Climate Action through Regeneration:
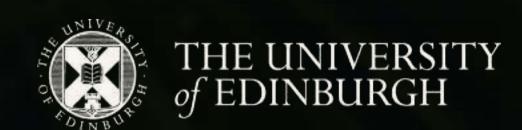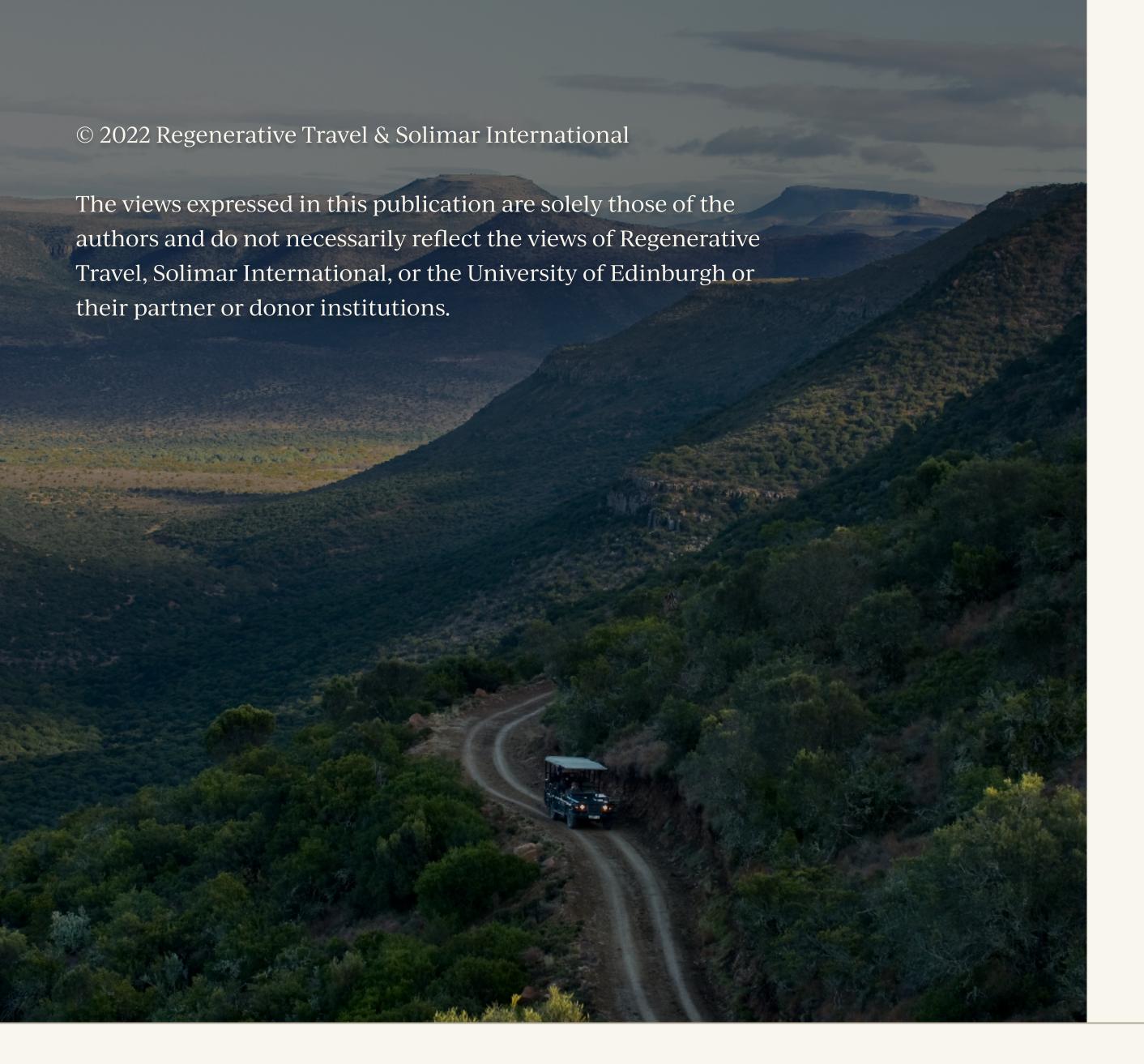
Unlocking the Power of Communities and Nature through Tourism

REGENERATIVE Travel

THE UNIVERSITY of EDINBURGH

solimar INTERNATIONAL

Authors and Affiliations:

- Chloe King *(Principal Investigator, Co-Author)* - Solimar International and the University of Edinburgh
- O'Shannon Burns *(Co-Author)* - Regenerative Travel

Editors and Advisors:

- James Paterson - The University of Edinburgh
- Meriwether Wilson - The University of Edinburgh

Suggested Citations:

Executive Summary

The scientific consensus is clear: we cannot collectively address climate change without protecting and restoring nature. Nature and biodiversity are essential to both drawing down greenhouse gas emissions and helping communities adapt to climate change—from coral reefs' ability to provide critical shelter from storm surges to tropical rainforests' essential role in carbon storage. The tourism industry, representing 8% of global greenhouse gas emissions, must prioritize quick and effective climate action in support of global climate compacts.

The Role of Nature-based Solutions

Effective climate action in the tourism sector requires rapid decarbonization of the tourism supply chain, which means small businesses must begin to measure and mitigate emissions as part of their business operation. Travel businesses also have a strong capacity to address climate change through Nature-based Solutions (NbS)—actions that manage, protect, and restore nature. The Glasgow Declaration has identified this Regeneration work as one of the five shared pathways, aligning tourism around climate action. Utilizing the IUCN Nature-based Solutions Standard as a research framework,

30 tourism businesses around the world were surveyed and interviewed to understand how they have incorporated regenerative theory into their businesses, and the challenges and opportunities they faced while developing and implementing Nature-based Solutions. This report highlights how a shift that prioritizes nature and climate is possible in the tourism sector. By identifying projects, initiatives and programs that effectively prioritize Nature-based Solutions, travel businesses—even those that are small—can unlock the power of regenerative climate action.

Five Principles for Developing Effective Nature-based Solutions in the Tourism Sector

To accelerate the ability of small businesses in the tourism sector to take climate action via regeneration, five principles were identified as essential elements of Nature-based Solutions in the tourism sector. Alongside each principle, the report identifies key actions that travel businesses should take to embrace the principle in their work. The report is meant to serve as a guide for businesses who wish to integrate regenerative frameworks and tools more fully into their business operations.

Principle 1 - Center Community Needs First

Key Actions:

- Understand and document societal challenges, prioritizing the most pressing needs for community stakeholders.
- Adopt a living systems approach that recognizes complex interactions between the economy, society, and ecosystems within the destination.
- Document changes and trade-offs in human well-being outcomes as a result of tourism interventions.

Principle 2 – Improve Ecosystem Integrity and Biodiversity

Key Actions:

- Monitor ecosystem changes over time and adapt as needed.
- View tourism as a tool to finance and facilitate ecosystem restoration and protection.
- Engage residents, visitors, and employees in ecosystem and biodiversity work through educational opportunities, citizen science, and sharing lessons learned.

Principle 3 – Embrace Diverse and Inclusive Business Models

Key Actions:

- Improve the viability of your business and Nature-based Solution by diversifying revenue streams.
- Retain and support talent through enhanced training and employment opportunities.
- Embrace inclusivity and diversity in partnerships, employment, and marketing strategies.

Principle 4 - Develop Transparent Governance Structures Accountable to All Stakeholders

Key Actions:

- Continuously engage stakeholders and establish processes for soliciting and incorporating community feedback.
- Respect and uphold indigenous and community rights to land and resources.
- Ensure communities have access to vital natural and cultural assets.

Principle 5 – Enhance Regenerative Partnerships

Key Actions:

- Be a bridge between communities and government to enhance social and ecological regeneration.
- Partner with NGOs and government to inform management, monitoring, and reporting.
- Contribute to national and global targets for human wellbeing, climate change, biodiversity and human rights to scale best practices out and up.

Recognizing that regeneration is a process rather than a final objective—that is place-based, environment-centered, and community-led—case studies in this report highlight how small businesses around the world are working to embody these principles.

Table of Contents

Climate Change and The Role *of Small Businesses in Travel and Tourism*

Humanity has experienced the hottest temperatures on record during the past decade. The Intergovernmental Panel on Climate Change (IPCC) has warned that *we are likely to exceed a 1.5°C average temperature increase*, the point at which severe climate disruptions would occur, with significant impacts for humans and nature.[1] Already, climate and other impacts mean that more species of plants and animals are *threatened with extinction* than in any other time in human history.[2] In response, many governments committed to the 2015 Paris Climate Accords, which set emissions reduction targets required to avoid catastrophic effects. Achieving these targets will require countries to implement ambitious decarbonization measures and transform every sector of our modern economy.[3]

The global tourism economy—the second-fastest growing industry in the world prior to the COVID-19 pandemic, responsible for 1 in 10 jobs globally[4]— must support these global efforts, prioritizing decarbonization and the transition to climate neutrality. Tourism is estimated to be responsible for 8% of global greenhouse gas emissions.[5] In 2021,the *Glasgow Declaration on Climate Action in Tourism* was launched to raise the climate ambition of tourism stakeholders, define a sector-wide approach to climate action, and to begin to define pathways to transform the tourism sector to achieve net zero emissions, including a "Regenerate" pathway focused on protecting and restoring nature. The Declaration acknowledges the tourism sector's contributions to climate change—without accelerating decarbonization, greenhouse gas emissions are expected to rise 25% or more by 2030, compared to 2016.[6]

In response, industry organizations have begun to develop guidance around greenhouse gas inventories, mitigation, and strategies for action. With 80% of the travel and tourism sector composed of *Small and Medium Sized Enterprises (SMEs)*, developing targeted guidance for small businesses is critical. Above all other actions, the tourism sector must quickly decrease its dependence on fossil fuels and decarbonize the tourism supply chain. This requires that small businesses begin to measure and mitigate emissions as part of their business operation. One Planet has compiled tools and resources for tourism SMEs to begin this process as part of their work around the Glasgow Declaration.

However, the tourism sector is also directly dependent on the health of the communities and environments in which it operates, and has an opportunity to play a critical role in protecting the natural resources that serve as an important carbon sink. Currently, our global ocean, soil, and forests *absorb around 56% of all human-produced greenhouse gases.*[7,8] Protecting natural carbon capture and measurably changing current land and ocean use is an essential part of the strategy to limit temperature rise to 1.5°C. The global scientific community has recognized that in addition to the rapid decarbonization of the economy, climate action will require a *"significant contribution"* from Nature-based Solutions—actions that will simultaneously enhance human wellbeing and biodiversity benefits.[8,9] Indeed, protecting and restoring nature holds some of the greatest potential for reducing net emissions according to the IPCC *(see Figure 1)*. This regeneration work is also highlight as one of the five key pathways to align tourism around climate action in The Glasgow Declaration.
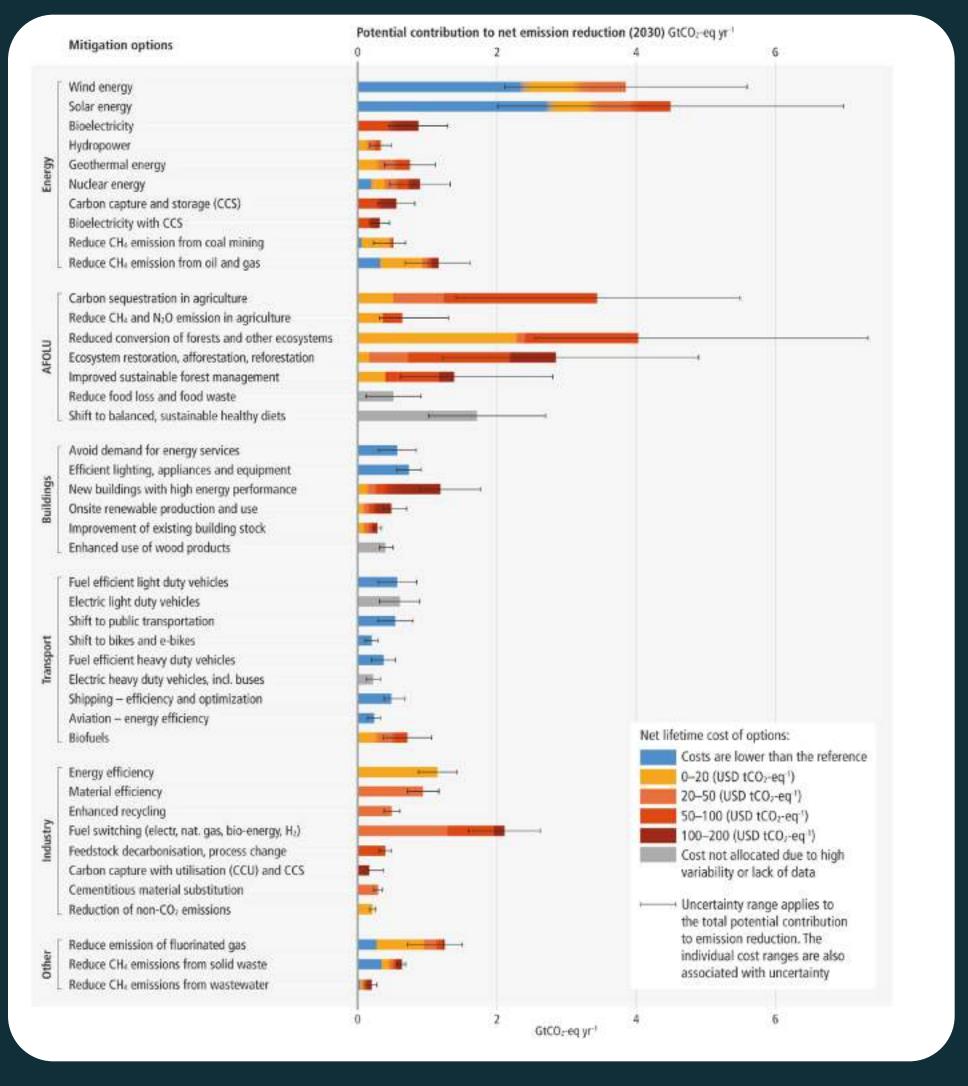
Figure 1: Overview of mitigation options, from the IPCC Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change, the Working Group III contribution, pg 51

Lastly, communities will be challenged by new climate hazards and stressors. Their vulnerability to climate depends on predicted local impacts and community capacity to adapt. Tourism can play an important role in helping communities adapt to this new reality and build resilience to future risks.

———————————————

Here we explore this potential of *Nature-based Solutions* to support mitigation and resilience by studying efforts already underway in the tourism sector.
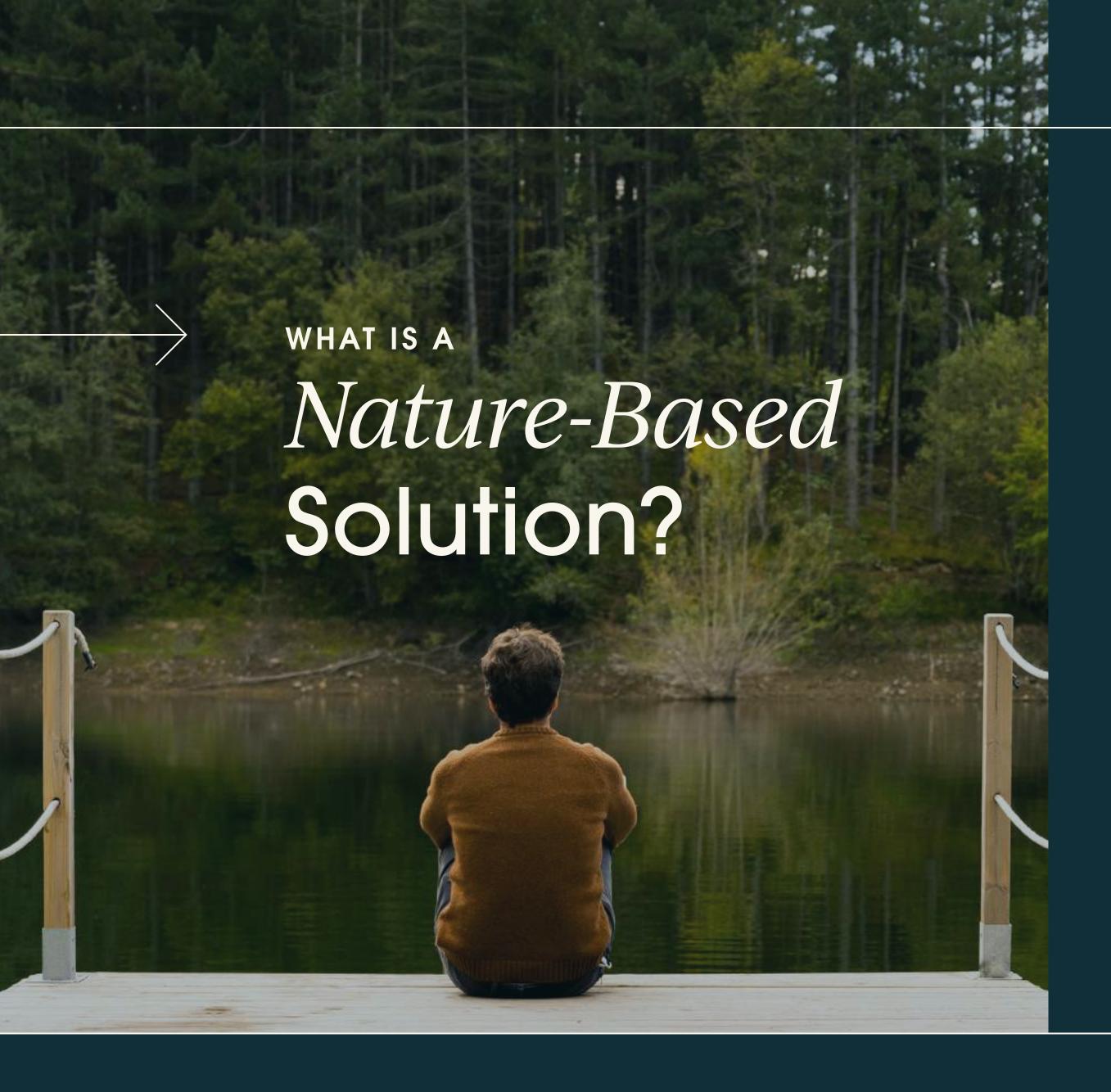
Our goal is to demonstrate how small businesses can embrace the ethos of *Nature-based Solutions* in their business to:

→ Address societal challenges and help communities adapt to the inevitable impacts of climate change;

→ Advance local efforts to protect, manage, and restore natural systems effectively store carbon necessary for climate change mitigation;

→ Have a net positive impact on the diversity of plants and animals in the surrounding area;

→ Preserve the shared intrinsic value of nature, including cultural, historical, and spiritual significance of natural systems for local communities; and

→ Include and engage all stakeholders in common values around a shared purpose, regardless of gender, age, or social status.

Following a year of research and conversations with *30 tourism operators around the world*, this report highlights how a shift that prioritizes nature and climate is possible in the tourism sector.

By identifying projects, initiatives and programs that effectively prioritize the above areas, travel businesses—even those that are small — *can unlock the power of regenerative climate action.*

WHAT IS A
Nature-Based
Solution?

Nature-based Solutions (NbS) are defined as actions that protect, sustainably manage, and restore nature while simultaneously addressing societal challenges— such as unemployment, hunger, drought, poverty, or affordable housing.[10,11] The concept of NbS is rooted in climate change mitigation and adaptation, has grown in recognition over the past decade, and has been embraced as an essential framework by the International Union for the Conservation of Nature (IUCN), which created the IUCN Global Standard for Nature-based Solutions to guide practical implementation *(See Figure 2).*

Figure 2: Nature-based solutions are actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. Source: Figure and definition from the International Union for Conservation of Nature (IUCN)

NbS play a vital role in both greenhouse gas emissions reduction and climate change adaptation.[12–14] Recent research suggests that by 2030, *NbS could contribute 30-37% of the cost-effective mitigation[i]* required to limit warming to below 2°C.[8,9,15,16] Ideally NbS are used to protect, manage, and restore ecosystems that already exist and, if well-designed and implemented, can deliver multiple synergistic climate benefits. Although 66% of country signatories to the Paris Climate Agreement mention NbS as part of their strategy, just seventeen have recognized the combined mitigation and adaptive power of NbS.[15] We are just beginning to realize how focused management of NbS could result in powerful multiplier effects related to climate resilience.

NbS are also designed to *holistically embrace the objectives set forth in the United Nations Sustainable Development Goals (SDGs)* (*See Figure 3*).[8] At first glance, one might only see nature featured in SDG 14 (Life Below Water) or SDG 15 (Life on Land). In reality, nature underpins every aspect of the SDGs: it is essential for providing clean water and energy, reducing food insecurity, spurring climate action, reducing inequalities, building sustainable cities and communities, and more.[17,18] Likewise, conservation solutions are more likely to succeed if they are supported by local people and address their needs.[19] Protecting land and oceans and addressing climate change are impossible if efforts to do so ignore the very real societal challenges communities face—from gender inequality and lack of educational resources to health inequity and racial injustice.

[i]*According to the UNEP 2021 Emissions Gap Report, NbS implemented globally by 2030 could contribute emission reductions and removals of 5 to 11.7 GtCO2e per year at a low cost of US$ 100/tCO2. Annual emissions by 2030 need to be 13 GtCO2e (range: 10–16 GtCO2e) lower than current unconditional Nationally Determined Contributions (NDCs) state to reach the 2°C goal, and 28 GtCO2e (range: 25–30 GtCO2e) lower to reach the 1.5°C goal. Both estimates are for a 66% chance of staying below the temperature limit.*

Figure 3: The United Nations Sustainable Development Goals (SDGs). Source: United Nations.

It is important to acknowledge some of the criticisms of NbS. Many organizations and governments have invested in NbS via carbon offsetting, whereby they purchase credit for a certified unit of emission reduction or removal carried out by someone else. *Documented issues associated with carbon offsetting include:*[66]

→   The use of offsets without also taking direct action to reduce emissions;

→   Improper carbon accounting;

→   The difficulty of accounting for the release of stored carbon (i.e., when a forest is later cut down or destroyed by a natural disturbance such as fire); and

→   Negative unintended impacts on humans or ecosystems (i.e., when diverse rainforests are replaced by a farm of a single plant species that technically absorbs more carbon[20] or humans are displaced due to offsetting projects).

If carbon offsetting is explored as a funding mechanism for NbS, the project should be developed using international standards that reduce these risks, such as the *Oxford Principles for Net Zero Aligned Carbon Offsetting.*[21] In addition, an over-emphasis on the financial quantification of the value of NbS will ignore the cultural, historical, and place-based values that nature holds for local communities and visitors.

Examples of Nature-based Solutions		
Solutions that Protect Ecosystems	Solutions that Manage Ecosystems	Solutions that Restore Ecosystems
Avoided Forest Conversion	Natural Forest Management	Reforestation
Avoided Peatland Impacts	Agroforestry	Coastal Wetland Restoration
Avoided Degradation of Coastal Wetlands	Regenerative Agriculture	Peatland Restoration

Regenerative practitioners recognize that businesses are situated within complex living systems.

Thus, this report sets out to explore how NbS can be implemented by tourism businesses in a more regenerative, transparent, equitable, and inclusive way that *acknowledges the many different types of value generated by nature, as well as the nature of our values.* This perspective can help guide projects to be more effective, driven by the vision and will of local stewards.

How can Tourism *be more regenerative?*
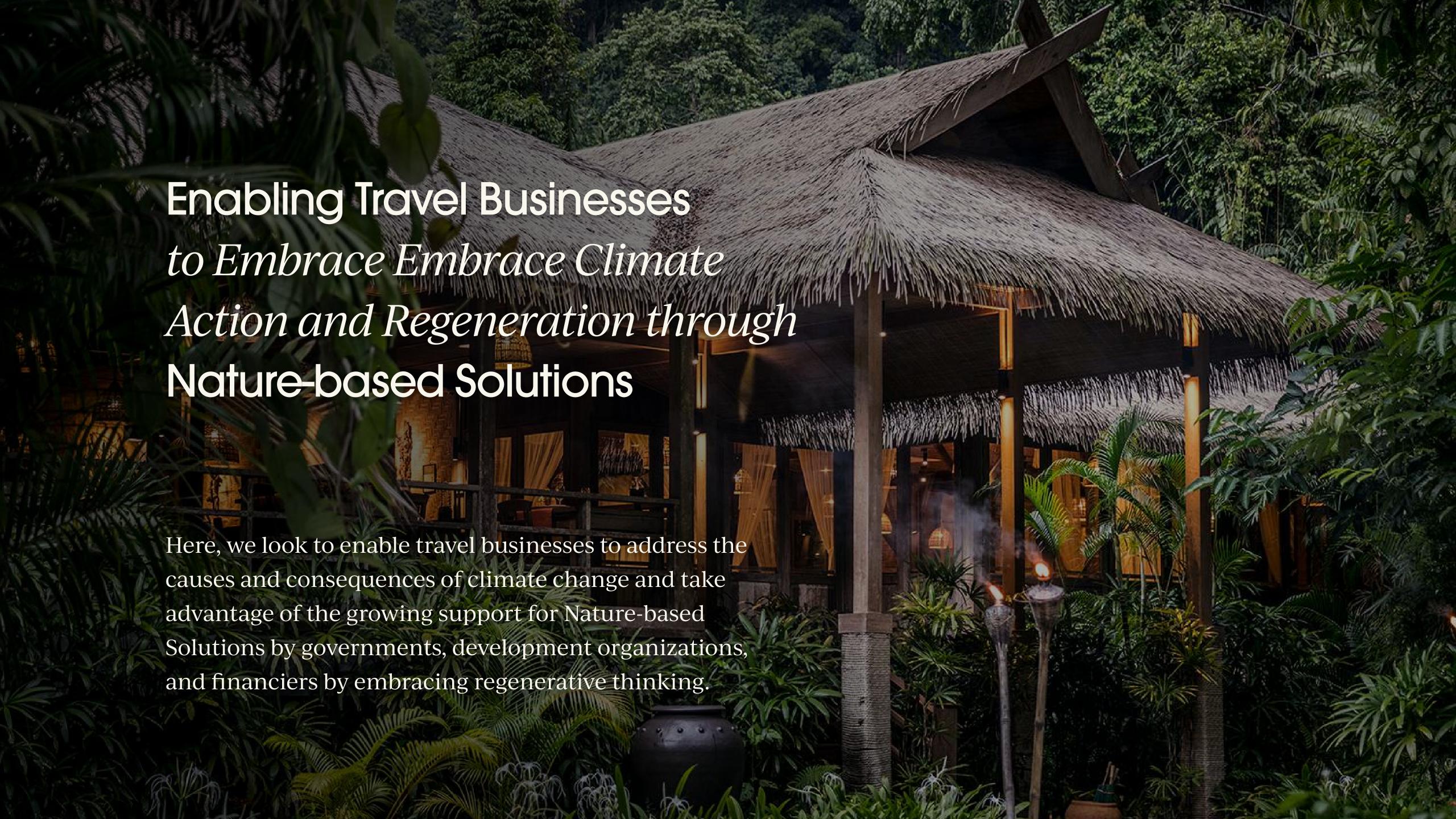
Increasingly, the *tourism sector has been criticized for its lack of governance and structural focus on growth*, which has led to the degradation of destinations.[22] As destinations recover from the COVID-19 pandemic and prepare for the many challenges of climate change, there is an opportunity to transition to new models that consider value more holistically. Regenerative tourism represents a paradigm shift for the sector whereby tourism provides more value to communities than it takes. This is achieved thorough a holistic, place-based, community-led, and environment-centered approach that recognizes the value of social, cultural, environmental, and economic wellbeing.[23–26]

These regenerative models recognize tourism as an *interrelated living system*—comprised of businesses, communities, travelers, ecosystems, transit routes, and more— and ask stakeholders, *"what travel experiences, products, and businesses will allow people and place to truly thrive?"*[11]

When tourism functions at its best, it can contribute to regeneration across domains: it *can connect, host, and heal people and places, positively contributing to the health and well-being* of the complex system it sits within.

Regenerative frameworks and thinking draw upon both scientific practice and longstanding and diverse Indigenous, First Nation, and Native knowledge that views humanity as belonging to the land.[28,29] For example, regenerative agriculture, which seeks to actively replenish soil and ecosystems through food production, is rooted in indigenous practice where humans act as active stewards of the planet.[30,31] In tourism, there is *urgent need to integrate local knowledge and values into tourism governance* so that tourism activities do not service only the tourist, but instead are shaped by the vision of local stewards.[32]

In both tourism and the wider economy, the regenerative shift will be essential to addressing climate change. However, practical guidelines for tourism businesses remain elusive. *This research highlights how Nature-based Solutions can be developed and executed as part of a regenerative practice*—these case studies acknowledge that humans do not just seek to do things to nature, but rather see themselves as part of nature. By exploring how tourism operators embraced NbS, five guiding principles emerged for a regenerative shift where we can begin to understand people, business, and nature as interconnected and interdependent parts, focused on contributing to a healthy and flourishing destination.

Enabling Travel Businesses
to Embrace Embrace Climate Action and Regeneration through Nature-based Solutions

Here, we look to enable travel businesses to address the causes and consequences of climate change and take advantage of the growing support for Nature-based Solutions by governments, development organizations, and financiers by embracing regenerative thinking.

As travel businesses develop climate action plans, their ability to contribute to healthy ecosystems through regeneration should be a key consideration.

The framework presented in this report is *meant to help small businesses in the travel and tourism industry identify projects, initiatives and programs that could serve as NbS*, and then use the identified principles to guide their design and implementation.
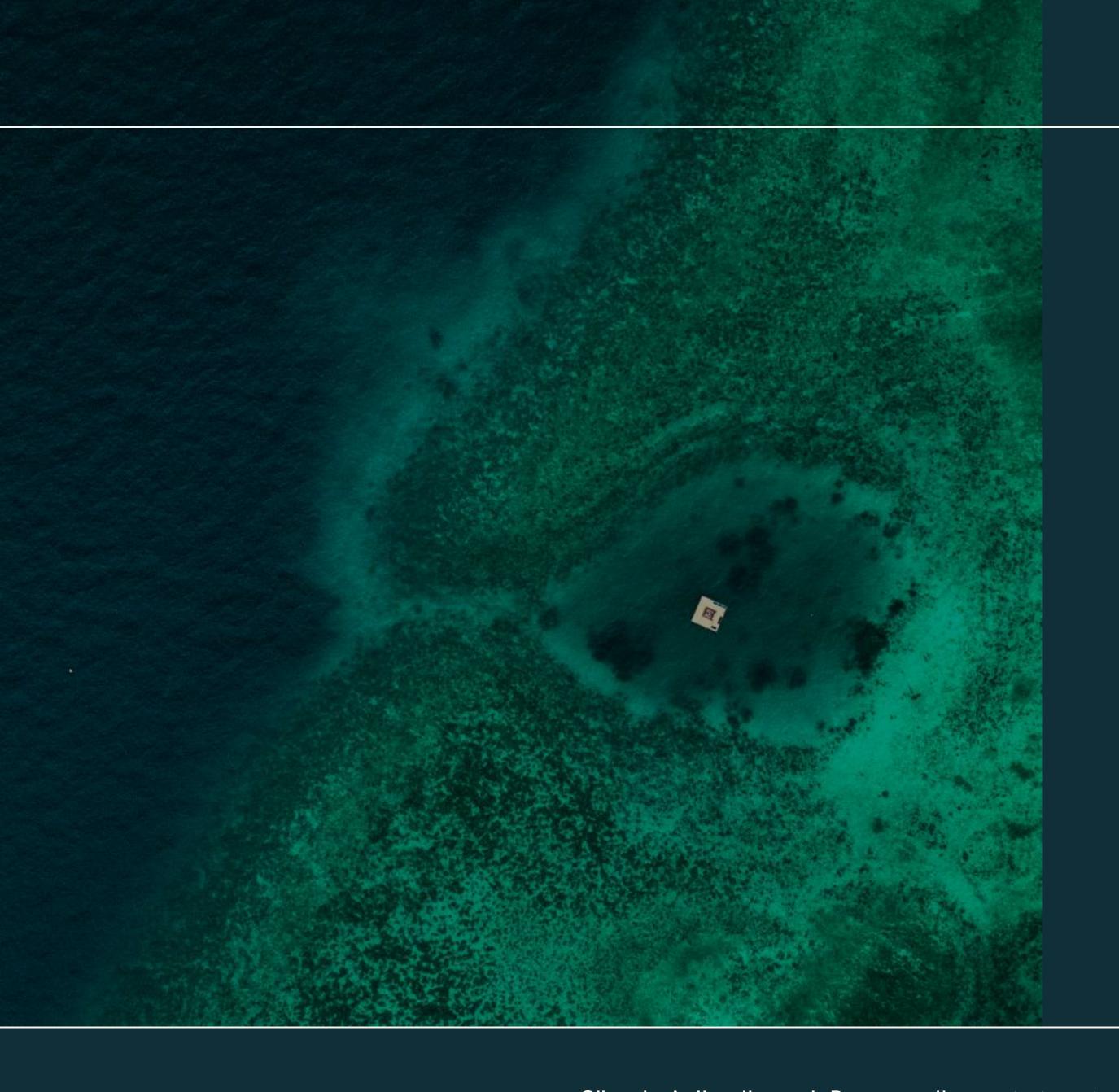
Climate action in the tourism sector that aligns with the Paris Agreement will require significant investment in the transformation of infrastructure, business models, and supply chains. The World Economic Forum estimated that over half of global GDP, US $44 trillion, is potentially threatened by loss of nature and biodiversity, while the transition to a nature-positive economy could create 395 million jobs by 2030.[64,65] Global investments in NbS already surpassed US $133 billion in 2020—only 14% of which came from private finance.[16]

According to the United Nations Environment Programme (UNEP), investment must at least triple to meet global climate and sustainability goals. Biodiversity and carbon financing linked to NbS could be a key strategy for tourism

businesses as they seek diversified and sustainable funding.[33] NbS can also serve as localized carbon offsets that enable tourism businesses to decrease their net impacts while they implement changes required for direct reductions, or to compensate for unavoidable emissions.

As travel businesses develop climate action plans, a key step is to identify *how the business will adapt and improve resilience to the climate hazards* that will likely impact their destination now and in future climate scenarios. NbS can serve as part of travel businesses' adaptation strategies for climate vulnerabilities—for example, restoring mangroves or planting living coral walls could provide a hotel future protection against storm surges.
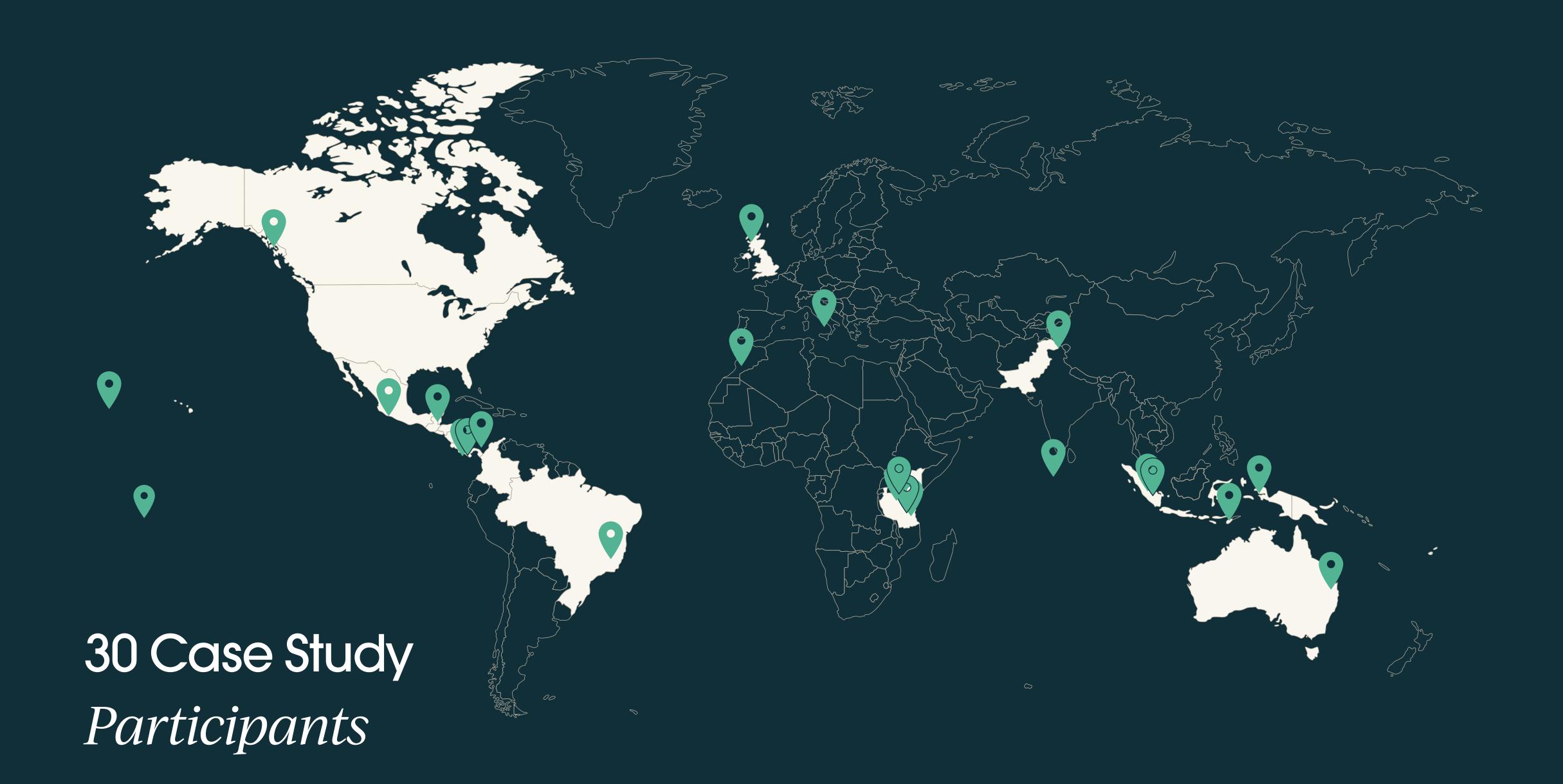
Lastly, *NbS can serve as nodes of collaboration between travel businesses and destinations.* Protecting natural and social assets within tourism destinations is critical for the health and longevity of most travel businesses. Travelers come to see and experience a place, but most people love the experience of travel because of the *deep connections they form with unique culture and nature*. NbS simultaneously support the preservation of these destination assets while centering community needs—they require that businesses and communities work together to make choices around what is essential to protect and restore, while acknowledging those resources that might not be maintained in their current state due the changing climate.[34,35]

The Framework presented below is the result of a year-long academic research conducted via The University of Edinburgh with support from Solimar International, Regenerative Travel, and The Long Run. The IUCN NbS Global Standard was adapted to a tourism context to develop survey and interview questions based on *8 criteria and 28 indicators; a total of 30 tourism businesses from across the globe* were assessed using the standard. The results demonstrate how travel businesses have taken measurable climate action by embracing NbS and regenerative business practices. For travel businesses seeking further guidance on how to implement NbS throughout their work, the IUCN NbS Self-Assessment Tool provides a useful guide.

Based on the global survey, five principles for developing tourism initiatives that generate rigorous Nature-based Solutions were identified. Each principle also highlights its linkages to the UN SDGs, demonstrating how nature underpins the SDG framework.

For more details, see the "Research Methodology and Aims" section at the end of the report.

30 Case Study
Participants

5 Principles for Developing *Effective* Nature - based Solutions in the Tourism Sector

Effective Nature-based Solutions in Tourism

PRINCIPLE 1
1 Center Community
Needs First

PRINCIPLE 2
2 Improve Ecosystem
Integrity and Biodiversity

PRINCIPLE 3
3 Embrace Diverse and
Inclusive Business Models

PRINCIPLE 4
4 Develop Transparent Governance
*Structures Accountable to All
Stakeholders*

PRINCIPLE 5
5 Enhance *Regenerative Partnerships*

PRINCIPLE 1
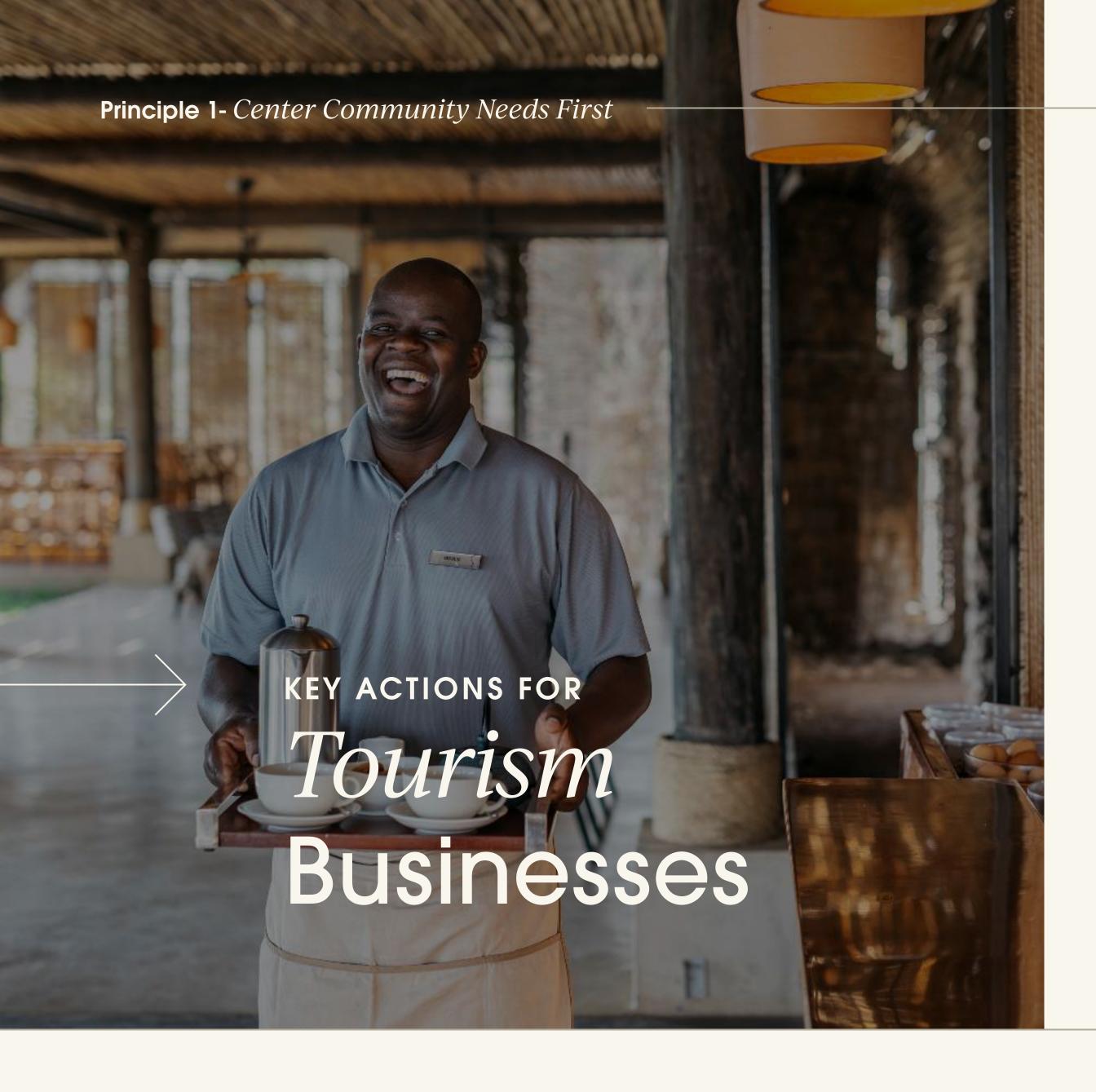
Center Community
Needs First

To some, it may be counterintuitive that the first principle for creating Nature-based Solutions through tourism does not focus on the natural world. But effective conservation and climate initiatives are built on a foundation that acknowledges and embraces local context. Assuming what a community needs limits the impact and longevity of nature conservation. Engaging local people provides vital context about how they view the natural world and how it has changed.

Centering community needs means the initiative *recognizes societal challenges, understands potential trade-offs embodied in the protection of nature, and works to maximize benefits for local people including those most marginalized.*

KEY ACTIONS FOR
Tourism
Businesses

> *Understand and document societal challenges, prioritizing the most pressing needs for community stakeholders.*

Nature-based Solutions are much more than projects that draw carbon from the atmosphere—they help communities adapt to the inevitable impacts that will arise due to a changing climate. This requires working closely with communities to identify areas of resilience and vulnerability, and then shaping your initiative around this local context. Specific cultural and environmental attributes make up your tourism destination's sense of place and should be valued within your initiative and business.

Developing NbS should begin with the determination of what protection, management, and restoration of nature means for that community. *How can the initiative account for community realities and support collective growth?*[36] Several of the businesses surveyed described themselves as a facilitator of resources, training, education, or capacity building to help communities realize *"a collective path forward."* Portia Hart, founder of hotel Blue Apple Beach, noted "It's not about asking 'How do we solve it?' but instead 'How can we help you solve it?'"

A process should be established so that stakeholders can help the tourism business assess which solutions are most vital, and how tourism could be a catalyst for implementing them. In many cases, this might *require an understanding of the value of nature that goes beyond the economic.* Acknowledging issues and benefits that can be difficult to measure early on will later ensure intrinsic values such as the traditional significance of a forest or tree, the beauty of whale song, or other "priceless" aspects of nature are considered.[26] *Successful NbS are deeply place-based, grounded in the wisdom and values of local people, and are developed and managed based on two-way knowledge exchanges and trust with local communities.*[37,38]

Chole Mjini
Treehouse Lodge

TANZANIA

In Tanzania in 1993, just one of 960 residents on Mafia Island, where hotel Chole Mjini was founded, had ever finished primary school, with most young children anemic and malnourished. *Owners Anne and Jean De Villiers created Chole Mjini* to protect and share the unque marine wildlife that lived around the island, but from the start understood that any initiative to protect and save wildlife would fail without first addressing the needs of the local community.

By mapping and understanding Indegenous technical knowledge through meetings and consultations with community stakeholders and village elders, *Chole Mjini identified ways in which their nature-focused tourism business operation could help to address education and health challenges on the island.* Chole Mjini has been able to use the revenue from its visitors to put over 100 students through high school and fund 20 univeristy graduates while provideing full-time employment to 45 people from the local village.

> *Adopt a living systems approach that recognizes complex interactions between the economy, society, and ecosystems within the destination.*

Embracing a "living systems" approach — where decisions about your travel business acknowledge and are informed by the political, cultural, and economic systems that surround it—helps to identify potential challenges that will affect implementation of your NbS or even unexpected benefits.[39,40] These insights will help you shape a more effective initiative.

Although tourism businesses are dependent on the wider success of the surrounding destination, many operators found it challenging to identify negative social or environmental impacts or contribute to positive regeneration of the entire destination. Borana Conservancy in Kenya recognized that in many places the borders of private conservancies and other land is obvious, because *"the grass is literally greener on the other side of the fence."* To avoid this, they have sought to include their neighbors in all decision making so that plans could be developed for the entire area and the conservancy did not exist as an island surrounded by degraded land.

ony Massu Photography

Misool Resort

INDONESIA

From its establishment in 2005, Misool Eco Resort founders Marit and Andrew Miners recognized that wider community engagement would be necessary to creating a flourishing 300,000 acre marine reserve, home to over 75% of the world's known coral species. *Key to this would be not just reducing fishing pressure on the reef, but understanding and responding to complex societal dynamics such as the role of women as income earners.*

Established in 2017, the Famembefi Cooperative is an alternative livelihoods programme that supports Misool's local community in developing small-scale fruit orchards and vegetable gardens and producing value-added products for resale. *Called Koperasi Femembefi in the local Misool language, the name translates roughly as "to look after one another."* Fruits and vegetables from the organic gardens are processed to make consumer goods such as dried banana and taro chips. This cooperative has given opportunities for community members to manage their own small business and produce products that are sold locally (including to Misool Resort). It took time and dedication for Misool Resort to find a model for engaging local women in activities and employment the women felt suited their lives and culture. To date, Koperasi Famembefi's most active members have been local Papuan women, ultimately improving the local economy while simultaneously reducing fishing pressure and empowering Papuan women.

Document changes and trade-offs in human well-being outcomes as a result of tourism interventions.

Regeneration is a journey, not a destination. At every stage of this journey, hard choices will be made, ideally through a transparent and intentional discussion with stakeholders. There are rarely "win-win" solutions where humans and nature benefit in perfect harmony—trade-offs must occur.

Travel businesses can help make these trade-offs explicit to stakeholders by monitoring and reporting on changes in human wellbeing, nature, and climate outcomes that result from business interventions. For small businesses, where the measurement and monitoring of social, environmental, and climate impacts might be deprioritized due to limited resources, there are an increasing number of resources to support this essential work. Utilizing global frameworks such as the UN Sustainable Development Goals, Global Sustainable Tourism Criteria, B Corp Certification or benefit corporation legal framework, can help businesses assess if they are addressing societal challenges, and what trade-offs occur in the process.

PRINCIPLE 2
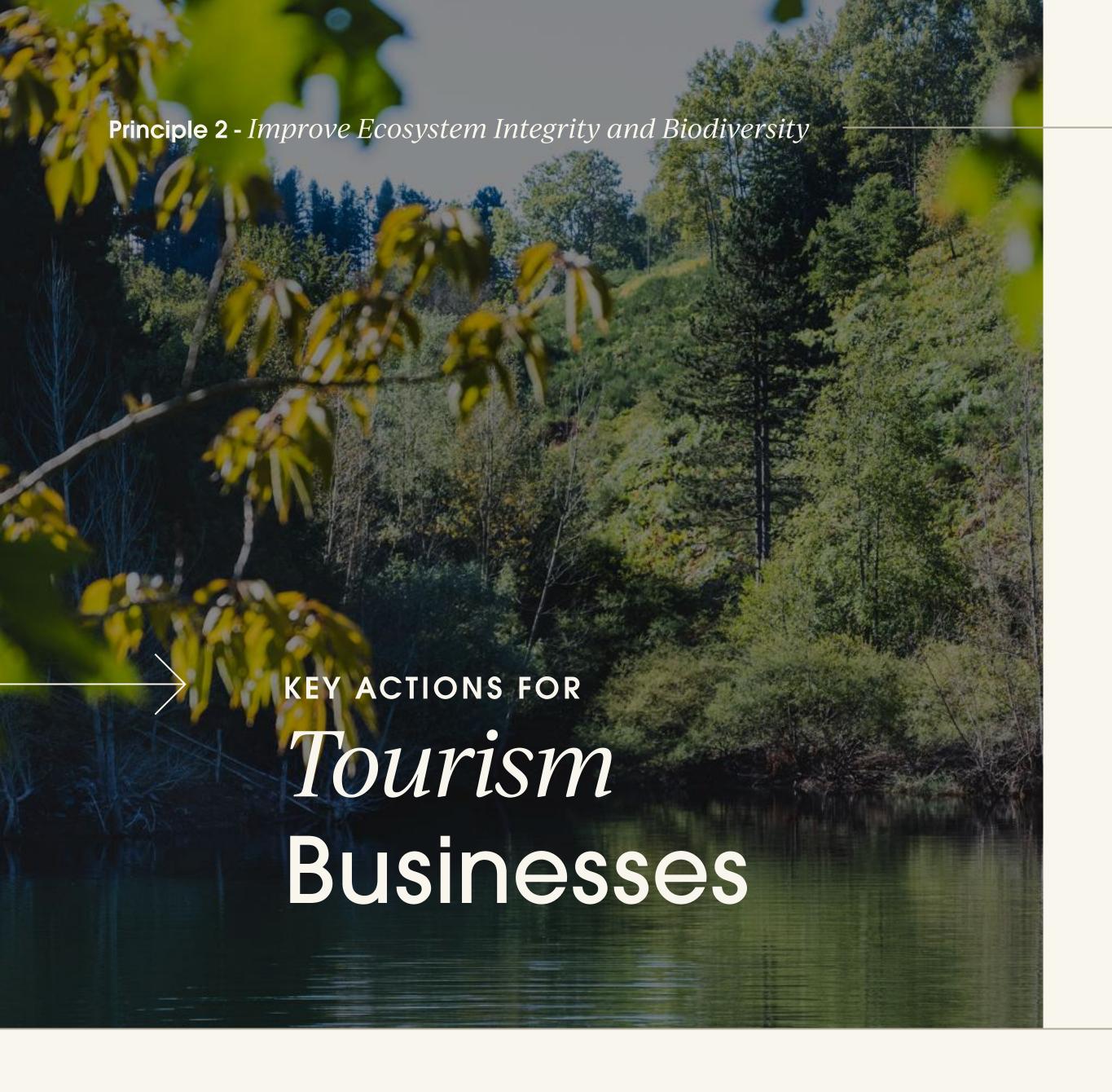
Improve Ecosystem
Integrity and Biodiversity

As impacts from climate change and biodiversity loss intensify, it will become increasingly important for travel businesses to invest in the ecosystems on which they depend. This requires shifting towards *"pro-biodiversity"* business models and initiatives, in which businesses directly monitor environmental impacts from their business and invest in restoration and protection of ecosystems. Governance systems will need to be transitioned *to value social and environmental factors alongside the economic.* And business structures—including staffing and capacity building—should reflect the business' prioritization of ecosystem integrity and biodiversity.

Investments in Nature-based Solutions are only effective if that nature remains healthy in the face of human and climate impacts, which requires dedicated focus on ecosystem integrity over time.

KEY ACTIONS FOR

Tourism
Businesses

> *Monitor ecosystem changes over time and adapt as needed.*

Evidence from the pandemic has revealed how the most effective and resilient protected areas were those with robust management plans, particularly those with high visitation.[41] Monitoring is an essential component of effective management, and evidence over the course of the pandemic demonstrated how robust monitoring allowed destinations to make decisions amid turbulence and uncertainty. And increasingly, investors and boards are requesting that businesses provide Environmental, Social, and Governance (ESG) metrics. Many coalitions in the travel industry now require businesses to engage in monitoring through data collection and certifications such as the Global Sustainable Tourism Council (GSTC), Green Destinations, B Corp, or Earth Check that require reporting on biodiversity outcomes. Although many small businesses might not have integrated ESG metrics and reporting into their business at the outset, adopting measurement and monitoring systems can be done at any point in operations and will become increasingly important as scrutiny around the rigor of sustainability and ESG grows.

Several businesses noted how they were *challenged with monitoring and evaluating ecosystem changes over time,* struggling to implement adaptive management practices should undesirable outcomes arise.

Environmental impacts associated directly with the business—energy, waste, water—can be implemented via internal management. But monitoring ecosystem changes at a broader scale—both improvements made through your business' investments and impacts of tourists on natural capital—require collaboration at the destination level. Partnerships with community groups, NGOs, government agencies, or partner universities can enable rigorous and sustainable monitoring efforts that are rooted in local context.

With monitoring in place, businesses can create ecosystem management approaches that are adaptive to evolving societal challenges. For example, following the Australian bushfires in 2019, Binna Burra Eco Lodge revised how it invested in and measured conservation, *shifting from a focus on biodiversity restoration to those actions that would most acutely address the realities of climate change and bushfires.* Local businesses are also more likely to see when tourism is having a negative impact on local people and places, enabling them to rectify issues before overtourism impacts become irreversible.

Chumbe Island Coral Park

TANZANIA

In the early 1990s, the marine environment in Zanzibar was under increasing pressure from overexploitation and destructive fishing practices, mostly driven by a lack of awareness and understanding of the importance of healthy coral reefs for marine biodiversity, coastal protection, fisheries and food security. *Chumbe Island Coral Park was founded as an "Educational Marine Park"* - a private social investment, built around three core pillars of conservation, education and ecotourism, and managed in close partnership with local fishing villages.

Thirty years later, the Chumbe Reef Sanctuary is host to one of the healthiest and most productive reefs in Zanzibar with up to 80% live hard coral cover, 514 fish species and 59 hard coral genera, over 90% of all known species in the region. The reef meets globally accredited 'pristine' standards, and monitoring has documented exceptional increases in fish biomass. *Tagged fish studies have shown that conservation within the Sanctuary is providing broader benefits - grown fish offspring have re-stocked neighboring fishing grounds many kilometers outside the Sanctuary borders.* As nearshore fisheries are facing crisis across Zanzibar due to overexploitation, Chumbe's re-stocking services are increasingly essential for the livelihoods and food security of the region's coastal communities.

> ## *View tourism as a tool to finance and facilitate ecosystem restoration and protection.*

Travel businesses can be catalysts for deploying Nature-based Solutions at scale, utilizing tourism to finance and/or incentivize ecosystem protection and restoration. Shifting into a regenerative mindset and viewing the travel business as interconnected and interdependent with nature, seeing itself as a *Nature-based Solution, can help entrepreneurs see and implement opportunities that enable nature, communities, and their business to thrive.*

In many parts of the world, tourism has become a significant source of revenue for the protection, management, and restoration of nature. *The platform Linking Tourism & Conservation estimates that just 0.5% of the annual global tourism turnover would be needed to fund a complete network of protected areas.*[42] These investments can be direct or indirect. Some travel businesses are enabling Nature-based Solutions by conducting ecosystem protection and restoration efforts with their own resources;

Misool Eco Resort in Raja Ampat, a member of The Long Run, turned a shark finning camp into a shark sanctuary and increased biomass inside of its marine reserve by 250% over six years. In addition, Misool charges guests a fee to support their sister NGO, Misool Foundation, which conducts manta ray research, recycling programs, education, and capacity building across Indonesia.

Even those travel businesses that are not directly managing land or sea have a role to play. Businesses can make ecosystem investments by developing related tourism experiences, purchasing products, earmarking a portion of each bill for conservation, or providing needed support and capacity building. Blue Apple Beach in Colombia, for example, established a local non-profit that employs five people full time, prioritizing those who have been traditional excluded from the tourism economy, to provide recycling for 15 businesses in the city.

BUSINESS SPOTLIGHT

Tranquilo Bay
Eco Adventure Lodge

PANAMA

Hotel Tranquilo Bay exists to help conserve and regenerate the biodiversity of the Bocas del Toro archipelago on Panama's Caribbean coast, increasing ecosystem connectivity over time. The property's multi-pronged business model is structured to provide the resources needed to grow the amount of land under direct management by the hotel has grown from 19 to 200 acres, and the team has also helped the local indigenous community create an over 500-acre municipal reserve that serves as a buffer zone to the national marine park. Bastimentos National Marine Park protects close to 33,000 acres - around 4,000 acres of land and 29,000 acres of Carribean Sea. *10% of profits from hotel stays are invested in land conservation management,* and the Tranquilo Bay staff collaborate with national and international agencies to better understand and preserve the region's unique flora and fauna. Recent efforts to monitor the hotel's social and environmental impacts have revealed that 89% of its profits stay within Panama, and 60% in Bocas del Toro Province where it is located.

Engage residents, visitors, and employees in ecosystem and biodiversity work through educational opportunities, citizen science, and sharing lessons learned.

Travel businesses should offer an avenue for participatory public engagement in Nature-based Solutions. Businesses that invest in restoration efforts, educational activities and improved stewardship of local ecosystems increase the capacity for long-term and low-cost ecosystem monitoring.[11] This can include volunteer coral, mangrove, or forest restoration; citizen science habitat monitoring and research; or skill exchange workshops with local communities and highly skilled volunteers. Globally, citizen science programs have engaged millions of people and provided billions of dollars in contributions towards monitoring and conservation programs.[44]

Citizen science programs offer an avenue for participatory public engagement in restoration efforts, enhanced by educational activities and improved stewardship of local ecosystems.[11] Six Senses Laamu Atoll, for example, is one of the only resorts in the Maldives that actively contributes data to the Maldives National Marine Research Institute using citizen science data collection on every dive; this data helped Laamu Atoll establish its own MPA and gain recent recognition as a Mission Blue Hope Spot. As communities witness the outcomes of tourism interventions, they are more likely to support these efforts and share positive experiences with the surrounding community, becoming — in the words of one of the surveyed businesses — *"conservation ambassadors".* This deep engagement of residents, visitors and employees through education initiatives can profoundly increase the viability of NbS.

Six Senses Laamu

MALDIVES

In 2018, Six Senses Laamu formed the Maldives Underwater Initiative (MUI) to unite the efforts of the resort and their three partner NGOs- The Manta Trust, Blue Marine Foundation and The Olive Ridley Project- under one banner. *The MUI team pursues marine conservation goals, through research, guest education and community outreach, with the overarching aim of protecting Laamu's natural resources.* MUI is funded by Six Senses' Sustainability Fund. Over the years, they have gathered an extensive data set on the biodiversity of Laamu atoll which has influenced fisheries policies, resulted in 89,600 hectares (the entire atoll) to be declared as a Mission Blue Hope Spot, and are being used to guide management plans for six Marine Protected Areas within the Atoll. Since 2019, Six Senses guests have participated in more than 30,000 activities linked to MUI's work, and 195 children have been certified through MUI's Junior Marine Biology Program. Within Laamu's local community, Six Senses has donated 97 water filters, eliminating the need for approximately six million plastic water bottles every year, and have documented 3,000 educational touchpoints on the importance of marine protection with local school children, teachers and community members.
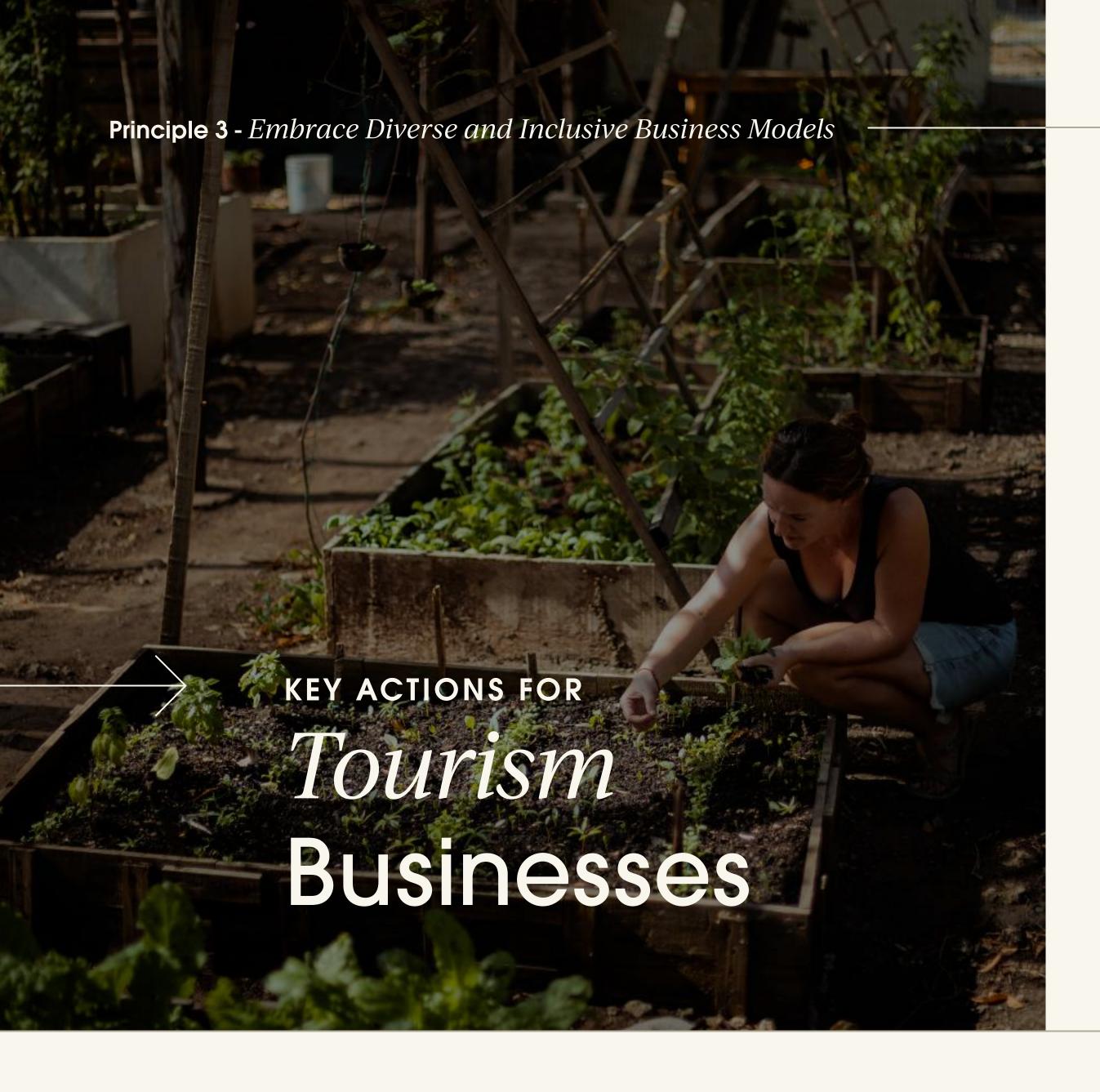
PRINCIPLE 3

Embrace Diverse and
Inclusive Business Models

The greater the diversity of a natural ecosystem, the better it withstands external pressure or sudden shocks — a vibrant reef that is home to hundreds of species of coral and fish bounces back from a bleaching event faster than a less diverse reef.[45–49] There is increasing evidence that diversity of business strategies also improves enterprise resilience, particularly during unpredictable shocks and crises like those caused by the COVID-19 pandemic.[23,50] Business health and long-term viability is as critical as its foundations in nature and community. This principle focuses on the how of implementing Nature-based Solutions in tourism, *arguing that diversity—of funding streams, employment opportunities, and marketing channels —are all essential to successfully scaling NbS,* in the same way that biodiversity is to the implementation and success of NbS.
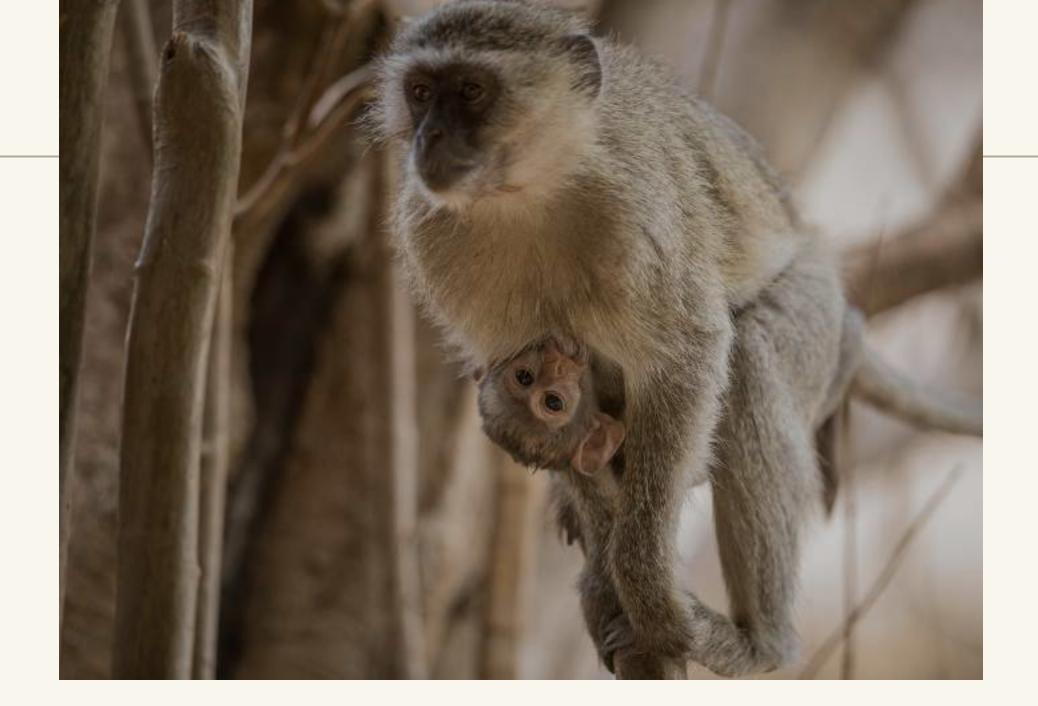
KEY ACTIONS FOR
Tourism
Businesses

Improve the viability of your business and Nature-based Solution by diversifying revenue streams.

During the COVID-19 pandemic, many travel businesses remained viable by exploring creative new revenue opportunities and pivoting their business to appeal to new audiences. *This resilience, flexibility, and ability to co-evolve over time are essential tenets of regenerative business and should be closely considered as Nature-based Solutions are developed.[33]* Many of the travel businesses surveyed created effective NbS by embracing the possibility of diversified revenue—for example, a permaculture project could be shaped to measurably capture carbon, taking advantage of carbon markets, and also to provide food for hotel guests, a typical expense in hospitality, or to create new value-added products to sell in the hotel store or spa. These interventions also often had intangible benefits—reducing food miles and the hotel's carbon footprint, preserving local food traditions or agricultural practices, and creating jobs for traditionally excluded populations. *These regenerative business models often serve as catalysts of business development—both formal and informal—in surrounding communities.*

Global markets such as the carbon, biodiversity, and impact finance are providing new tools to fund and transform business operations at every scale. Generally this funding is earmarked for work where there is a credible threat to an ecosystem, requiring protection, or a degraded ecosystem that can be restored. Increasingly, funders are requiring projects in their portfolio be designed with both a *"community co-benefit"* and a long-term on the ground partner. Tourism businesses are well-positioned to develop impact projects with social and environmental benefits, and *The Effective Nature-based Solutions in Tourism framework is meant to facilitate successful project development.* Often, these projects will expand beyond the boundaries of the tourism operation and tourism businesses are catalyzing broader community access to carbon or biodiversity financing. However, there is a clear need for institutional and private financiers to better recognize this opportunity and provide related support.

Retain and support talent through enhanced training and employment opportunities.

Hospitality is a people-focused business — a collaborative team composed of happy and engaged workers is essential to business viability.

Almost every surveyed businesses noted that holistic people-focused training programs are key to staff retention and the overall health of their business—they on average retained 87.5% of their staff throughout the COVID-19 pandemic. *As tourism ventures reopened, most faced worker shortages.* Those that were able to retain most of their workforce had a clear advantage and have even found that workers who were forced to diversify into different roles have enhanced their ability to perform their core job. The Brando in French Polynesia noted that after their guides spent time supporting insect surveys and learning about local invasive species eradication programs, they became more knowledgeable about and interested in different aspects of the place, which has materially improved the experience they deliver to travelers.

Hamanasi Adventure and Dive Resort

BELIZE

Hamanasi was established in 2000 in a small fishing village of Hopkins, Belize. Owners Dave and Dana Krauskopf recognized the importance of having skilled and happy employees from the outset. Their employee training programs have focused on building essential hospitality skills in addition to more holistic well-being. They host a holistic wellness program for their employees once a month, including hosting the Belize Family Life Association for basic health checks and education around a monthly topic, including domestic violence, HIV, heart health, nutrition, and mental health. Mental health in particular has a huge stigma in Belize, and Hamanasi's programs have empowered employees to seek help when needed. There is also no shortage of fun: from company 5k runs to volleyball tournaments, Hamanasi takes a holistic view of employee training and well-being. In the words of founder Dana Krauskopf: *"One of our core values is that we want employees that are so happy and skilled they are able to go anywhere else and work, but they choose to stay with us."*

> *Embrace inclusivity and diversity in partnerships, employment, and marketing strategies.*

Material research has documented the importance of diversity and inclusion for conservation outcomes.[51–55] Diverse viewpoints enable a nuanced understanding of the challenges and opportunities NbS seek to address. It is also well-documented that tourism can serve as a driver of sustainable and inclusive growth—providing diverse employment opportunities, catalyzing small business growth, and supporting the protection of cultural and natural assets—if well governed.[56] To achieve this, local people must be engaged in participatory planning, policies must be built into the business that protect social and natural capital, and a value chain analysis should be conducted to determine how to maximize the flow of benefits locally, especially to those traditionally excluded from economic opportunities. Policies must be developed based on local context—which communities are generally excluded from tourism and the tourism supply chain,

how can our business change this, and what resources do we have internally that could be used to support our goals? These questions should guide stakeholder engagement, data collection, and the development of related policies.

Research has also shown that businesses that create policies and practices that promote social equity tend to have a more resilient workforce, strong internal culture, enhanced reputation, and overall stronger value proposition.[33,57,58] How can businesses look beyond the typical human resources pool and shape opportunities to include those from underrepresented and underconsidered backgrounds? For example, Borana Conservancy in Kenya hosted a ranger training program for women, a profession once exclusively held by men, to grow their hiring pool. Operations at their tannery have also been developed such that people with disabilities can more easily work as tailors and seamstresses.

Resilience can also arise from diversifying visitor target markets by shifting marketing efforts towards domestic tourists and demographic groups outside of typically Western, white, and wealthy visitors. Inclusion, equity, and

diversity are not just essential principles to guide internal human resource management or community engagement, but for visitor engagement as well. Traditionally, sustainable tourism has been marketed to a very niche segment of the population. To attract more people to travel experiences that are regenerative, businesses should consider which audiences likely are engaged (or not) via their marketing, partnerships, and product design. Developing operations and marketing that serves and speaks to a diversity of audiences is not only good business — *it is essential to building equity in the travel industry and local communities.*
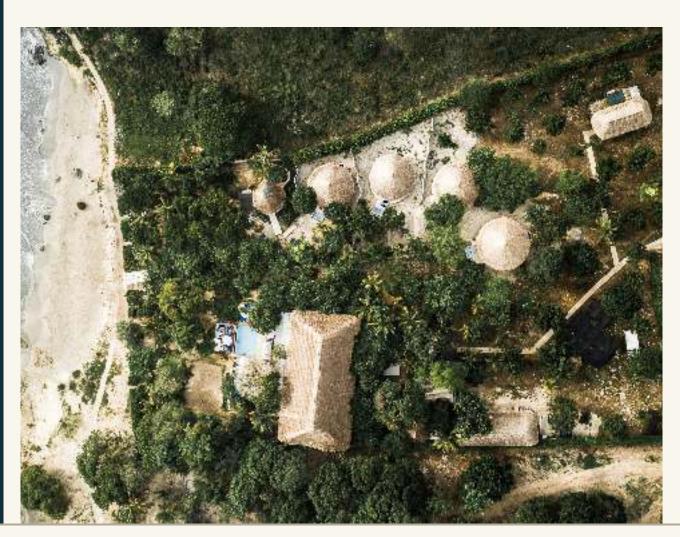
Blue Apple Beach Club

COLOMBIA

Blue Apple Beach's hotel and beach club was founded to provide good food and music on the beach, and to attract a diverse group of interesting people as both guests and employees. A core value that guides all business activities is to *use the business as a means to address social inequality.*

Within the business, the company has worked hard to attract employees from a range of backgrounds and provide the needed support so that those from traditionally excluded groups—including women, members of the LGBTQ+ community, and those with little or atriditional education—can thrive in a hospitality setting.

The hotel makes a concerted effort to promote its experiences to travelers traditionally sidelined by tourism marketing, including domestic tourists and visitors of color. During the disruptions caused to international travel during the pandemic, this inclusive approach paid dividends as local Colombians continued to support the hotel. As founder Portia Hart noted: *"The fact is, a lot of sustainable hospitality thinks that poor people aren't interested, or Black people aren't interested, or the gay community isn't interested. And in reality they're just excluded. They're not marketed to, and they don't see themselves in most company's advertising."*
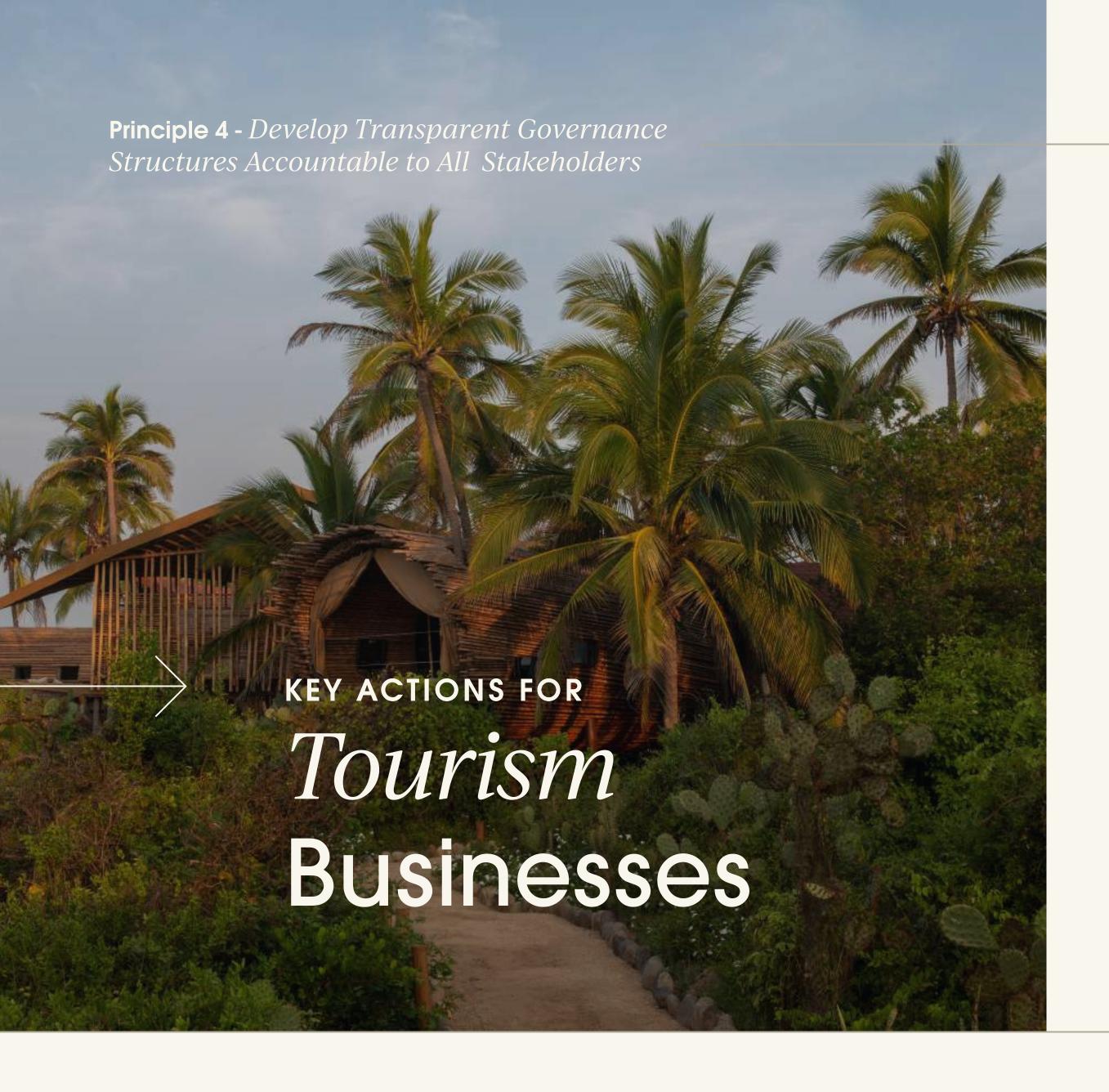
Develop Transparent Governance *Structures Accountable to All Stakeholders*

Tourism and conservation initiatives are implemented, managed, and governed by specific actors. In many cases, these actors hold greater power, wealth, and agency than the average community member. Addressing this power imbalance requires new governance structures that prioritize transparency, acknowledge social and planetary boundaries, and rebalance agency. Structuring the business to account for a diversity of perspectives, especially at the local level, enables informed decision making that understands possible impacts and outcomes. This includes transitioning destination management to models that ensure tourism benefits residents, not just visitors.

KEY ACTIONS FOR

Tourism
Businesses

> *Continuously engage stakeholders and establish processes for soliciting and incorporating community feedback.*

The travel businesses surveyed in this study have been operating for an average of 23 years. There was consensus that the success of their businesses and Nature-based Solutions was rooted in an ability to continuously coevolve with their clients, employees, communities, and ecosystems over time. *Playa Viva, a hotel based in Mexico, formalized this stakeholder engagement from the start, and noted that continuously taking stock of where stakeholders' common values and dreams align has been central to the business' governance.*

Few of the surveyed travel businesses had formalized agreements governing community engagement and conflict resolution. But the survey established that investing in structured communication pathways and maintaining them over time is a proven mechanism for maintaining effective Nature-based Solutions.

Principle 4 - *Develop Transparent Governance Structures Accountable to All Stakeholders*

It can be difficult for a small business to dedicate resources to collaborative community governance, but often there are one or more staff members who are already present in the local spaces where engagement can occur, and overseeing community partnership can be incredibly empowering and validating for these staff members. Surveyed travel businesses noted that *they have developed these relationships through village councils, by participating in local Destination Management Organizations, appointing community liaison officers, and creating long-term consultation processes.* Especially for NbS that rely on the protection and management of nature, these informal community relationships can strengthen enforcement, with community members themselves acting against encroachment on conservation areas.

BUSINESS SPOTLIGHT

Playa Viva

—————

MEXICO

Before designing and building the hotel, Playa Viva's founders conducted a comprehensive "History of Place" in Juluchuca. Town elders and community leaders were interviewed and asked, *"What are your hopes, dreams and aspirations for your community?"* Stakeholders revealed that the community had lost much of the abundance that existed in the past, that from their perspective the town was "dying," and that one of their biggest challenges was the large number of young people leaving to find opportunity elsewhere.

Creating jobs and opportunity that would not just keep the community intact, but help it to thrive, became a central element of the hotel's business strategy and deeply embedded in the company's values. Business initiatives like hosting long-stay volunteers and developing community programs were initiated to support this guiding principle. *Coevolution is another important principle that guides Playa Viva* — the team recognizes the responsibility and opportunity of being part of the community and regularly engages community members to co-define the future of Juluchuca, building back the abundance that once thrived locally.
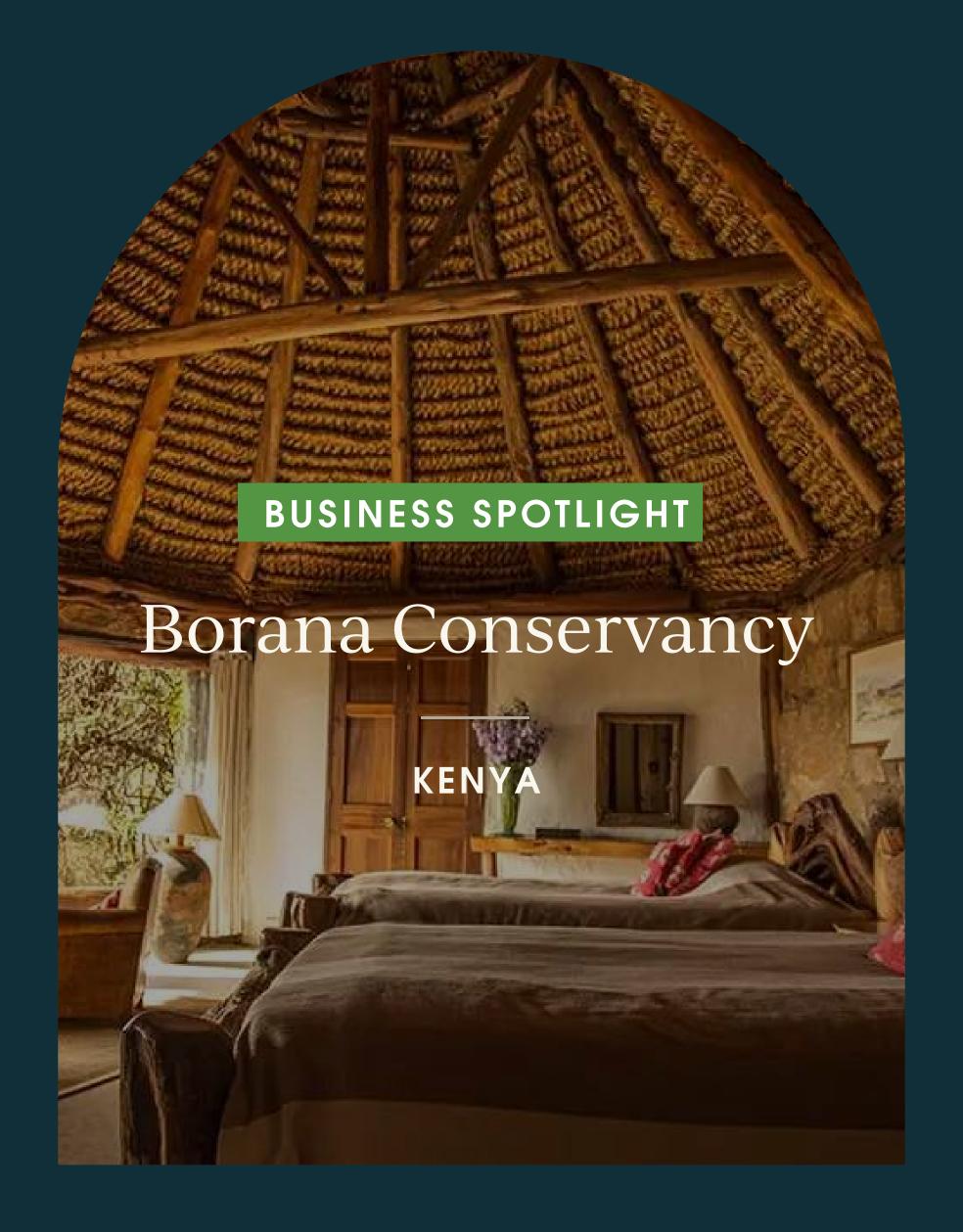
> ## Respect and uphold indigenous and community rights to land and resources.

In some destinations, tourism has fueled conflict over land rights and resources. The establishment of travel businesses and growth of tourism can also exacerbate already-existing inequities like gentrification, increasing housing costs, and displacement. *Regenerative businesses work to understand and actively heal populations impacted by these systemic problems.* Practices that deteriorate community access to resources or land ownership should be outright rejected.

This can be difficult for travel businesses to navigate, especially if cultural values or community practices contribute to the degradation of nature or climate. But engaging in these tough conversations is essential to producing outcomes that foster the success of NbS. For instance, Chumbe Island Coral Park in Zanzibar established an advisory committee composed of different representatives from fishing villages, environmental organizations, and the local community, guided by a single mission: managing the reef sanctuary.

The business reinvests 100% of profits back into conservation and education, and the model has proven effective at both regenerating the marine reserve and garnering community support. *Surveyed businesses noted that listening and demonstrating that they see the entire system—not just the tourism space—is key.*

In many places, the historic degradation of indigenous land rights means that these communities have already been greatly marginalized. In this case, efforts to recognize, acknowledge, and help formalize the rights and agency of Indigenous peoples to create their own land-use priorities, should be incorporated into the travel business and development of Nature-based Solutions.

Borana Conservancy

KENYA

Founded in 1993, Borana Lodge exists to support a 32,000-acre conservation area at the foot of Mt. Kenya, home to both Black and White Rhino and a wide variety of other endangered species. *Borana's holistic approach commits tourism, ranching, and other enterprises to building local livelihoods and protecting critical ecosystems.* The lodge and conservancy are run in collaboration with local communities, ensuring that these traditional resource users continue to benefit from the area and maintain access to their land. Local community members can bring their livestock onto Borana to manage the health of their animals and ready them for market, which has re-invested $600,000 back into the community as a result.

The Conservancy's community development officer works with seven neighborhoods bordering Borana to understand their needs, distributing a Social Enterprise Study and interviewing 350 individuals to assess how the conservancy is perceived by communities and acting upon feedback received through this process. With a rigorous local employment policy, Borana has also begun training thirteen women as rangers, a position traditionally held by men, while employing other minority or excluded groups such as those with disabilities in their tannery and carpentry. They have also helped a neighboring community run a conservancy to set up a lodge, ensuring they can better access tourism financing that comes to the area. *As a result of these efforts and a large anti-poaching team, they have not had a poaching incident in over eight years.*

Ensure communities have access to vital natural and cultural assets.

Nature-based Solutions should be accessible to all local community members and residents of the broader region or country. This likely requires the tourism business develop policies and programs that foster their inclusion in and appreciation of that natural place. Surveyed travel businesses developed a wide range of programs to address these needs—from sponsoring school groups, to enabling informal employee-guest interactions as part of the travel experience, to hosting annual community cultural events and parties and creating open-access camping on nature reserves. Such activities weave the socio-ecological benefits of NbS into the existing community fabric. *Hospitality businesses, already so attentive to guest needs and experience, are well-suited to foster these interactions.*
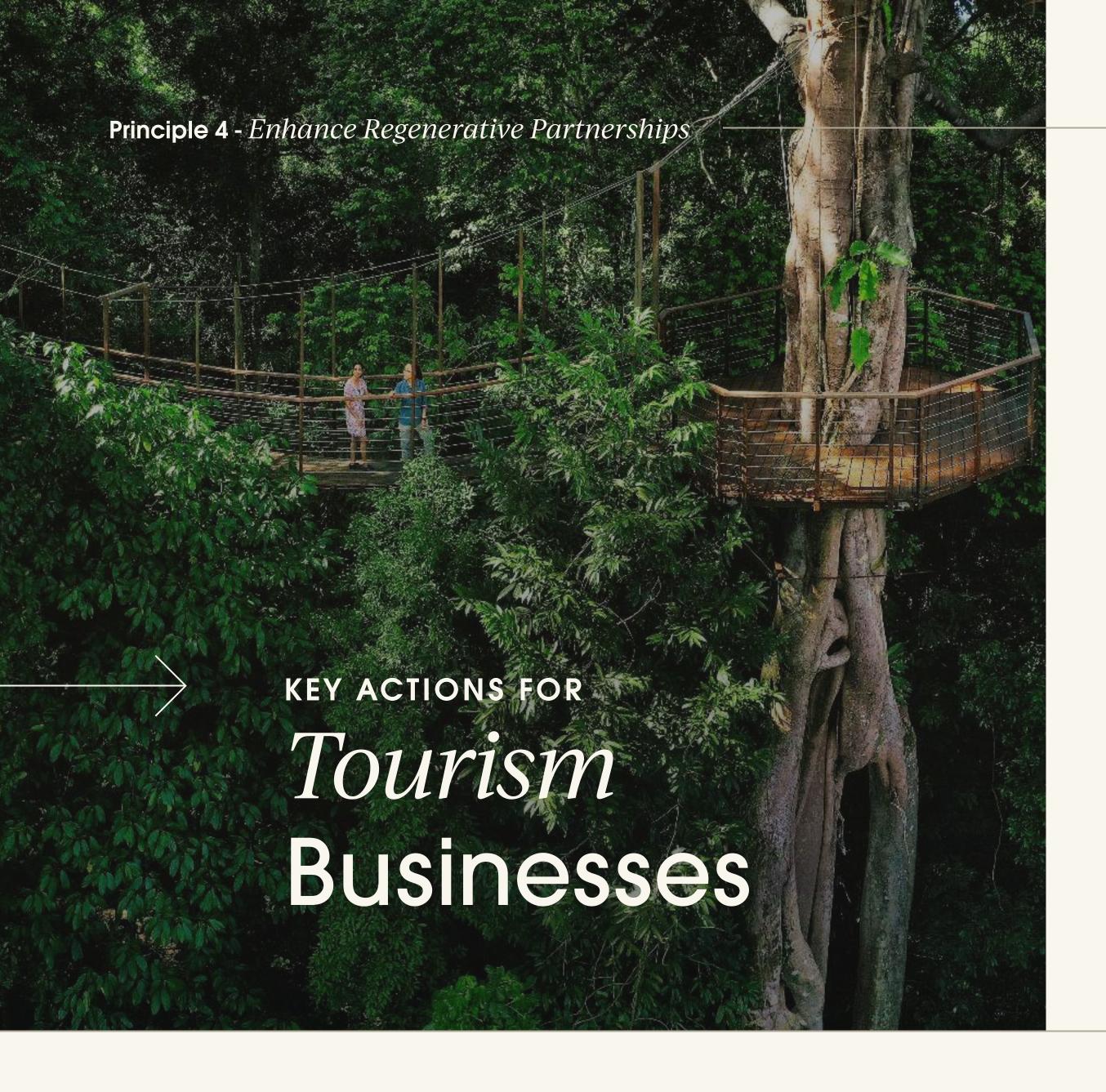
PRINCIPLE 5

Enhance
Regenerative Partnerships

Regeneration cannot occur in isolation—it requires the formation of deep and effective partnerships. There is no simple checklist for creating a successful regenerative enterprise or Nature-based Solution—the work, like nature and people, is complex and will challenge the thinking of even advanced regenerative practitioners. But through strategic partnerships, this work can leverage best practice, borrow knowledge from related fields, mainstream into national and global tourism planning, and garner investment. And most importantly, a broad group of stakeholders can claim ownership of the results. Embracing a regenerative business model means not only doing the work, but also sharing that work to amplify its impact.

KEY ACTIONS FOR
Tourism
Businesses

> *Be a bridge between communities and government to enhance social and ecological regeneration.*

The Nature-based Solutions concept is meant to spur organizations to actively address our most pressing global challenges—meeting the needs of all people within the means of the planet, creating prosperity for all, and taking action to address the climate and biodiversity crises. Tourism businesses can operate as a bridge between communities and government in protecting, managing, and restoring ecosystems. In the words of Glenn Jampol, founder of Finca Rosa Blanca, *"Businesses need to be politically involved in order to guide and steer government in the right direction."*

Several marine-based operators were essential in directing the time and resources necessary to help governments create and implement either MPAs or management plans. *Nikoi Private Island noted: "[The management plan] would not have even started [without us here]."* Grupo Rio da Prata in Brazil likewise was instrumental in working with the government to establish laws to protect the region by prohibiting fishing in the rivers, whereas rivers in regions outside of their influence remain unprotected.

Samara Private Game Reserve

SOUTH AFRICA

Samara Private Game Reserve is a 67,000-acre conservation reserve established in 1997 in the Great Karoo, which contains the Maputaland-Pondoland-Albany thicket—one of only 36 Global Biodiversity Hotspots that contains five of South Africa's nine vegetation biomes. *The business has worked to amplify their impact outside of the reserve across the 3 million adjacent acres of conserved land by collaborating with SANParks, conservation NGOs, and local communities to establish landscape-scale conservation programs and ecological cooridors.*

Samara has simultaneously committed to social and cultural regeneration in the surrounding communities. They host and support a Tracker Academy that serves as a training division of the SA College for Tourism, operating under the Peace Parks Foundation and funded by the Rupert Family Trust. The Tracker Academy aims to preserve traditional skills and indigenous knowledge of wildlife tracking, once passed for generations from father to son but now increasingly lost due to urbanization and the commercialization of the safari experience.

Partner with NGOs and government to inform management, monitoring, and reporting.

Public-private partnerships can also enable the essential data collection and monitoring required to successfully manage an NbS. Surveyed businesses identified data collection and consistent community engagement as two of the most difficult NbS best practices to enact. Collaborative networks that include NGOs and government can support travel businesses as they integrate these practices into their business and NbS.
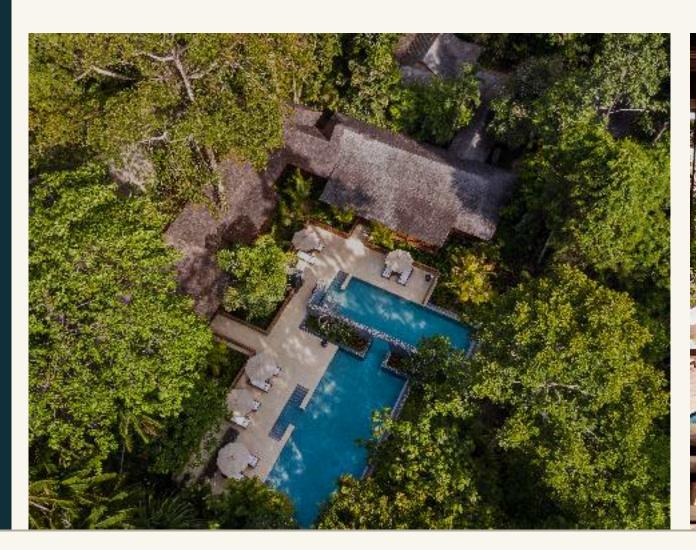
The Datai Langkawi

MALAYSIA

In September 2020, The Datai Langkawi established The Datai Pledge as a Private Trust. The vision and mission for the Trust was *developed by the resort's team of naturalists, marine biologists, and sustainability practitioners in partnership with local NGOs and social enterprises.* The Trust's four core pillars—business operations, land, sea, and youth—was informed by an assessment of business impacts on the surrounding environment and community.

A local NGO partner was identified as the key collaborator for each of the pillars. *The Fund is supported by revenue from guest stays and guest donations—since its inception, 96% of guests have contributed to the program.* The Datai Pledge has already begun work on coral restoration, reforestation, turtle conservation, cetacean research, habitat restoration, and recycling, plus youth education and visitor engagement in these initiatives. Importantly, the sister NGOs work together with the resort to inform wider policy frameworks and sustainable certification programs, scaling the work out to the surrounding community and up through transformational policy changes.
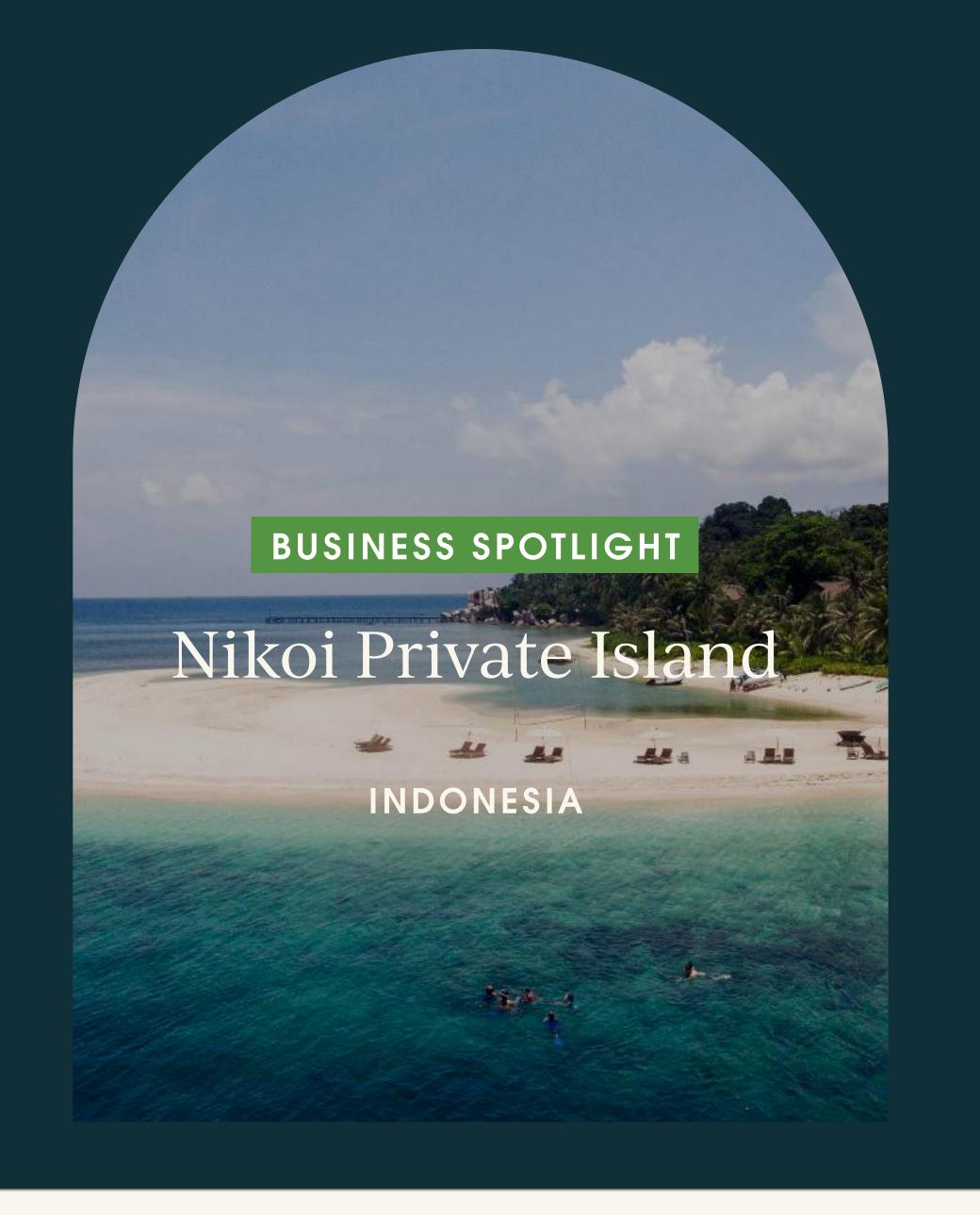
Contribute to national and global targets for human wellbeing, climate change, biodiversity and human rights to scale best practices out and up.

Finally, the shared experiences of many of these travel businesses underscore the importance of initiatives that contribute to regional, national, and global targets for the environment and human wellbeing. *Businesses noted that external reporting frameworks and tools promoted accountability, helped to establish baselines, and guided their focus.* But these tools were far more effective in collaboration, and businesses were grateful for peer-to-peer learning networks to share their success stories and common challenges.Many businesses cited their participation in peer-to-peer learning networks—such as Regenerative Travel or The Long Run—as a critical resource as they develop business strategies and seek to make positive impacts in their communities.

Nikoi Private Island

INDONESIA

Two thirds of Nikoi Island—located in the South China Sea off the cost of Bintan, Indonesia— is covered in virgin rainforest, and the coral reef surrounding the island is rich in marine life. In response to national initiatives to increase Marine Protected Areas (MPAs) across Indonesia, Nikoi Island spearheaded the work that resulted in a 138,000 hectare Marine Protected Area, which was formally gazetted by the Governor of the Riau Province in 2022.

Nikoi's work was pivotal in achieving MPA status, and created a foundational framework to support long-term monitoring and protection. Together with external donors, Nikoi funded a detailed survey and financed a specialist marine conservation foundation called Yayasan Ecology. *With support from Conservation International and Yayasan Ecology, local stakeholders were consulted, and a management plan prepared. This was a first for the area and can provide a template for other proposed neighboring MPAs.* Nikoi Private Island's strengths as a locally-based operator have been well-leveraged so that, in partnership with the local community, they can together provide the resources and time required to manage an effective MPA.

Research Methodology and Aims

This white paper was a collaborative effort between Regenerative Travel, Solimar International, and the University of Edinburgh, based upon academic research conducted in the summer of 2021. The Principle Investigator, Chloe King, worked with academic partners at the University of Edinburgh to design an academically rigorous methodology for investigating the application of NbS in a tourism context. She led the process to adapt the IUCN Global Standard for NbS *(See Figure 4)* to a tourism context following a systematic literature review, resulting in eight criteria and 28 indicators used to develop interview and survey questions for tourism businesses. Thanks to facilitation from Regenerative Travel, The Long Run, and Solimar International, Chloe identified 30 tourism operators to participate in the research. through purporsive and snowball sampling methods.
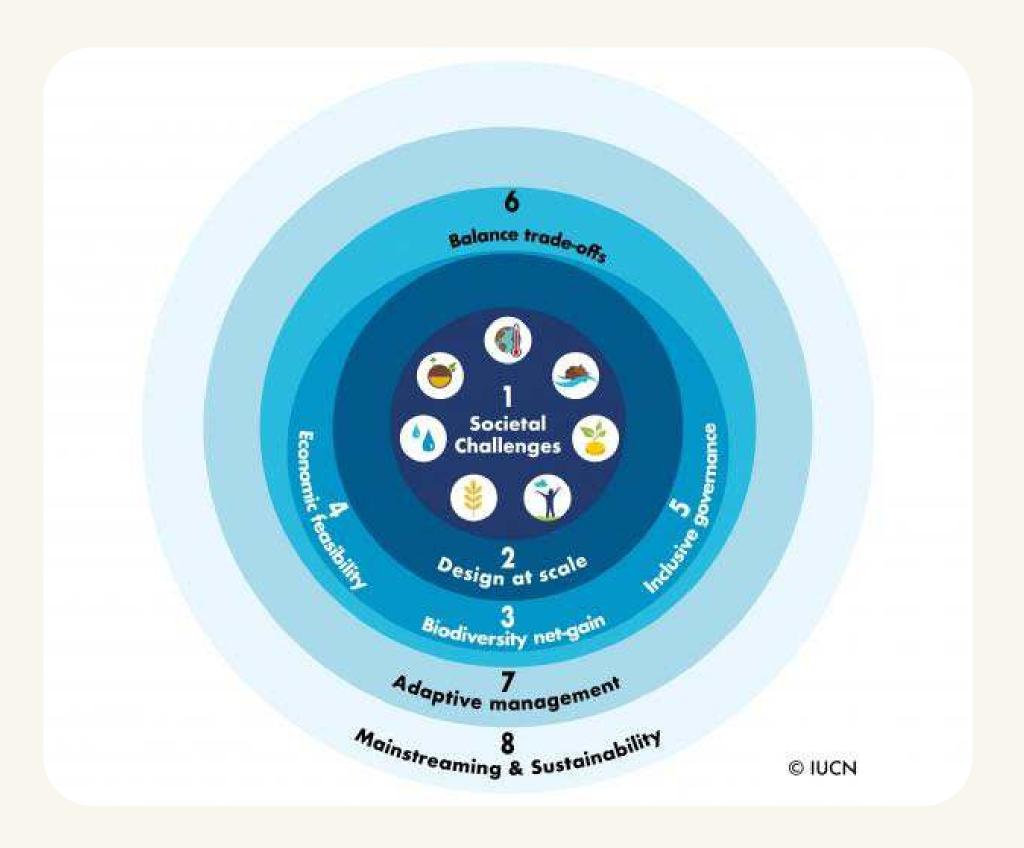

Figure 4: IUCN Global Standard for Nature-based Solutions, later adapted for a tourism context and used to evaluate 30 tourism operators around the globe

This research utilized the IUCN NbS Global Standards, including the 8 criteria and 28 indicators for implementing NbS, to develop interview and survey questions to assess the practices of 30 tourism operators around the world and analyze the qualitative data. Often, the mono-cultural lens of case study research makes it difficult to obtain cross-cultural perspectives and draw more generalized conclusions. Thus, this research focused on tracing common themes and patterns across a diverse range of case study participants, including high-end safari lodges, community-based homestay networks, small ecolodges, dive resorts, and others. A qualitative and interpretivist approach to data gathering was adopted for online surveying and semi-structured interviews. This approach has been used widely in research on tourism and its impacts in order to illuminate complex social and ecological systems as socially constructed human experiences.[59–61]

The adapted IUCN Global NbS Standard was used as a heuristic device to make sense of qualitative data, both visually mapping and manually coding responses in full in NVivo to corresponding

criteria and indicators in the adapted NbS Standard. The research employed thematic analysis using *a priori* codes based on the 8 criteria and 28 indicators of the adapted NbS framework to code interview and survey responses to corresponding NbS criteria. Survey respondents also answered a series of Likert scale-type questions, asking to rate their adherence to the 28 framework indicators on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Reponses were also triangulated against secondary data including website information, internal reports, and other publicly available data from tourism operators. Recognizing the limits of using pre-existing categories for sorting data in interpretivist qualitative research, the author attempted to empower respondents interpret, create, and tell stories as co-producers of knowledge, ultimately resulting in the Five Principles outlined above as most important and reflective of participant experience.[62,63]

About the Authors

Chloe King

c.king@solimarinternational.com

Chloe King is a marine conservationist, social scientist, and sustainable tourism consultant, with experience both implementing and academically interrogating conservation and development projects in over a dozen destinations globally. As a PADI Divemaster, Chloe led marine conservation projects in Indonesia and Timor-Leste as a Boren Scholar, Projects for Peace Fellow, and Fulbright Scholar. As the Director of Conservation & Community Development for Solimar International, she has managed numerous projects utilizing tourism as a catalyst to achieve sustainable development objectives. Chloe holds a BA in International Affairs from the George Washington University, an MSc in Marine Systems and Policy from the University of Edinburgh, and an MPhil in Conservation Leadership from the University of Cambridge as a Marshall Scholar.

O'Shannon Burns

oshannon@inochre.com

O'Shannon Burns is a senior sustainability consultant with more than 13 years' experience shaping mission-driven businesses and embedding regenerative principles into operations with a focus on travel, tourism, climate action, conservation, and environmental justice. She has collaborated with The World Bank, Disney, National Geographic, Regenerative Travel, and dozens of small businesses, entrepreneurs, and destinations on sustainability strategy and management. O'Shannon is part of Cornell University's Sustainable Tourism Asset Management Program at the SC Johnson College of Business. She holds a Master's in Sustainability from Harvard University and a BS in Physical Geography with a focus on Climate Science from Penn State.

REGENERATIVE
Travel

Regenerative Travel is a benefit corporation providing marketing and hospitality services to a community of independently owned hotels dedicated to the highest levels of social and environmental impact. Through sharing individual best practices and through collaboration, Regenerative Travel enables the hotel community to work together to achieve significant economies of scale and to make a deeper impact. Our hotels amplify their individual efforts by supporting and sharing with the collective, and are held accountable through our standards and ongoing data collection. Regenerative Travel helps hotels measure and communicate their impact across 29 metrics that demonstrate how the property contributes to transform communities and economies to more regenerative models requires systemic change. Regenerative Travel taps into the knowledge of internal and external networks to draw out and share best practice in regeneration and hospitality by highlighting practical tools, key insights, and diverse perspectives, we aim to help hotels align their operations with their values.

Solimar International is a Washington, DC based sustainable tourism consulting and marketing firm with the mission to assist businesses, travelers, and destinations develop and connect to sustainable tourism experiences that support environmental conservation, celebrate local culture, and enhance the lives of local residents. Solimar brings more than 20 years of consulting experience on tourism development and marketing projects in more than 500 destinations worldwide. The team team provides business planning, product development, marketing, and related consulting services to national tourism authorities, regional tourism associations, and private tourism businesses. Solimar has a history of serving USAID, World Bank, IFC, IDB, UNWTO, UNDP, other US Government agencies, large conservation NGO's, foreign and state governments, private clients, and industry associations. Solimar works to deliver comprehensive end-to-end destination management solutions that ensure a project's initial goals are ultimately achieved—and sustained—over the long term.

Affiliates

Media Affiliates

References

1. IPCC. Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. (2022).

2. Borunda, A. This decade broke all kinds of climate records—and not in a good way. National Geographic https://www.nationalgeographic.com/science/article/the-decade-we-finally-woke-up-to-climate-change (2020).

3. Pörtner, H.O., Scholes, R.J., Agard, J., Archer, E., Arneth, A., Bai, X., Barnes, D., Burrows, M., Chan, L., Cheung, W. L. et al. IPBES-IPCC co-sponsored workshop report synopsis on biodiversity and climate change. IPBES IPCC (2021) doi:10.1163/18719732-12341473.

4. UNWTO. 2020: Worst Year in Tourism History with 1 Billion Fewer International Arrivals. https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals (2021).

5. Lenzen, M. et al. The carbon footprint of global tourism. Nat. Clim. Chang. 8, 522–528 (2018).

6. UNWTO. Glasgow Declaration on Climate Action in Tourism. (2021).

7. IPCC. Climate change 2021: The physical science basis summary for policymakers. Energy and Environment vol. 18 (2021).

8. UNEP & IUCN. Nature-based solutions for climate change mitigation. (2021).

9. UNEP. Emissions Gap Report 21. (2021).

10. Cohen-Shacham, E. et al. Core principles for successfully implementing and upscaling Nature-based Solutions. Environ. Sci. Policy 98, 20–29 (2019).

11. IUCN. What are Nature-based Solutions? Nature-based solutions to address global societal challenges (2016).

12. Schoonees, T. et al. Hard Structures for Coastal Protection, Towards Greener Designs. Estuaries and Coasts 42, 1709–1729 (2019).

13. van den Bosch, M. & Ode Sang. Urban natural environments as nature-based solutions for improved public health – A systematic review of reviews. Environ. Res. 158, 373–384 (2017).

14. Kooijman, E. D., McQuaid, S., Rhodes, M. L., Collier, M. J. & Pilla, F. Innovating with nature: From nature-based solutions to nature-based enterprises. Sustain. 13, 1–17 (2021).

15. Seddon, N., Sengupta, S., Hauler, I. & Rizvi, A. R. Nature-based solutions in nationally determined contributions: Synthesis and recommendations for enhancing climate ambition and action by 2020. https://portals.iucn.org/library/node/48525 (2020).

16. UNEP. State of Finance for Nature. (2021).

17. Naidoo, R. et al. Evaluating the impacts of protected areas on human well-being across the developing world. Sci. Adv. 5, 1–8 (2019).

18. Kroll, C., Warchold, A. & Pradhan, P. Sustainable Development Goals (SDGs): Are we successful in turning trade-offs into synergies? Palgrave Commun. 5, 140 (2019).

19. Brooks, J., Waylen, K. A. & Mulder, M. B. Assessing community-based conservation projects: A systematic review and multilevel analysis of attitudinal, behavioral, ecological, and economic outcomes. Environ. Evid. 2, 1–34 (2013).

20. Monbiot, G. Carbon offsetting is not warding off environmental collapse – it's accelerating it. The Guardian (2022).

21. Oxford, T. U. of. The Oxford Principles for Net Zero Aligned Carbon Offsetting. https://www.smithschool.ox.ac.uk/sites/default/files/2022-01/Oxford-Offsetting-Principles-2020.pdf (2020).

22. Epler Wood, M., Milstein, M. & Ahamed-Broadhurst, K. Destinations at Risk: The invisible burden of tourism. 64 pp. (2019).

23. Cave, J. & Dredge, D. Regenerative tourism needs diverse economic practices. Tour. Geogr. 22, 503–513 (2020).

24. Owen, C. Regenerative Tourism: Re-placing the Design of Ecotourism Facilities. Int. J. Environ. Cult. Econ. Soc. Sustain. Annu. Rev. 3, 175–182 (2007).

25. Bellato, L., Frantzeskaki, N., Nygaard, C. A., Frantzeskaki, N. & Nygaard, C. A. Regenerative tourism: a conceptual framework leveraging theory and practice Regenerative tourism: a conceptual framework leveraging theory and practice. Tour. Geogr. 0, 1–21 (2022).

26. Becken, S. & Kaur, J. Anchoring "tourism value" within a regenerative tourism paradigm – a government perspective. J. Sustain. Tour. 30, 52–68 (2022).

27. Bellato, L. et al. Transformative roles in tourism: adopting living systems' thinking for regenerative futures. J. Tour. Futur. (2022) doi:10.1108/JTF-11-2021-0256.

28. Brave Bull Allard, L. Indigenous Knowledge Systems: Revitalization, Resistance, and Regeneration. in School of Arts and Sciences - University of Pennsylvania (2019).

29. Becken, S. Regenerative Tourism – Opportunity for Tourism Recovery? - Pure Advantage. https://pureadvantage.org/regenerative-tourism-opportunity-for-tourism-recovery/ (2020).

30. Garnett, S. T. et al. A spatial overview of the global importance of Indigenous lands for conservation. Nat. Sustain. 1, 369–374 (2018).

31.Yuan, L. A Message from Indigenous Leaders: Why Regenerative Agriculture is Not Enough. MOLD :: Designing the Future of Food https://thisismold.com/event/education/indigenous-leaders-why-regenerative-agriculture-is-not-enough (2020).

References

32. Duffy, R. & Moore, L. Neoliberalising Nature? Elephant-Back Tourism in Thailand and Botswana. Antipode 42, 742–766 (2010).

33. Deloitte Global. Connecting for a Resilient World | Deloitte Global. https://www2.deloitte.com/global/en/pages/about-deloitte/articles/connecting-for-a-resilient-world.html?icid=wn_#path-to-resilience (2018).

34. Palutikof, J. P., Boulter, S. L., Barnett, J. & Rissik, D. Applied Studies in Climate Adaptation. (John Wiley & Sons, Ltd, 2014). doi:10.1002/9781118845028.

35. Schlosberg, D., Collins, L. B. & Niemeyer, S. Adaptation policy and community discourse: risk, vulnerability, and just transformation. Env. Polit. 26, 413–437 (2017).

36. Matin, N., Forrester, J. & Ensor, J. What is equitable resilience? World Dev. 109, 197–205 (2018).

37. Nelson, F., Harris, A., Hazzah, L. & Lohmann, L. G. Transforming conservation in times of crisis and opportunity (Commentary). https://news.mongabay.com/2021/01/transforming-conservation-in-tim... (2021).

38. Webb, S. A., Bruyere, B., Halladay, M. & Walker, S. A framework for conceptualizing leadership in conservation. ORYX 1–7 (2021) doi:10.1017/S0030605320000629.

39. Holliday, B. M. & Jones, M. Living Systems Theory and the Practice of Stewarding Change. 0–39 (2015).

40. Holliday, M. The Age of Thrivability: Vital Perspectives and Practices for a Better World. (2016).

41. Spenceley, A. et al. Tourism in protected and conserved areas amid the covid-19 pandemic. Parks 27, 103–118 (2021).

42. Why LT&C? – Linking Tourism & Conservation. https://www.ltandc.org/why-ltc/.

43. Schmidt-Roach, S., Duarte, C. M., Hauser, C. A. E. & Aranda, M. Beyond Reef Restoration: Next-Generation Techniques for Coral Gardening, Landscaping, and Outreach. Front. Mar. Sci. 7, 1–8 (2020).

44. Hesley, D., Burdeno, D., Drury, C., Schopmeyer, S. & Lirman, D. Citizen science benefits coral reef restoration activities. J. Nat. Conserv. 40, 94–99 (2017).

45. Ling, S. D. & Johnson, C. R. Marine reserves reduce risk of climate-driven phase shift by reinstating size- and habitat-specific trophic interactions. Ecol. Appl. 22, 1232–1245 (2012).

46. Smith, M. K. S. et al. Sustainability of protected areas: Vulnerabilities and opportunities as revealed by COVID-19 in a national park management agency. Biol. Conserv. 255, 108985 (2021).

47. Folke, C. et al. Regime Shifts , Resilience , in Ecosystem Management. Annu. Rev. Ecol. Evol. Syst. 35, 557–581 (2004).

48. Adger, W. N. Social and ecological resilience: Are they related? Prog. Hum. Geogr. 24, 347–364 (2000).

49. Oliver, T. H. et al. Biodiversity and Resilience of Ecosystem Functions. Trends Ecol. Evol. 30, 673–684 (2015).

50. Biggs, R. et al. Toward principles for enhancing the resilience of ecosystem services. Annu. Rev. Environ. Resour. 37, 421–448 (2012).

51. Bonta, M., DeFalco, T. & Taylor Smith, C. Diversity and the Conservation Movement. 40 (2015).

52. Smith, N. S. et al. Diversity and inclusion in conservation: A proposal for a Marine Diversity Network. Front. Mar. Sci. 4, 1–7 (2017).

53. Reed, M. S. Stakeholder participation for environmental management: A literature review. Biol. Conserv. 141, 2417–2431 (2008).

54. Unit, B. Aichi Biodiversity Targets. (2020).

55. WWF. Inclusive Conservation | WWF. WWF https://wwf.panda.org/discover/our_focus/governance/inclusive_conservation/ (2017).

56. OECD. OECD Tourism Trends and Policies 2020. in OECD Tourism Trends and Policies 2020 Chapter 3. Rethinking tourism success for sustaina (OECD, 2020). doi:10.1787/6B47B985-EN.

57. White, N. 4 Ways DEI Can Help Manage Business Risk. Entrepreneur https://www.entrepreneur.com/article/356203 (2020).

58. Hill, E. Rethinking Diversity, Equity and Inclusion as a Value Proposition. WS Social Impact https://impact.webershandwick.com/rethinking-diversity-equity-and-inclusion-as-a-value-proposition-701bfca89973 (2017).

59. Nornman K Denzin, Y. S. L. Constructivist, interpretivist approaches to human inquiry. Landsc. Qual. Res. Theor. Issues 221–259 (1998).

60. Chen, F., Xu, H. & Lew, A. A. Livelihood resilience in tourism communities: the role of human agency. J. Sustain. Tour. 28, 606–624 (2020).

61. King, C., Iba, W. & Clifton, J. Reimagining resilience: COVID-19 and marine tourism in Indonesia. Curr. Issues Tour. 0, 1–17 (2021).

62. Elliott, R. & Timulak, L. Descriptive and interpretive approaches to qualitative research. in A Handbook of Research Methods for Clinical and Health Psychology 147–160 (2015). doi:10.1093/med:psych/9780198527565.001.0001.

63. Ellingson, L. Introduction to Crystallization. in Engaging Crystallization in Qualitative Research 1–28 (2012). doi:10.4135/9781412991476.d3.

64. World Economic Forum - WEF. The Future Of Nature And Business. New Nature Economy Report II. Geneva. (2020).

65. McQuaid, S., Kooijman, E., Rizzi, D., and Andersson, T. The vital role of Nature-Based Solutions in a Nature Positive Economy. European Commission. (2022). https://doi.org/10.2777/307761

66. Fairhead, J., Leach, M. and Scoones, I. (2012) 'Green Grabbing: A new appropriation of nature?', Journal of Peasant Studies, 39(2), pp. 237–261. doi: 10.1080/03066150.2012.671770