoring damaged environments, including rewilding programs, reforestation, and ocean regeneration efforts. Tourists may directly contribute to these efforts, for instance, by planting trees, restoring coral reefs, or engaging in conservation programs during their travels.

Cultural Rejuvenation will also be prioritized. Indigenous communities and local cultures will be empowered to maintain and revitalize their cultural heritage through tourism. Regenerative tourism will emphasize meaningful cultural exchange and foster respect for local traditions, encouraging the revival of traditional ecological knowledge and practices.

7.2. Integration of Technology for Sustainability and Regeneration

Technology will play a critical role in the future of sustainable and regenerative tourism, helping to minimize the environmental impact of tourism and maximize regeneration efforts. In the coming years, we can expect technology to be increasingly integrated into the tourism experience to drive sustainability.

Cities and destinations will use smart technologies such as sensors, data analytics, and the Internet of Things (IoT) to optimize resource management. This includes more efficient use of water, energy, and waste management, as well as tracking tourism impacts to ensure more sustainable visitor flows and reduced overcrowding(70,71).

Apps and platforms that provide eco-friendly travel options, track carbon footprints, and suggest alternative routes or destinations with lower environmental impact are likely to become more commonplace. These tools will empower travelers to make more sustainable choices when booking transportation, accommodations, and activities.

Virtual tourism, where travelers experience destinations remotely, can significantly reduce the carbon footprint of traditional tourism. Virtual reality (VR) and augmented reality (AR) may also be used to raise awareness about sustainability and help people understand the importance of protecting ecosystems and cultural sites.

7.3. Increased Focus on Local and Community-Based Tourism

As part of the regenerative tourism movement, there will be a stronger emphasis on **local and community-based tourism**. The future will likely see an increasing desire for travelers to experience destinations in a way that is socially and environmentally responsible.

Tourism will become more decentralized, with tourists choosing destinations that offer authentic experiences that benefit local communities. Instead of flocking to heavily marketed, over-crowded hotspots, travelers will seek out less-visited locations where their tourism dollars directly support local businesses and community-driven initiatives.

Tourists will be increasingly interested in connecting with local people and learning about their traditions, crafts, and food, as opposed to engaging in large-scale, standardized, mass tourism activities. In this model, the tourism industry will be closely integrated with local culture, ensuring that community values are respected and supported(49,72–74).

7.4. Policy and Regulation to Support Sustainability

The future of tourism will require strong policy frameworks that integrate sustainability and regenerative practices into national and global tourism strategies. Governments and international organizations will need to collaborate to establish regulations that govern the tourism industry's environmental and social impacts(60,70,75,76).

- **Sustainability Standards and Certifications:** There will be a greater push for **universal sustainability certifications** that ensure tourism businesses meet high environmental and social standards. Global and national certifications, along with monitoring systems, will guide travelers to choose responsible businesses and destinations.
- **Carbon and Ecological Footprint Regulations:** Regulations that mandate the reduction of carbon emissions, resource consumption, and waste generation will become standard practice in the tourism industry. Governments may introduce measures such as **carbon taxes** for tourism operations, eco-certification for sustainable practices, and limits on tourism infrastructure development in sensitive areas.
- **Destination Management:** To prevent over-tourism, governments and destinations will adopt **visitor management strategies** that control and balance the number of tourists, ensuring that tourism does not overwhelm local communities or ecosystems. These strategies may include implementing caps on visitor numbers, promoting off-season tourism, and encouraging slower, more intentional travel.

7.5. Collaboration Between Stakeholders

The future of regenerative tourism will depend on **collaborative approaches** among multiple stakeholders, including tourism businesses, local communities, governments, environmental organizations, and travelers. Collaboration will be key to achieving the balance between economic development and environmental regeneration(51,70,75,77).

- **Public-Private Partnerships:** More partnerships between the private tourism sector, NGOs, and governments will emerge, with these stakeholders working together to develop regenerative tourism initiatives. Examples include joint ventures that fund ecosystem restoration projects, community-based tourism cooperatives, and the integration of sustainable practices into tourism infrastructure.
- **Destination-Level Collaboration:** Destinations will increasingly recognize the need to manage tourism in a way that benefits both the environment and local people. Local communities, businesses, and governments will collaborate to create shared goals for tourism development, emphasizing long-term regeneration over short-term gains.

7.6. Traveler Awareness and Behavior Change

The future of regenerative tourism will depend on **travelers' awareness** of their impact and willingness to embrace more responsible travel behaviors. Travel brands, governments, and organizations will need to work together to educate consumers and encourage them to make more sustainable choices.

As sustainability and regeneration become key focus areas, travelers will be increasingly educated on how their travel decisions impact the environment and local communities.

Educational campaigns, eco-tourism certifications, and travel apps will help inform tourists about the environmental and cultural importance of their actions.

Travelers will shift their behavior towards more sustainable practices. This includes choosing destinations that prioritize regeneration, opting for eco-friendly accommodations and activities, and supporting businesses that are genuinely committed to sustainability. In addition, the **concept of “slow tourism”**—spending more time in one place, traveling by train or bus, and reducing the carbon footprint of air travel—will gain more traction.

Group travel and off-the-beaten-path tourism will become more popular, with travelers focusing on fewer, more intentional visits. This could also involve **volunteer tourism** where tourists actively contribute to conservation or community projects during their trip(78–81).

7.7. Climate Change Adaptation

As the tourism industry faces the impacts of climate change, the future will require an increased focus on **climate change adaptation** strategies. Destinations that are vulnerable to climate impacts such as rising sea levels, extreme weather, and biodiversity loss will need to adjust their tourism models to ensure they can survive and thrive in a changing climate(35,82,83).

Destination planners will integrate climate change resilience into tourism development. This might include redesigning tourism infrastructure to be more energy-efficient, using renewable energy, and ensuring that tourism practices don’t exacerbate the vulnerabilities of local ecosystems and communities.

More destinations and businesses will set **carbon-neutral** or **net-zero emissions** goals, and tourists will be encouraged to offset their carbon footprints through initiatives such as carbon offset programs, tree planting, or contributing to rewilding projects.

The future of sustainable and regenerative tourism is promising, but it will require significant changes in both the way tourism operates and the way travelers engage with destinations. As environmental and social challenges become more urgent, tourism must evolve to prioritize regeneration over mere sustainability. This transformation will require collaborative efforts from all stakeholders, technological innovation, government regulation, and, most importantly, a shift in consumer behavior toward more responsible, conscious travel(83–85).

The tourism industry’s future will be shaped by its ability to regenerate not just the natural world but also local economies, cultural heritage, and communities. By embracing regenerative principles, tourism can become a force for good—helping to heal the planet, restore local cultures, and contribute to a more equitable and resilient global society.

8. Conclusions

The transition from sustainable to regenerative tourism represents a pivotal evolution in the tourism industry's approach to addressing its environmental and social impacts. While sustainable tourism aimed to minimize harm, regenerative tourism emphasizes the active restoration and enhancement of ecosystems, cultural heritage, and local communities. The

rise of regenerative tourism acknowledges that the tourism industry must go beyond mere mitigation of damage, recognizing its potential to play a significant role in reversing ecological degradation, empowering local communities, and fostering social equity.

By drawing on Indigenous knowledge, ecological principles, and a holistic understanding of interconnected systems, regenerative tourism offers a framework for the future that aligns the needs of people, planet, and economy. The case studies from New Zealand's Tiaki Promise, Costa Rica's ecotourism efforts, and Indigenous-led tourism models exemplify how these principles are already being successfully implemented, showing the power of regeneration as a positive force in tourism.

However, the future of regenerative tourism is not without challenges. Greenwashing, over-tourism, and a lack of systemic change threaten to dilute progress, but these obstacles also present opportunities for innovation and collaboration. The growing demand for responsible travel, technological advancements, and the push for stronger policy frameworks offer pathways for the industry to embrace more sustainable and regenerative practices.

Ultimately, the transformative potential of regenerative tourism lies in its ability to redefine the relationship between humans and the natural world. By embracing this paradigm shift, the tourism industry can contribute to the healing of ecosystems, the empowerment of communities, and the preservation of cultural heritage, ensuring that tourism becomes a force for good in the fight against climate change and social inequality. The future of responsible tourism depends on collective action, innovation, and a commitment to long-term regeneration for the benefit of both the planet and future generations.

References

1. Wu X, Si Y, Mehmood U. Analyzing the linkages of rural tourism, GDP, energy utilization, and environment: Exploring a sustainable path for China. *Heliyon*. 2023 Dec 1;9(12):e22697.
2. Dwyer L. Tourism development and sustainable well-being: a Beyond GDP perspective. *Journal of Sustainable Tourism*. 2023;31(10):2399–416.
3. Hajian M, Kashani SJ. Evolution of the concept of sustainability. From Brundtland Report to sustainable development goals. *Sustainable Resource Management: Modern Approaches and Contexts*. 2021 Jan 1;1–24.
4. Nyanjom J, Boxall K, Slaven J. Towards inclusive tourism? Stakeholder collaboration in the development of accessible tourism. *Tourism Geographies*. 2018 Aug 8;20(4):675–97.
5. Lin VS, Yang Y, Li G. Where Can Tourism-Led Growth and Economy-Driven Tourism Growth Occur? *J Travel Res*. 2019 May 1;58(5):760–73.
6. Higgins-Desbiolles F. Sustainable tourism: Sustaining tourism or something more? *Tour Manag Perspect*. 2018 Jan 1;25:157–60.

7. Lak A, Gheitasi M, Timothy DJ. Urban regeneration through heritage tourism: cultural policies and strategic management. *Journal of Tourism and Cultural Change*. 2020 Jul 3;18(4):386–403.
8. Tomej K, Bilynets I. Large-scale tourism transformations through regeneration: A living systems perspective on tourism developments in Ukraine during the war. *Ann Tour Res*. 2024 Nov 1;109.
9. Wight P. Ecotourism: ethics or eco-sell. *J Travel Res*. 1993;31(3):3–9.
10. Coluccia B, Valente D, Fusco G, De Leo F, Porrini D. Assessing agricultural eco-efficiency in Italian Regions. *Ecol Indic*. 2020 Sep 1;116.
11. Jamal T, Camargo B, Sandlin J, Segrado R. Tourism and cultural sustainability: Towards an eco-cultural justice for place and people. *Tourism Recreation Research*. 2010;35(3):269–79.
12. Hecht DK. How to make a villain: Rachel Carson and the politics of anti-environmentalism. *Endeavour*. 2012 Dec 1;36(4):149–55.
13. Levallois C. Can de-growth be considered a policy option? A historical note on Nicholas Georgescu-Roegen and the Club of Rome. *Ecological Economics*. 2010 Sep 15;69(11):2271–8.
14. Higgins-Desbiolles F. Sustainable tourism: Sustaining tourism or something more? *Tour Manag Perspect*. 2018 Jan 1;25:157–60.
15. Asmelash AG, Kumar S. Assessing progress of tourism sustainability: Developing and validating sustainability indicators. *Tour Manag*. 2019 Apr 1;71:67–83.
16. Altinay L, Sigala M, Waligo V. Social value creation through tourism enterprise. *Tour Manag*. 2016 Jun 1;54:404–17.
17. Eizenberg E, Jabareen Y. Social sustainability: A new conceptual framework. *Sustainability (Switzerland)*. 2017;9(1).
18. McCool SF, Mandic A. A Social-Ecological Systems Perspective on Working toward Resilience in Nature-Based Tourism Planning. *Tourism Planning and Development*. 2024;
19. Shin HJ, Kim HN, Son JY. Measuring the economic impact of rural tourism membership on local economy: A Korean case study. *Sustainability (Switzerland)*. 2017 Apr 18;9(4).
20. Van Rooy A. The frontiers of influence: NGO lobbying at the 1974 World Food Conference, the 1992 Earth Summit and beyond. *World Dev*. 1997 Jan 1;25(1):93–114.
21. Marchi V, Marasco A, Apicerni V. Sustainability communication of tourism cities: A text mining approach. *Cities*. 2023 Dec 1;143:104590.
22. Gunawan J, Permatasari P, Tilt C. Sustainable development goal disclosures: Do they support responsible consumption and production? *J Clean Prod*. 2020 Feb 10;246.

23. Hone T, Macinko J, Millett C. Revisiting Alma-Ata: what is the role of primary health care in achieving the Sustainable Development Goals? *The Lancet*. 2018 Oct 20;392(10156):1461–72.
24. Mejías-Balsalobre C, Rojas-Cañizales D, Fusté R, Valverde RA, Arauz R, Naranjo I, et al. Local ecological knowledge and community perceptions of a nascent arribada beach in Costa Rica. *Environ Dev*. 2024 Dec 1;52:101062.
25. Adeline-Cristina C, Monica Violeta A, Codruta M, Monica Maria C. The moderating role of tourism in the impact of financial crime on deforestation. *J Clean Prod*. 2025 Jan 1;486:144475.
26. Nyaupane GP, Timothy DJ. Power, regionalism and tourism policy in Bhutan. *Ann Tour Res*. 2010 Oct 1;37(4):969–88.
27. Pas A, Watson EE, Butt B. Land tenure transformation: The case of community conservancies in northern Kenya. *Polit Geogr*. 2023 Oct 1;106:102950.
28. Imbaya BO, Nthiga RW, Sitati NW, Lenaiyasa P. Capacity building for inclusive growth in community-based tourism initiatives in Kenya. *Tour Manag Perspect*. 2019 Apr 1;30:11–8.
29. Shen CC, Chang YR, Liu DJ. Rural tourism and environmental sustainability—a study on a model for assessing the developmental potential of organic agritourism. *Sustainability (Switzerland)*. 2020 Nov 2;12(22):1–16.
30. Terkenli TS, Georgoula V. Tourism and cultural sustainability: Views and prospects from cyclades, Greece. *Sustainability (Switzerland)*. 2022 Jan 1;14(1).
31. Wise N. Urban and rural event tourism and sustainability: Exploring economic, social and environmental impacts. *Sustainability (Switzerland)*. 2020 Jul 2;12(14):1–5.
32. Agustina Y, Wijijayanti T, Winarno A, Rahayu WP. THE ECONOMARKETING MODEL: DEVELOPMENT OF PRODUCTIVE AND SUSTAINABLE TOURISM AREA. *International Journal of Professional Business Review*. 2023;8(2).
33. Böhm S, Carrington M, Cornelius N, de Bruin B, Greenwood M, Hassan L, et al. Ethics at the Centre of Global and Local Challenges: Thoughts on the Future of Business Ethics. *Journal of Business Ethics*. 2022 Oct 1;180(3):835–61.
34. Gao J, Wei H. Study on the impact of environmental subsidies and green labels on greenwashing in sustainable production. *J Clean Prod*. 2025 Jan 1;486.
35. Lenzen M, Sun YY, Faturay F, Ting YP, Geschke A, Malik A. The carbon footprint of global tourism. *Nat Clim Chang*. 2018 Jun 1;8(6):522–8.
36. Zhong C, Hao Y, Wang C, Wang L. Analysis of regional differences and spatial and temporal evolution of tourism carbon emissions in China: considering carbon sink effect. *Current Issues in Tourism*. 2024;

37. Jiang Q, Ma X. Spillovers of environmental regulation on carbon emissions network. *Technol Forecast Soc Change*. 2021 Aug 1;169.
38. Raihan A. The interrelationship amid carbon emissions, tourism, economy, and energy use in Brazil. *Carbon Research*. 2024 Dec 1;3(1).
39. Zhao X, Li T, Duan X. Studying tourism development and its impact on carbon emissions. *Sci Rep*. 2024 Dec 1;14(1).
40. Zhao X, Li T, Duan X. Studying tourism development and its impact on carbon emissions. *Sci Rep*. 2024 Dec 1;14(1).
41. Liu YX, Lei P, Shen BY, He D. Green technology advancement, energy input share and carbon emission trend studies. *Sci Rep*. 2024 Dec 1;14(1).
42. He Y, Zhang X, Xie Q. Environmental regulation and carbon emission efficiency: Evidence from pollution levy standards adjustment in China. *PLoS One*. 2024 Feb 1;19(2 February).
43. Wang S, Liping Y, Arif M. Evolutionary analysis of ecological-production-living space-carrying capacity in tourism-centric traditional villages in Guangxi, China. *J Environ Manage*. 2025 Feb 1;375:124182.
44. Zou L, Liu Y, Yang J, Yang S, Wang Y, Cao zhi, et al. Quantitative identification and spatial analysis of land use ecological-production-living functions in rural areas on China's southeast coast. *Habitat Int*. 2020 Jun 1;100.
45. Liu R. The state-led tourism development in Beijing's ecologically fragile periphery: Peasants' response and challenges. *Habitat Int*. 2020 Feb 1;96:102119.
46. O'Sullivan JN. The social and environmental influences of population growth rate and demographic pressure deserve greater attention in ecological economics. *Ecological Economics*. 2020 Jun 1;172.
47. Ren Y, Arif M, Cao Y, Zhang S. Pathways to enhance the efficiency of forestry ecological conservation and restoration: empirical evidence from Heilongjiang Province, China. *Frontiers in Forests and Global Change*. 2024;7.
48. Su CW, Liu TY, Chang HL, Jiang XZ. Is urbanization narrowing the urban-rural income gap? A cross-regional study of China. *Habitat Int*. 2015 Aug 1;48:79–86.
49. Jones S. Community-based ecotourism: The significance of social capital. *Ann Tour Res*. 2005 Apr;32(2):303–24.
50. Islam MS, Lovelock B, Coetzee WJL. Liberating sustainability indicators: developing and implementing a community-operated tourism sustainability indicator system in Boga Lake, Bangladesh. *Journal of Sustainable Tourism*. 2023;31(7):1651–71.
51. Randelli F, Martellozzo F. Is rural tourism-induced built-up growth a threat for the sustainability of rural areas? The case study of Tuscany. *Land use policy*. 2019 Jul 1;86:387–98.

52. Insch A. The challenges of over-tourism facing New Zealand: Risks and responses. *Journal of Destination Marketing & Management*. 2020 Mar 1;15:100378.
53. Goven J, Langer ERL, Baker V, Ataria J, Leckie A. Community engagement in the management of biosolids: Lessons from four New Zealand studies. *J Environ Manage*. 2012 Jul 30;103:154–64.
54. Caro T, Sherman P. Rewilding can cause rather than solve ecological problems. *Nature*. 2009 Dec 24;462(7276):985.
55. Root-Bernstein M, Galetti M, Ladle RJ. Rewilding South America: Ten key questions. *Perspect Ecol Conserv*. 2017 Oct 1;15(4):271–81.
56. Eshitera A, Esho L, Njoroge CG. Impact of Road Transportation Network Infrastructure on Regional Development in Kenya. *American Journal of Industrial and Business Management*. 2024;14(07):992–1011.
57. Apgar MJ, Allen W, Moore K, Ataria J. Understanding adaptation and transformation through indigenous practice: the case of the Guna of Panama. *Ecology and Society*. 2015;20(1):art45.
58. Wishitemi BEL, Momanyi SO, Ombati BG, Okello MM. The link between poverty, environment and ecotourism development in areas adjacent to Maasai Mara and Amboseli protected areas, Kenya. *Tour Manag Perspect*. 2015 Oct 1;16:306–17.
59. Mihalic T. Conceptualising overtourism: A sustainability approach. *Ann Tour Res*. 2020 Sep 1;84.
60. Estol J, Font X. European tourism policy: Its evolution and structure. *Tour Manag*. 2016 Feb 1;52:230–41.
61. Adler A, Seligman MEP. Using wellbeing for public policy: Theory, measurement, and recommendations. *International Journal of Wellbeing*. 2016 May 4;6(1):1–35.
62. Soini K, Dessein J. Culture-sustainability relation: Towards a conceptual framework. *Sustainability (Switzerland)*. 2016;8(2).
63. Milano C, Novelli M, Russo AP. Anti-tourism activism and the inconvenient truths about mass tourism, touristification and overtourism. *Tourism Geographies*. 2024;
64. Zou Y, Meng F, Li Q. Chinese diaspora tourists' emotional experiences and ancestral hometown attachment. *Tour Manag Perspect*. 2021 Jan 1;37.
65. Zhang J, Wu B, Morrison AM, Tseng C, Chen YC. How Country Image Affects Tourists' Destination Evaluations: A Moderated Mediation Approach. *Journal of Hospitality and Tourism Research*. 2018 Aug 1;42(6):904–30.
66. Canteiro M, Córdova-Tapia F, Brazeiro A. Tourism impact assessment: A tool to evaluate the environmental impacts of touristic activities in Natural Protected Areas. *Tour Manag Perspect*. 2018 Oct 1;28:220–7.

67. Han JH, Kim JS, Lee CK, Kim N. Role of place attachment dimensions in tourists' decision-making process in Citt  slow. *Journal of Destination Marketing and Management*. 2019 Mar 1;11:108–19.
68. Kshetri N. Regulatory Technology and Supervisory Technology: Current Status, Facilitators, and Barriers. *Computer (Long Beach Calif)*. 2023 Jan 6;56(1):64–75.
69. Pantano E, Styli  dis D. New technology and tourism industry innovation: evidence from audio-visual patented technologies. *Journal of Hospitality and Tourism Technology*. 2021;12(4):658–71.
70. Haini H. Tourism, Internet penetration and economic growth. *Journal of Policy Research in Tourism, Leisure and Events*. 2022;14(2):200–6.
71. Fu Y, Timothy DJ. Social media constraints and destination images: The potential of barrier-free internet access for foreign tourists in an internet-restricted destination. *Tour Manag Perspect*. 2021 Jan 1;37.
72. Brooks C, Waterton E, Saul H, Renzaho A. Exploring the relationships between heritage tourism, sustainable community development and host communities' health and wellbeing: A systematic review. *PLoS One*. 2023 Mar 1;18(3 March).
73. Hiwasaki L. Community-based tourism: A pathway to sustainability for Japan's protected areas. *Soc Nat Resour*. 2006 Sep;19(8):675–92.
74. Moayerian N, McGehee NG, Stephenson MO. Community cultural development: Exploring the connections between collective art making, capacity building and sustainable community-based tourism. *Ann Tour Res*. 2022 Mar 1;93.
75. Gutierrez ELM, Rivera JPR, Soler ACD. Creating local sustainability indicators towards evidence-based policymaking for tourism in developing economies: Evidence from the Philippines. *Journal of Quality Assurance in Hospitality and Tourism*. 2021;22(5):561–90.
76. Hierarchical policy evolution and impact on industry advancement in marine tourism: A comprehensive study of China - ScienceDirect [Internet]. [cited 2025 Feb 20]. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S2212571X24001136>
77. Liu J, Wang H, Jang SC (Shawn), Liu X, Li J. Hierarchical policy evolution and impact on industry advancement in marine tourism: A comprehensive study of China. *Journal of Destination Marketing & Management*. 2024 Dec 1;34:100965.
78. Rozanis M, Grosalik R, Avieli N. Between gaze and taste: Senses, imaginaries, and the sustainability of culinary heritage in Greek tourist-oriented tavernes. *Tour Manag Perspect*. 2024 Sep 1;53.
79. Li TE, McKercher B. Developing a typology of diaspora tourists: Return travel by Chinese immigrants in North America. *Tour Manag*. 2016 Oct 1;56:106–13.
80. Peters A, Higgins-Desbiolles F. De-marginalising tourism research: Indigenous Australians as tourists. *Journal of Hospitality and Tourism Management*. 2012;19(1):76–84.

81. Yi X, Lin VS, Jin W, Luo Q. The Authenticity of Heritage Sites, Tourists' Quest for Existential Authenticity, and Destination Loyalty. *J Travel Res.* 2017 Nov 1;56(8):1032–48.
82. Belle N, Bramwell B. Climate change and small island tourism: Policy maker and industry perspectives in Barbados. *J Travel Res.* 2005;44(1):32–41.
83. Viken A, Heimtun B. Tourism mobilities and climate crisis dilemmas: Tourists traveling towards a climate apocalypse? *Ann Tour Res.* 2024 Nov 1;109.
84. Schweinsberg S, Darcy S. Climate Change, Time and Tourism Knowledge: The Relativity of Simultaneity. *Sustainability (Switzerland).* 2022 Dec 1;14(23).
85. Loehr J, Becken S. Leverage points to address climate change risk in destinations. *Tourism Geographies.* 2023;25(2–3):820–42.