



SOCIO-ECONOMIC IMPACT OF MARINE ECO TOURISM AT CHURNA ISLAND ON LOCAL COMMUNITIES



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List of Abbreviations

AHP	Associated Hotels of Pakistan
AUD	Australian Dollar
BCDA	Balochistan Coastal Development Authority
BoD	Board of Directors
BOI	Board of Investment
CAA	Civil Aviation Authority
CAGR	Compound Annual Growth Rate
CBD	Convention on Biological Diversity
CBET	Community-Based Ecotourism
CDA	Coastal Development Authority
CI	Conservation International
CITC	Corrected Item Total Correlation
CST	Certification for Sustainable Tourism
DMO	Destination Marketing Organization
FAICO	Friends of Cocos Island Foundation
GBR	Great Barrier Reef
GDP	Gross Domestic Product
IUCN	International union for conservation of Nature
IUU	Illegal, Unreported and Unregulated
JES	Japan Ecotourism Society
JNTO	Japan National Tourism Organization
MFF	Mangroves for Future
MoCC&EC	Ministry of Climate Change and Environmental Coordination
MPA	Marine protected area
MTA	Maritime Tourism Agency
NCB	National Coordinating Body
NGO	Non-Government Organization
NMACC	National Maritime Affairs Coordination Committee
NMP	National Maritime Policy
NPO	Non-Profit Organization
NTCB	National Tourism Coordination Board

NTP	National Tourism Policy
P&D	Planning and Development
PADI	Professional Association of Diving Instructors
PATO	Pakistan Association of Tour Operators
PHA	Pakistan Hotels Association
PPP	Public-Private Partnership
PRA	Participatory Rural Appraisal
PTDC	Pakistan Tourism Development Corporation
RRFB	Reef Renewal Foundation Bonaire
SCUBA	Self-Contained Underwater Breathing Apparatus
SDG	Sustainable Development Goals
SME's	Small And Medium-Sized Enterprises
SPSS	Statistical Package for Social Sciences
TAAP	Travel Agents Association of Pakistan
TIES	The International Ecotourism Society
TMPs	Tourism Master Plans
TNC	The Nature Conservancy
TORs	Terms of References
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	United Nations World Tourism Organization
WWF	Worldwide Fund

CHAPTER 1

1. Introduction

1.1 Ecotourism: Definition and Importance

The word Ecotourism was concocted by Hector Ceballos Lascurain to describe safe travel in a relatively undisturbed area which causes no disturbance to natural resources and communities with an emphasis on education¹. Ecotourism refers to safe and secure travel which focuses on conserving the environment, sustaining wildlife and raising awareness regarding culture and heritage. It helps to develop coordination and understanding between tourists, staff and local communities².

The International Ecotourism Society (TIES) has a definition of ecotourism as follows: Ecotourism is responsible travel to natural resources that protects the environment and enhances the livelihood of the people. Continuing on the concept, TIES is of the opinion that the tenets of ecotourism must minimize environmental effects; create environmental and cultural awareness and respect; deliver positive visitor and host experiences; enhance empowerment and direct monetary benefit to the local population; and increase host country sensitivity to political, ecological, and social conditions. In 2015, TIES describes ecotourism as responsible travel to natural environments that preserves the environment, maintains the livelihood of local people, as well as including interpretation and education. In this case, the word education is intended to cover both the employees and the visitors. The TIES declaration goes on to state that ecotourism is also interested in bringing together conservation, communities, and sustainable travel. TIES clarifies that the reduction of effects must be in terms of physical, social, behavioral and psychological effects. One of the original principles laid down in 1990 is elaborated further, which states that there must be direct financial benefits in conservation and financial benefits to the local people and to private industry. The other concepts incorporated in the original definition included that the activities must involve designing, building and running of low impact facilities; that the activities must acknowledge the rights and spirituality of the indigenous people in the community; and that the activities must promote cooperation with the indigenous people in the community to form empowerment. The latter is possibly the most important change of definition³.

According to United Nation, Ecotourism deals with the protection of ecosystems, preservation of biodiversity and promotes conservation, education, and raises awareness which is essential amid rising environmental threats (United Nations, 2020). Ecotourism primarily

¹ Joni Adamson, William A Gleason, and David Pellow, *Keywords for environmental studies*, vol. 3 (NYU Press, 2016).

² "Definition and Key Concepts," 2023, <https://www.globalecotourismnetwork.org/definition-and-key-concepts/>.

involves a nature-based solution, a sustainable approach to conservation, participation and benefits of local people, raising awareness and conscious marketing and strategic management of indigenous products³.

According to United Nations World Tourism Organization (UNWTO), its estimates show that the growth rate of tourism industry around the globe is about 3.3 per annum. The developing countries such as Pakistan have great economic potential in the tourism sector provided that it is developed and marketed appropriately. Numerous nations in the world and regional nations such as Maldives, Bali Island in Indonesia, State of Kerala in India and many other nations have made strategic tourism policy plans to develop their tourism industry effectively to gain the greatest number of economic benefits out of such a significant sector of the economy. The ecotourism industry in the world had been estimated at 181.1 billion US dollars in 2019 and is projected to grow at 333.8 billion US dollars in 2027 with a growth rate of 2.4 per annum (CAGR) of 14.3%⁴.

Ecotourism leads to awareness among visitors and local communities regarding sustainable practices, conservation and ecological importance which can create a sense of environmental guardianship to take informed and responsible decisions. Ecotourism also provides opportunities for employment, income generation and social wellbeing of local people by engaging them to take part in planning and development and enhance their quality of life. It also helps visitors to engage with local people and learn about their cultural heritage, customs and traditions which in turn promotes and preserves cultural diversity. Ecotourism offers low impact tourism activities which can focus on long term economic sustainability⁵.

Ecotourism operations offer a replacement for rural communities when a society has been afflicted by a community. Ecotourism along with stakeholders' participation can act as a steppingstone for the development of rural areas⁶.

According to previous studies ecotourism has proved to be a great asset of development that enhances autonomy through properly structured and organized capital management that affects ecofriendly growth⁷.

³ Dimitri A Ouboter, Vanessa S Kadosoe, and Paul E Ouboter, "Impact of ecotourism on abundance, diversity and activity patterns of medium-large terrestrial mammals at Brownsberg Nature Park, Suriname," *PLoS One* 16, no. 6 (2021).

⁴ S. Lock, "Ecotourism Market Size Worldwide 2019–2027," (2021), <https://www.statista.com/statistics/1221034/ecotourism-market-size-global/>.

⁵ Dr Mohamed El Moslem Badr, "Challenges and Future of the development of sustainable ecotourism," *International Journal of Modern Agriculture and Environment* 2, no. 2 (2022).

⁶ Sintayehu Aynalem Aseres and Raminder Kaur Sira, "Ecotourism development in Ethiopia: Costs and benefits for protected area conservation," *Journal of Ecotourism* 20, no. 3 (2021).

⁷ Heidi Dahles, Titi Susilowati Prabawa, and Juliette Koning, "Local tourism businesses in Indonesia: a pathway to crisis resilient development?," *ASEAS-Austrian Journal of South-East Asian Studies* 13, no. 1 (2020).

From previous studies it has been concluded that communities which are engaged in ecotourism have shown advancement in economic and social sectors. These studies focused vital factors such as the ongoing problems with the growth of tourism and its link with communities^{8 9}

1.2 Ecotourism and Sustainable Development: Integrating Environmental, Economic, and Social Dimensions

The growing urgency of environmental conservation and socioeconomic equity has positioned ecotourism as a pivotal mechanism for achieving long-term sustainability. Ecotourism offers a transformative pathway for harmonizing economic development with ecological stewardship, especially in coastal and marine regions. Aligned with the United Nations Sustainable Development Goals (SDGs), specifically Goal 12 (Responsible Consumption and Production) and Goal 14 (Life Below Water), this tourism model fosters responsible engagement with natural resources while promoting community empowerment. By integrating sustainable practices into tourism industries, ecotourism not only mitigates the adverse effects of conventional tourism but also advances global agendas focused on preserving biodiversity, supporting local economies, and encouraging environmentally conscious behavior.

The concept of sustainable tourism focuses on sustaining the natural and conserving environment in a way that in future people can have that same experience. Ecological tourism minimizes the special effects of tourism that are seen in different sectors of tourism such as recreation, adventure and accommodation etc. It is the constant need of sustainable tourism and adverse effects of mass tourism that has led to the formation of the term "Ecotourism". Ecotourism is a sub sector of sustainable tourism¹⁰.

Ecotourism plays a central role in the promotion of sustainable development and makes significant contributions in terms of the conservation of natural resources, the development of the local economy, and the conservation of cultural heritage. The International Ecotourism Society has defined it as a conscientious type of travel to pristine locations, and highly emphasizes conservation of the environment, community, and educational aspects.¹¹

Ecotourism has the ability to contribute towards conservation and sustainability by facilitating safe practices such as preservation of

⁸ Maula Fadhilata Rahmatika and Agus Suman, "Improving the economy of local communities through innovation of the potential of shariah-based natural tourism in East Java," *International Journal of Religious Tourism and Pilgrimage* 8, no. 4 (2020).

⁹ Ali Roziqin and Zharfa Syarafina, "Tourism village development study: Lesson learned from Flory Village, Sleman Regency, Yogyakarta," *MASYARAKAT KEBUDAYAAN DAN POLITIK* 34, no. 2 (2021).

¹⁰ Ahmad Salman, Mastura Jaafar, and Diana Mohamad, "A comprehensive review of the role of Ecotourism in sustainable tourism development," *E-Review of Tourism Research* 18, no. 2 (2020).

¹¹ Davoud Omarzadeh et al., "A GIS-based multiple ecotourism sustainability assessment of West Azerbaijan province, Iran," *Journal of Environmental Planning and Management* 65, no. 3 (2022).

biodiversity, protection of habitats and reduction in carbon emissions. According to various studies it is concluded that ecotourism is responsible for generating revenue for conservation efforts which includes habitat and wildlife protection¹².

The positive effects of ecotourism can be many. First, ecotourism could be used to fulfill the demands of tourists by providing experience tours as well as fulfilling the intellectual interests of adult tourists. Among the children of the city, they give them a chance to enjoy real nature. Second, the tourist industry can benefit from ecotourism. The number of tourists can grow, the duration of their stay can be extended and the number of returning clients can be more. In addition, it can be used to even out seasonal changes in tourist traffic. Third, it has the capacity to help conserve the environment and nature by increasing awareness of tourists about environmental conservation and increasing awareness of people living in the area about the necessity to conserve resources. Fourth, it might also be used to regenerate local populations, by making a positive economic impact on local industries, and improving life of inhabitants without subjecting them to large amounts of money¹³.

Ecotourism has garnered global attention as a strategic tool for advancing sustainable development through environmental conservation, economic opportunity, and social inclusion. While it holds promise as a low-impact alternative to conventional tourism, emerging research reveals a complex spectrum of outcomes that depend heavily on planning, regulation, and local context.

Environmentally, ecotourism presents both opportunities and challenges. Literature designates that if not properly managed, even low-impact activities such as hiking and wildlife observation can lead to habitat degradation and disturbance of wildlife.

A study highlights that such unintended consequences arise from inadequate environmental planning and weak visitor management frameworks¹⁴. Furthermore, the development of ecotourism infrastructure, including lodges and trails, may exacerbate environmental stressors unless designed and constructed with sustainability in mind¹⁵. However, comparative research indicates that ecotourism can alleviate environmental stresses as compared to mass tourism. Studies done in Brazil revealed that the ecotourism activities had reduced carbon emissions because of application of environmentally friendly modes of transportation and eco-friendly

¹² Suneel Kumar et al., "Ecotourism: a holistic assessment of environmental and socioeconomic effects towards sustainable development," *Current World Environment* 18, no. 2 (2023).

¹³ IMAGAWA Riho and HARRISON Brian, "The current state of ecotourism in Japan" (Chuo University, 2021).

¹⁴ Kumar et al., "Ecotourism: a holistic assessment of environmental and socioeconomic effects towards sustainable development."

¹⁵ Mangala De Zoysa, "Forest-based ecotourism in Sri Lanka: a review on state of governance, livelihoods, and forest conservation outcomes," *Journal of Sustainable Forestry* 41, no. 3-5 (2022).

accommodation¹⁶. These studies bring out the importance of making ecotourism strategies specific to the ecological sensitivity of the destination and entrenching the concepts of sustainable land use and resource efficiency.

Ecotourism has proven to have a significant potential with respect to enhancing livelihoods and financial resilience on the economic front. In Kenya, ecotourism projects that are community-based brought many benefits like household income and employment opportunities. Equally, ecotourism in the Amazon region of Brazil generated more income per hectare than cattle ranching, thereby strengthening its suitability as a land-use alternative¹⁷. These cases highlight ecotourism's capability to serve as a pro-poor growth strategy, particularly in regions facing economic and environmental vulnerabilities.

Socially, ecotourism fosters inclusion and cultural preservation. It facilitates meaningful interactions between tourists and local communities, encouraging the safeguarding of traditional customs and practices¹⁸. Ecotourism also enables marginalized populations such as women and indigenous groups to participate in the tourism economy, thereby promoting social equity and empowerment. By granting communities greater autonomy over their natural and cultural resources, ecotourism can enhance self-determination and support holistic development outcomes.

Environmental conscious and sustainable accommodation is a development that has received more concern over recent years. This trend can be observed in the eco-lodges and eco-resorts which adopt renewable energy systems, green construction practices and proper management of waste products. These facilities are meant to reduce the ecological footprints and also provide guests with immersive experiences in the natural environments. Moreover, environmental interpretation and education are becoming important issues in ecotourism programs. Interpretative programs, guided tours and interactive exhibits are used to increase the knowledge of visitors on the ecological, biological and cultural importance of the place they visit. With these educational initiatives, the idea of environmental stewardship among travelers could be achieved.

Tour operators are also major contributors in setting the trajectory of sustainable ecotourism. A lot of them are now getting responsible and focused on conservation practices, cultural sensitivity practices and community empowerment practices. Codes of conduct also ensure that

¹⁶ Kaitano Dube and Godwell Nhamo, "Greenhouse gas emissions and sustainability in Victoria Falls: Focus on hotels, tour operators and related attractions," *African Geographical Review* 40, no. 2 (2021).

¹⁷ Kumar et al., "Ecotourism: a holistic assessment of environmental and socioeconomic effects towards sustainable development."

¹⁸ Xiaolong Ma et al., "The influence of culture on the sustainable livelihoods of households in rural tourism destinations," *Journal of Sustainable Tourism* 29, no. 8 (2021).

the negative environmental and social effects are eliminated. It ensures that they are able to interact with the local ecosystems and populations in a reasonable manner.

Another new element in sustainable tourism is technological innovation. Mobile applications, virtual reality, and augmented reality are some of the tools that are being used to improve the eco-tour experience and provide easily accessible and educational material. Such online platforms help both with the distribution of information and arranging and reserving environmentally friendly lodging and tours. All these trends indicate a general acceptance of sustainability as a guiding principle in tourism. As industry is still adopting such practices, it is one that yields positively towards the conservation of biodiversity, responsible utilization of natural resources and socioeconomic welfare of societies. Ecotourism as a form of tourism stands out from traditional tourism based on key aspects that underline conservation, low environmental footprint and sustainability. It promotes the protection of biodiversity and natural heritage protection. The main principle of ecotourism practice is the concept of environmental sustainability¹⁹.

To conclude, ecotourism represents a powerful instrument for driving positive change across environmental, economic, and social domains. Its emphasis on sustainability, education, and local engagement has helped shape a more conscious tourism paradigm, one that supports conservation efforts and uplifts communities. As global interest in responsible travel grows, continued investment in ecotourism infrastructure, planning, and community-led initiatives will be essential. By aligning tourism practices with ecological sensitivity and socioeconomic inclusion, ecotourism can evolve into a resilient model that not only protects our planet's biodiversity but also enriches the lives of those who depend on it.

¹⁹ El Moslem Badr, "Challenges and Future of the development of sustainable ecotourism."

CHAPTER 2

2. Churna Island - A Focal Point for Ecotourism

2.1 Geographical location

The Pakistani coast is about 1,001 km long; there are two distinct areas of the coast, the Sindh and Makran coasts along the Northern Arabian Sea. Makran coast measures approximately 730 km, between the mouth of the Hub River to the east and Jiwani to the west. The principal features of the area are the cliffs, rocky headlands, sand dunes, lagoons and mangroves marsh. The Balochistan Coastal Area is ecologically important because it is home to the significant biological diversity of coral colonies of Churna Lasbela), Astola Island (Off-Pasni) and Gwadar²⁰.

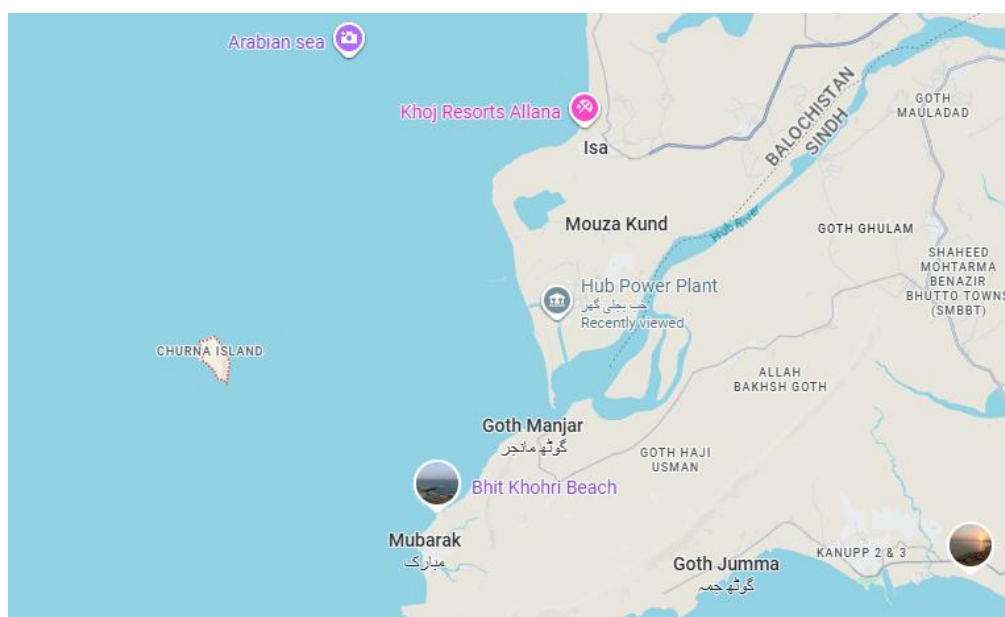


Figure 1: Geographical Location of Churna Island (Source: Google Maps 2025)

Churna Island, also local name: Cheerno, is a Pakistani, small, inhabited island, in Arabian Sea, approximately 9 km off the mouth of Hub River. It is at 24.53 N and 66.36 E approximately 50 km west of Karachi. It stretches between 1.2 km and 0.5 km long and wide respectively. Churna Island has an average depth of 8 meter and it is clear. Churna Island is a productive ecosystem. It is highly endowed with aquatic marine resources and supports an active network of marine life. Churna Island is of low water turbidity, hard rocky substrate and tectonically less active²¹.

²⁰ Shahid Amjad, Nuzhat Khan, and Saira Ishaq, "Coral community: preliminary biodiversity survey of churna island, northern arabian sea," *Mehran University Research Journal Of Engineering & Technology* 39, no. 2 (2020).

²¹ Diversity Convention on Biological, *Template for Submission of Scientific Information to Describe Areas Meeting Scientific Criteria for Ecologically or Biologically Significant Marine Areas*, <https://www.cbd.int/doc/meetings/mar/ebsaws-2015-02/other/ebsaws-2015-02-template-wwf-pakistan-02-en.pdf>.

The island is made of sandstone, shale and mudstone, which support delicate habitats such as corals and exotic fish. Both Scuba diving and snorkeling are also popular there. Churna Island is also designated as Marine Protected Area (MPA) because of its ecological value ²².



Figure 2: Churna Island

2.2 Churna- As an MPA

Churna Island is one of the significant marine biodiversity hotspots like Astola Island in Pakistan. However, this Island is extensively used for snorkeling, scuba diving, jet skiing, cliff jumping and other recreational activities. The biodiversity inhabiting Churna Island are under serious threats because of various activities including development of power plants, single-point mooring, an oil refinery in the immediate vicinity, as well as recreational activities that are conducted^{23[OBJ]}.

Like Astola Island, Churna Island is one of the few marine regions in Pakistan, which are home to coral reef systems and can be called a biodiversity hot spot. Nevertheless, Churna Island, which is situated close to Karachi is being seriously exploited as a scuba diving, snorkelling, cliff jumping, jet skiing and other recreational locations.

Different human activities such as the building of power plants, a single-point mooring, an oil refinery in the immediate surroundings, and recreational activities in the area are a serious threat to the marine environment and various wildlife inhabiting the Churna Island.²⁴

The National Coordinating Body (NCB) is a joint-stakeholder platform convened by International Union for Conservation of Nature (IUCN) Pakistan and under the chairmanship of the Ministry of Climate Change

²² Amjad, Khan, and Ishaq, "Coral community: preliminary biodiversity survey of churna island, northern arabian sea."

²³ WWF Pakistan, "Churna Island Declared Second Marine Protected Area in Pakistan," (2024/09/04 2024), <https://www.wwfpak.org/?387475/Churna-Island-Declared-Second-Marine-Protected-Area-In-Pakistan>.

²⁴ "The Case for Eco-Tourism at Churna Island, Pakistan," Paradigm Shift, updated 21 October, 2024, <https://www.paradigmshift.com.pk/churna-island-pakistan/>.

and Environmental Coordination (MoCC&EC) that has been working actively on coastal conservation, governance in the country. The marine project initiated by IUCN Pakistan in 2016 as part of the Mangroves for Future (MFF) initiative with the collaboration of NCB and its member organizations, one of which is the Forest and Wildlife Department, Government of Balochistan, has been tireless through the years to conduct strategic research, identification, and improvement of marine protected areas in Pakistan.

The Balochistan cabinet held a meeting on Wednesday, 4 September 2024. During the meeting, they approved the declaration of Churna Island as the second Marine Protected Area (MPA). Previously, the Government of Balochistan declared Astola Island as the first MPA in June 2017. Pakistan signed the Convention of Biological Diversity. The Kunming-Montreal Global Biodiversity Framework requires states to protect 30% of the ocean by 2030, a goal known as 30 x 30. The Declaration of Churna Island as a MPA is an important step towards achieving this target.²⁵

Churna Island is an MPA whose approval reflects the ongoing campaigns by the Forest and Wildlife Department, the Government of Balochistan, largely facilitated and guided by the strategic experience of IUCN Pakistan. Churna Island is a marine hot spot with a rich marine life, which is regarded as home to 25 species of coral reefs, 250 fish species, several migratory birds, endangered whale sharks, and sea turtles. The MPA status will give the surrounding water of Churna Island the legal safeguards to control the human activities like fishing, tourism and industrial pollution, which have been threatening the ecosystem of the island over the past few years.

The vision and strategy of IUCN Pakistan about marine protection can be taken as a sustainable model of protecting biodiversity and ensuring the safe conservation of marine ecosystems by means of responsible use of resources and the long-term protection of these ecosystems. Together with the NCB members, IUCN is also doing its fair share by using additional programs and research to develop and adopt management plans to both the Churna Island and the earlier proclaimed MPA, Astola Island.

2.3 Policies and Laws Involved

- a. Pakistan Environmental Protection Act, 1997
- b. Balochistan Environmental Act, 2012
- c. Pakistan Fisheries Act, 1897

²⁵ "Churna Island Is Now Pakistan's Second Marine Protected Area!," South Asia Times, 2025, <https://southasiatimes.org/Churna-Island-Is-Now-Pakistans-Second-Marine-Protected-Area/#:~:Text=The%20balochistan%20cabinet%20held%20a,First%20mpa%20in%20june%202017.>

- d. National Biodiversity Strategy and Action Plan (NBSAP)
- e. Convention of Biological Diversity

2.4 Rise as a tourist destination

Churna island first gained importance in the early 2010's when divers and local groups began exploring this island. These small visits were often informal and organised by university students, photographers and scuba enthusiasts. These small tours became one of the reasons behind the popularity of Churna. People began to share their experiences through social media, travel blogs and word of mouth.

The rapid growth of social media platforms over the years like youtube, facebook and Instagram, became one of the significant reasons behind Churna's increasing popularity. Images of vibrant coral reefs, variety of fishes, scuba diving, snorkeling sparked a sense of curiosity and adventure among youth. This accelerated an interest among tour operators and diving clubs such as Divers Reef Karachi and Scuba Club Pakistan which started to offer marine sports packages and guided trips. These packages included services such as:

- a. Guided scuba diving and snorkeling
- b. Underwater photography sessions
- c. Cliff diving
- d. Boating and dolphin-watching tours
- e. Marine ecology briefings

These businesses played a vital role in transforming Churna from an undiscovered spot to a premier travel destination. The rise of churna was mostly facilitated by the private sector with little to no involvement from government sectors. The lack of environmental regulatory policies led to various unregulated practices that compromised the safety of this island.

The socioeconomic situation of Pakistan also led towards growth of tourism in Churna Island. With ongoing security challenges and visa bans further led to the growth of domestic tourism. Especially for the people of Karachi, as they were provided with an opportunity to experience clear water, biodiversity and coral reefs in close proximity. This boost in tourism led to bookings on weekend especially during the month of March to October when sea conditions are favorable. It also contributed to the economic situation of nearby communities, especially Mubarak village as it increased demand for boat rentals, food services, and local guides.

The growth of tourism also increased the need for awareness regarding sustainability and conservation. Local operators and communities promoted the concept of ecotourism which focuses on low impact travel that focuses on environment guardianship. NGO's and conservationists began raising awareness about protection of biodiversity and advocating for safeguarding environment by promoting actions like pollution control and sustainable practices.

While the importance of Churna as an important tourist destination has generated valuable revenue for economic development of local communities and has also contributed towards environmental awareness, it has also raised several safety concerns. IUU fishing, improper waste disposal, noise pollution, and untrained tour operators have raised concerns about long-term sustainability. The lack of formal regulations and law enforcement has threatened the island's long-term sustainability which has potentially declined the qualities that attracted the visitors in the first place.

2.5 Biodiversity and ecological significance

The structure of Churna Island is tranquil of sandstone, mudstone and shale providing a habitat for exotic fish species and coral reefs. Churna island is situated in an open environment where it is subjected to high wave action and water currents. This island contains a vast range of marine species and supports ecologically significant coral reefs. Coral reefs are made up of calcium carbonate and offer a home to 25 percent of marine life. They are submerged structures and are considered one of the major and oldest ecologies in the world. Coral reefs offer major services that account for generating billions a year through various activities including tourism, food and coastal protection etc. They act as a buffer and absorb energy from incoming waves acting as barrier between shore and sea and prevent erosion. They offer nursing grounds to marine fauna and help to regulate nitrogen and carbon within the marine environment. However, they are sensitive to environmental changes such as ocean warming, acidification, pollution and destructive practices. A study recorded 58 species of corals which included various genera such as *Acropora*, *Porites*, *Pocillopora*, and *Montipora*. Coral habitats that have rocky outcrops are considered as a best spot for fish accumulation. The survey concluded with a diverse growth of corals in Churna Island with up to 55 percent coral cover. The material of the substrate was undulating rocks, boulders, mounds, gullies, fractures and ridges overgrown with a thick algal turf. Compared to any other location, fish were abundant. The widespread ones are *Neopomacentrus sindensis*, *Neopomacentrus cyanomos*, *Neopomacentrus bankieri*, *A. vaigiensis* and *Sphyraena obtusata*. In general, demersal fishes dominated the community. The reason behind high fish diversity at Churna Island could be that there was complex habitat by the diversity of coral forms (e.g. encrusting, massive, submassive) and maximum cover of corals which sheltered them against predators and provided high food availability. Depth gradient might be another cause of high

diversity because the high fish diversity was also found in Arabian Gulf in offshore areas at greater depth [OBJ].

According to a study two species *Zoramia viridiventer* and *Thalassoma amblycephalus* were photographed and were not reported earlier from Pakistan²⁶. These species are commonly known as fragile cardinal fish. These species are usually found in sheltered reefs in shallow water up to the depth of 15 m. An observer of WWF reported a pod of killer whales consisting of three orcas chasing a school of queen fishes. Churna island is also subjected to occasional sightings of dolphins, particularly the spinner dolphin (*Stenella longirostris*) which is reported by Zahid Maker, Board Member WWF-Pakistan. Apart from that endangered species such as green turtles (*Chelonia mydas*) and hawksbill turtles (*Eretmochelys imbricata*) existed at Churna Island as it is considered to be its feeding or resting ground. Although this island is largely barren, it still serves as a resting point for sea birds. Avian species like terns, gulls and cormorants are also spotted mainly due to their location, which serves as a migratory route²⁷.

Churna Island is home to an incredible variety of marine fauna. These include numerous species of reef and pelagic fish species. These species play a vital role in maintaining balance and health of corals. Herbivores fishes are responsible for controlling algae growth while predatory fishes help in regulating prey population. Marine invertebrates such as sea cucumber, nudibranch and various other crustaceans inhabit the seabed and coral structures and are responsible for nutrient recycling and sediment turnover in reef systems.

The area's high biodiversity gives it a high conservation value and also a major attraction for marine enthusiasts. Importance of Churna is not only limited to biodiversity alone but also the services it provides. It offers a nursing ground for commercially important fishes which indirectly supports local fishing communities. This site is also important for researchers and biologists. The significance of Churna depends upon its safety and protection. With the increasing amount of tourism and recreation activities there is also an increase in the number of threats including pollution, overfishing, environmental degradation and unsustainable practices.

²⁶ Muhammad Moazzam, "ADDITION TO THE FISH FAUNA OF PAKISTAN: OCCURRENCE OF ZORAMIA VIRIDIVENTER GREENFIELD, LANGSTON AND RANDALL 2005 AND THALASSOMA AMBLYCEPHALUS (BLEEKER 1856) AT CHURNA ISLAND," (2023).

²⁷ Muhammad Moazzam, "ON THE OCCURRENCE OF KILLER WHALE (ORCINUS ORCA LINNAEUS, 1758) ALONG PAKISTAN COAST," (2022).

CHAPTER 3

3. Analysis of Socio Economic-Impact of Ecotourism on Local Communities

3.1 Purpose and Scope

The purpose of this report is to address the socioeconomic impacts of ecotourism on Churna Island which is located near the coast of Balochistan. Churna Island is becoming a main source of tourist attraction due to its rich marine biodiversity and immaculate environment which has attracted tourists from all over the world to experience activities such as scuba diving, hiking and snorkeling etc.

The main aim of this report is to highlight the issues of how ecotourism is affecting the people and environment of Churna Island. Its aim is to understand what kinds of ecotourism activities are happening there and whether they follow sustainable practices. The research explores how ecotourism is helping the local community through jobs, better income and skill development. It also examines the environmental problems linked to tourism, like damage to coral reefs, pollution and the disturbance of marine life. The study investigates the roles and contributions of local stakeholders including fishermen, tour operators, and relevant authorities in the development and regulation of ecotourism on Churna Island.

Its objectives are to understand how we can participate in shaping tourism practices while safeguarding the natural environment. Particular attention is given to structural limitations such as inadequate infrastructure and low levels of community engagement, which may hinder sustainable ecotourism growth. The research seeks to propose actionable strategies that promote inclusivity, environmental stewardship, and socio-economic resilience within the ecotourism framework. Additionally, the study undertakes a comparative analysis with other global eco-islands to identify best practices and contextual insights that could provide solutions for Churna Island's ecological and socio-cultural context.

In conclusion, this report provides a foundation for future research and analysis contributing to a more comprehensive, cooperative and resilient model of ecotourism at Churna island, one that aligns with more economic and ecological benefits.

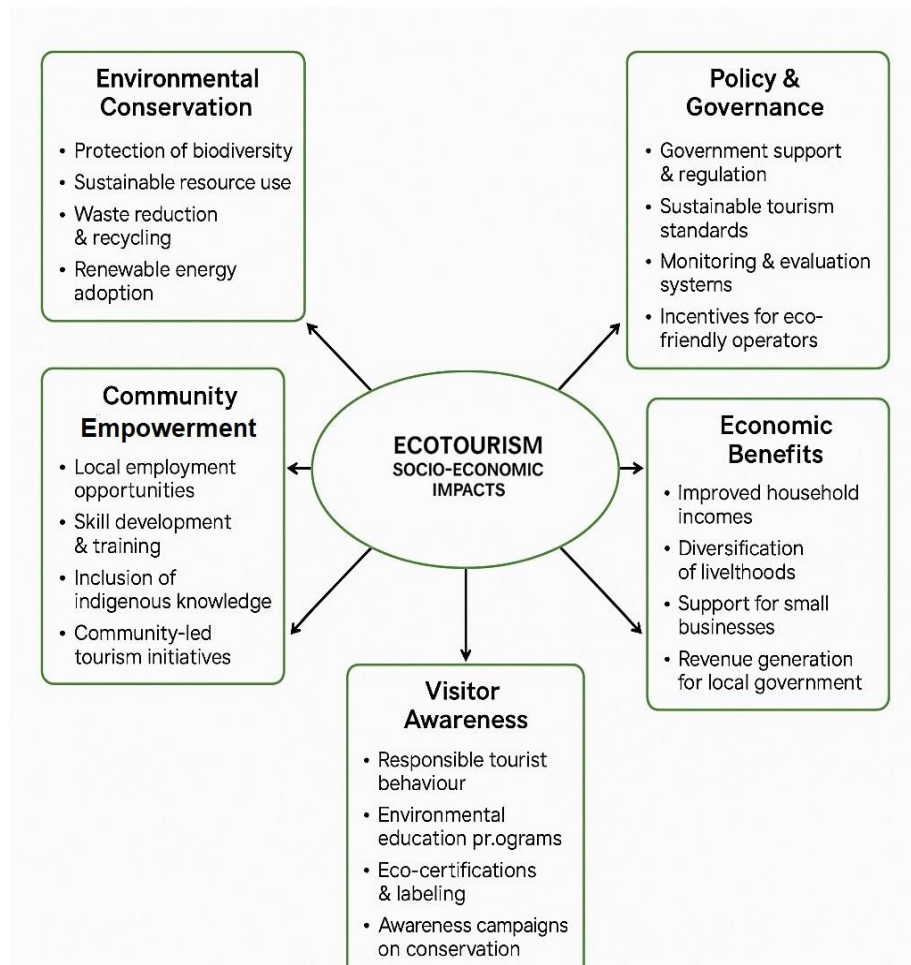


Figure 3: Conceptual framework of ecotourism

3.2 Research hypothesis

3.2.1 Hypothesis 1 (Environmental Conservation)

H1: Ecotourism significantly contributes to environmental conservation by promoting biodiversity protection, sustainable resource use, and renewable energy adoption.

3.2.2 Hypothesis 2 (Community Empowerment)

H2: Ecotourism positively impacts community empowerment by creating local employment opportunities, enhancing skills, and supporting community-led tourism initiatives.

3.2.3 Hypothesis 3 (Economic Benefits)

H3: Ecotourism provides substantial economic benefits by improving household incomes, diversifying livelihoods, and generating revenue for local governments.

3.2.4 Hypothesis 4 (Visitor Awareness & Policy Support)

H4: Visitor awareness and effective policy governance strengthen the socio-economic impacts of ecotourism through responsible tourist behavior, sustainable tourism standards, and eco-friendly incentives.

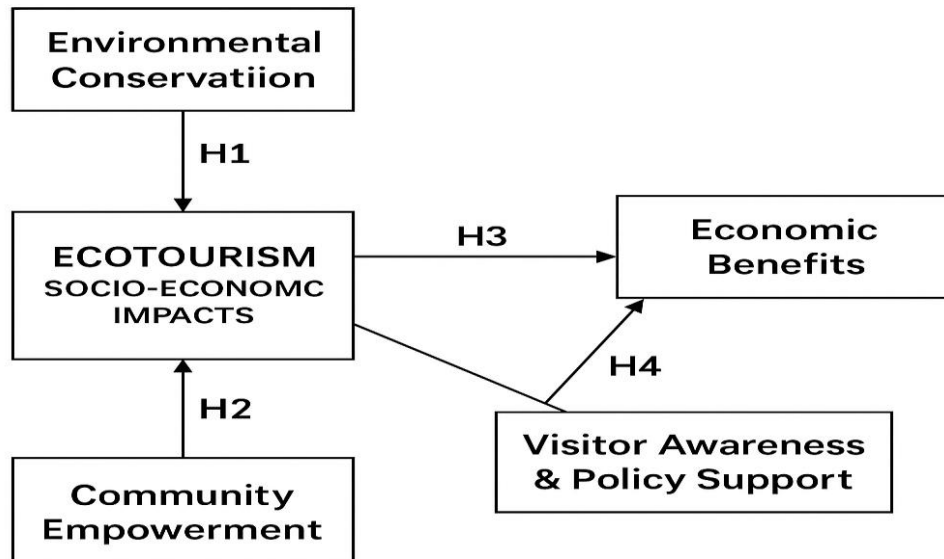


Figure 4: Research model

3.3 Research methodology

The study was guided by Participatory Rural Appraisal (PRA) techniques conducted by 170 respondents in which they were given a questionnaire. This study involved a purposive sampling method, and all the samples were involved directly or indirectly in marine ecotourism industry. Economic impact of marine ecotourism activities was evaluated using a 5-point Likert scale which ranged from 1 = Strongly Disagree to 5 = Strongly Agree.

3.4 Demographic Profile

SPSS was used for conducting descriptive statistical and reliability analysis. Regarding the gender of the respondents, there were (71.4%) male and females (28.6%) (Figure 5). In terms of the age distribution, the 20-29 and 30-39-year-old groups were the highest at 42.9%, followed by those 40-49 years old at 14.3% (Figure 6). From the perspective of occupation, government respondents were relatively high (39.41%) followed by Researcher/Academic (17.65%). The lowest number respondents were from NGO's accounting for 8.82% as shown in the table 1.

GENDER OF RESPONDENTS

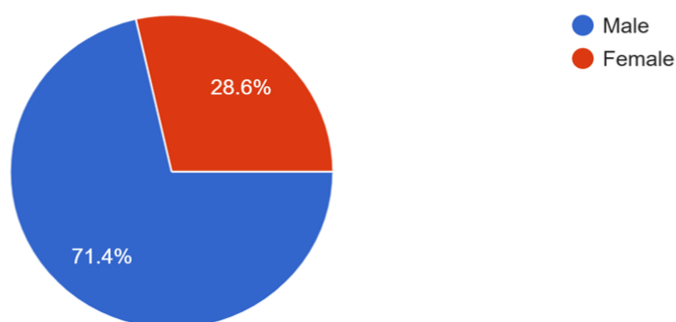


Figure 5: Gender Representation of respondent

AGE GROUPS

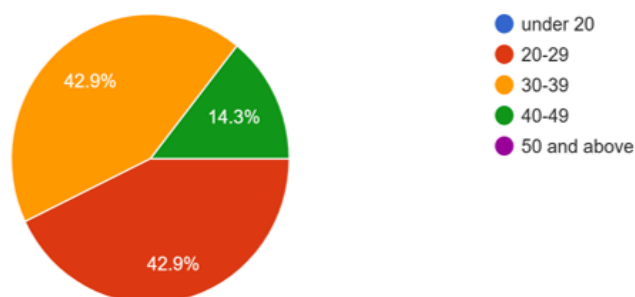


Figure 6: Demographic composition based on age

Table 1: Twenty five Occupation of the respondents along with frequency and percentages

Occupation	Frequency	Percentage (%)
Government official	67	39.41%
Tour operator / Boat owner	24	14.12%
NGO representative	15	8.82%
Researcher / Academic	30	17.65%
Local fisher / fishing cooperative	20	11.76%
Other	14	8.24%

According to the survey study assessment of the socio-economic impact of ecotourism at Churna Island was conducted to understand the key activities taking place, the revenue they generate, and the challenges associated with them. Based on the responses collected, the study provides detailed data and interpretations regarding major income-generating activities such as tour guiding, diving, boat rentals,

accommodation, and the sale of local products. Along with this, the findings also highlight structural gaps and problems that limit the full potential of ecotourism in the area, offering valuable insights into both opportunities and challenges faced by the local community and stakeholders.

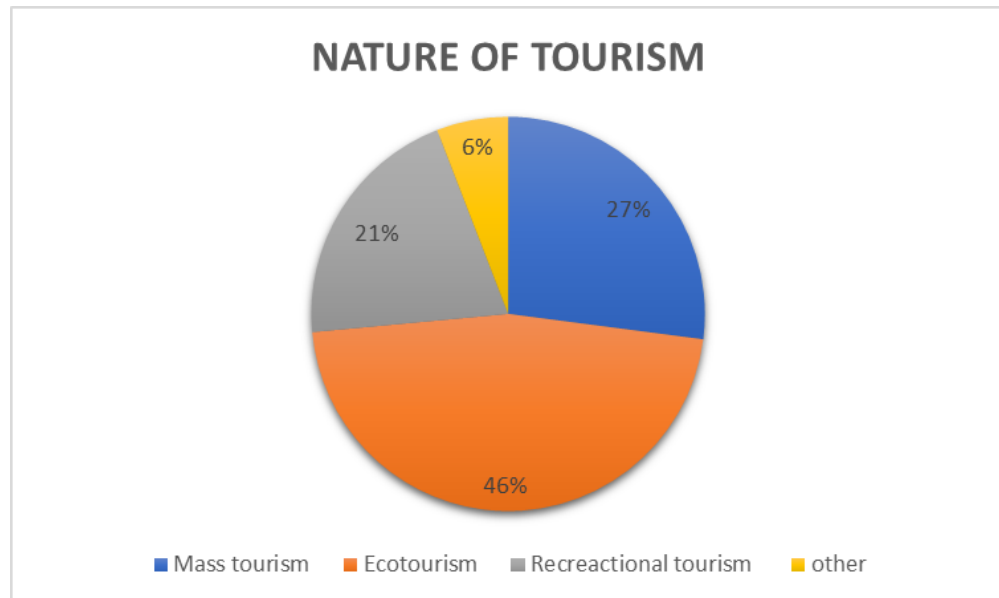


Figure 7: Distribution of different types of tourism

Firstly, figure 7 illustrates that Ecotourism dominates with 46%, highlighting the growing preference for nature-based and environmentally conscious travel experiences. This indicates that a significant portion of visitors are motivated by sustainable tourism practices, often linked with conservation and cultural appreciation. Mass tourism accounts for 27%, reflecting conventional travel patterns where large groups of tourists visit popular destinations. While this form contributes significantly to visitor numbers, it often places stress on local infrastructure and ecosystems. Recreational tourism represents 21%, covering activities such as leisure, sports, and adventure-based experiences. This segment underscores the importance of entertainment and lifestyle-driven tourism as a complementary sector to ecotourism. Lastly, other forms of tourism make up 6%, suggesting a relatively small but diverse range of tourism types that do not fall into the major categories identified. The dominance of ecotourism (46%) indicates a shift in visitor preferences towards sustainable practices, aligning with global trends where ecotourism is considered one of the fastest growing divisions. However, the notable share of mass tourism (27%) still shows the coexistence of conventional tourism models, which could potentially conflict with conservation goals if not regulated. This distribution highlights the need for balanced tourism management strategies that encourage ecotourism while mitigating the environmental and social pressures linked to mass and recreational tourism.

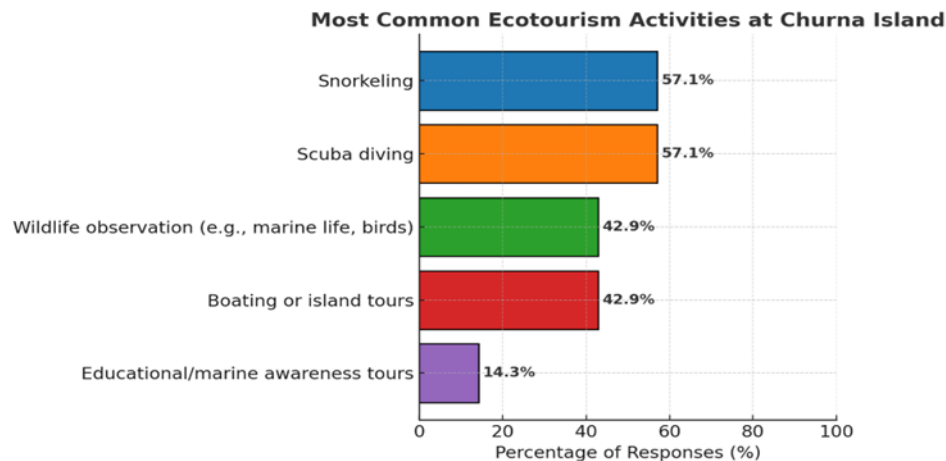


Figure 8: Marine Ecotourism activities at Churna island

The survey findings presented in figure 8 highlight the relative frequency of ecotourism activities at Churna Island. The results indicate that snorkeling (57.1%) and scuba diving (57.1%) are the most prevalent activities, emphasizing the significance of Churna Island as a prime location for underwater recreation and marine exploration. These activities not only reflect the island's natural endowment of clear waters and coral habitats but also its attractiveness to adventure-oriented tourists. Wildlife observation (42.9%) and boating or island tours (42.9%) emerged as moderately common activities, suggesting that visitors also value surface-level interactions with marine biodiversity and recreational navigation around the island. This indicates a balanced interest between adventure and leisure-based tourism practices. In contrast, educational and marine awareness tours (14.3%) were reported as the least common activity. This finding underscores a notable gap in the integration of environmental education within ecotourism at Churna Island. While recreational activities dominate the current tourism profile, the relatively low proportion of educational initiatives signals an opportunity to strengthen sustainable practices through structured awareness programs.

Overall, the data suggest that Churna Island's ecotourism is heavily oriented towards adventure and recreational experiences, while its potential role as a site for conservation education and marine stewardship remains underutilized. Future policy and management interventions could benefit from balancing these dimensions to promote a more holistic model of sustainable ecotourism.

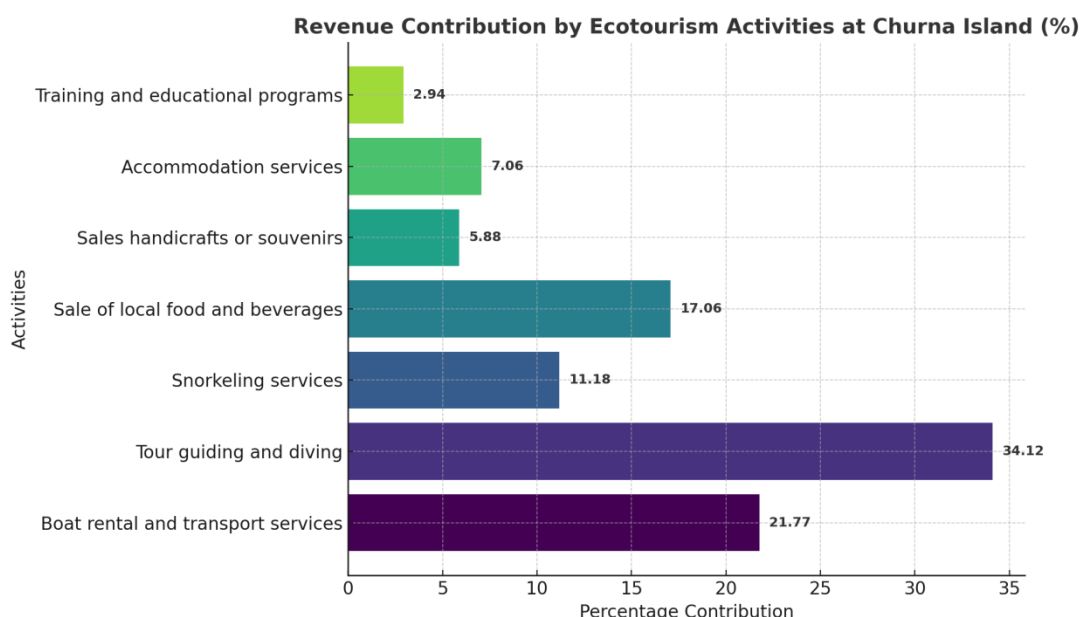


Figure 9: Ecotourism activities generating revenue at Churna island

The figure 9 illustrates the percentage contribution of different ecotourism activities to revenue generation at Churna Island. Among the various activities, tour guiding and diving services account for the largest share (34.12%), followed by boat rental and transport services (21.77%), highlighting the dominance of marine recreational services in driving income. The sale of local food and beverages (17.06%) and snorkeling services (11.18%) also contribute significantly, reflecting the growing demand for both cultural and adventure-based tourism. In contrast, accommodation services (7.06%) and the sale of handicrafts or souvenirs (5.88%) play relatively minor roles, suggesting limited development in hospitality and cultural product markets. The lowest contribution (2.94%) comes from training and educational programs, indicating an underutilized area with potential for future expansion. Overall, the graph emphasizes that Churna Island's ecotourism economy is heavily dependent on recreational marine activities, while other sectors remain underdeveloped but present opportunities for diversification.

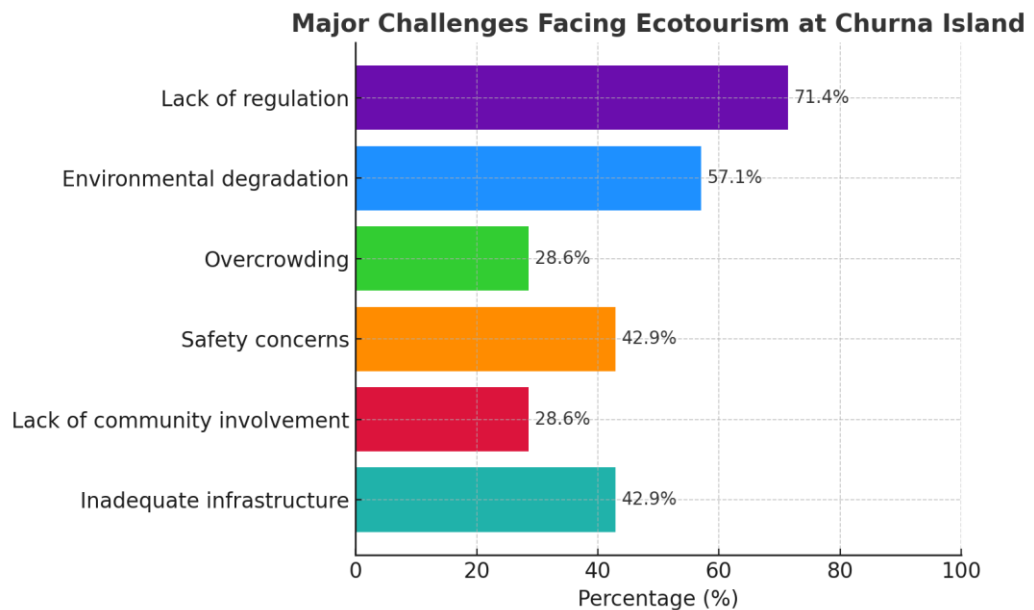


Figure 10: Critical challenges facing ecotourism at Churna Island

The survey findings highlight several critical challenges facing ecotourism at Churna Island as shown in the figure 10. The most prominent concern identified by respondents is the lack of regulation (71.4%), which suggests the absence of adequate policy frameworks, monitoring, and enforcement mechanisms for managing tourism activities on the island. Closely following this issue is environmental degradation (57.1%), reflecting the growing ecological pressure on coral reefs, marine biodiversity, and coastal ecosystems due to unregulated tourism and associated activities. Other challenges include safety concerns (42.9%) and inadequate infrastructure (42.9%), both of which hinder the provision of secure and sustainable tourism experiences. Additionally, overcrowding (28.6%) and lack of community involvement (28.6%) further weaken the ecotourism model, indicating that the benefits are not equitably shared with local communities and that the island faces carrying capacity issues.

3.5 Reliability Analysis

The study used Cronbach alpha and Corrected Item Total Correlation (CITC) to test reliability. Cronbach's Alpha value for your dataset is: $\alpha = 0.85$ indicating that the scale had good internal consistency.

Table 2: Reliability analysis of constructs using Cronbach's Alpha (α).

Construct	Cronbach's Alpha (α)	Interpretation
Environmental Conservation	0.898	Good–Excellent reliability
Community Empowerment	0.854	Good reliability
Economic Benefits	0.842	Good reliability
Visitor Awareness & Policy Support	0.809	Good reliability
Environmentally Responsible Behaviors	0.869	Good reliability



Type of Occupations (with Percentages)

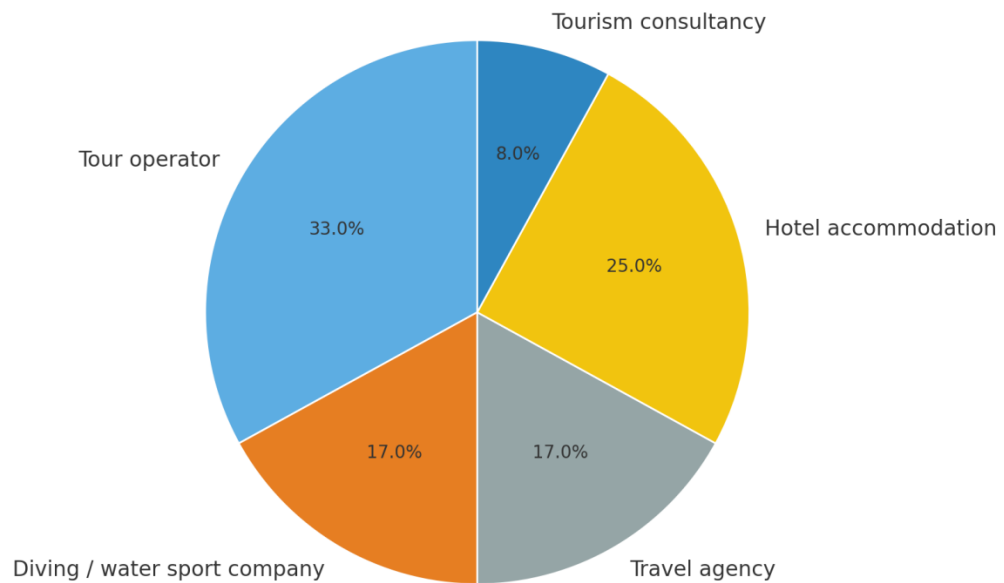


Figure 11: Types of businesses within the tourism sector.

The figure 11 illustrates the distribution of different types of businesses within the tourism sector. Tour operators represent the largest portion, indicating that organizing and managing travel packages is the most prominent activity. Hotel accommodation follows closely, highlighting the importance of lodging services in the industry. Travel agencies also account for a significant share, reflecting their continued role in facilitating travel arrangements. Diving and water sport companies make up a smaller segment, suggesting a niche but valuable presence focused on recreational tourism. Finally, tourism consultancy holds the smallest share, indicating that advisory and strategic services play a relatively minor role in the overall sector. This distribution suggests that the tourism industry is primarily driven by core services such as tour operations and accommodations, while specialized and support services make up a smaller proportion.

CHAPTER 4

4. Impacts of Ecotourism on Local Communities

4.1 Impact on livelihood

Ecotourism has a significant impact on the livelihoods of communities, especially those in rural and environmentally rich areas. By promoting responsible travel to natural areas, ecotourism creates employment opportunities in guiding, hospitality, transport, and conservation-related services. Local people often benefit directly from jobs as tour guides, park rangers, or lodge staff, and indirectly through the sale of local crafts, food, and other services. This not only boosts income but also encourages the preservation of cultural traditions and local skills. Moreover, ecotourism can lead to the expansion of substructures such as roads, schools, healthcare facilities, which improves the overall quality of life. Importantly, it also fosters environmental awareness and stewardship among communities, as they begin to recognize the long-term value of protecting their natural resources. However, the sustainability of these benefits depends on effective management, fair distribution of income, and genuine community involvement in decision-making.

4.2 Employment opportunities

Ecotourism creates a wide range of employment opportunities, particularly in regions rich in natural beauty and biodiversity. It generates direct jobs such as tour guides, wildlife rangers, park wardens, drivers, and hospitality staff in eco-lodges and guesthouses. These roles often require local knowledge, making residents the preferred candidates and helping them stay connected to their environment and culture. Indirectly, ecotourism supports jobs in agriculture, handicrafts, transportation, and food services, as tourists often seek authentic local products and experiences. In some areas, ecotourism also provides opportunities for training and skill development, empowering individuals especially women and youth to start small businesses or community-based tourism initiatives. Overall, ecotourism not only reduces rural unemployment but also promotes inclusive growth by spreading economic benefits across the community.

4.3 Awareness regarding conservation and sustainability

Ecotourism is crucial in creating awareness on conservation and sustainability both on the side of the tourists as well as the local communities. Being a type of responsible travelling, which focuses on conservation of natural habitats and welfare of the local communities, ecotourism makes people learn and value the significance of conservation of ecosystems, wildlife species, and cultural heritage. This realization tends to create a more conscious action not only while traveling, but also in day to day life.

Ecotourism is one of the most influential effects as it has the power to keep people in touch with nature in an educational and meaningful manner. By using guided tours, interpretive walks and by engaging in cultural exchanges, tourists get to understand the fragile nature of ecosystems and the plight of endangered species and habitats. Personal experience helps to develop a feeling of responsibility and appreciation of nature which could encourage people to engage in activities that are more environmentally conscious including reducing waste, saving water and promoting green products and efforts.

Ecotourism also aids the local communities in terms of environmental education and training. In the ecotourism projects set up in rural or conservation prone regions, the locals may be offered training in sustainable resource management, waste disposal, wildlife conservation, and environmentally friendly agricultural and construction activities. This education enables communities to oversee their environment and know what they can do to positively or negatively affect their natural environment. To give an example, people who become educated about the economic importance of conservation of forests or marine species because of ecotourism activity are less likely to practice such detrimental behaviors as illegal logging, overfishing or trafficking of wildlife.

In most ecotourism sites, some of the tourism proceeds are invested in conservation activities. It can be a national park investment, wildlife reserve or reforestation efforts or safeguarding of endangered species. Directly, tourists contribute to preservation efforts by paying conservation fees or other types of volunteer programs. These financial donations play a critical role in ensuring that protection zones are maintained and sustainable development programs are done which prove very useful to both the environment and people who rely on the same.

Moreover, ecotourism promotes sustainability in the policies and operations of governments and other private bodies. The increased need to travel in an environmentally friendly way has created green certification programs, sustainable tourism standards, eco-labels that compel the businesses to reduce their impacts on the environment. These involve the consumption of renewable energy sources, minimizing plastic consumption, saving water, and being responsible in waste disposal. With sustainability emerging as competitive advantage in tourism industry, increased businesses are encouraged to embrace and increase green practices. Although effective ecotourism in terms of ecotourism awareness regarding conservation and sustainability relies on proper planning, involvement of the community and responsible management. In the absence of them, ecotourism may result in environmental degradation and cultural exploitation. It is thus of extreme importance that the ecotourism projects are participatory, open and have long term environmental and social objectives.

4.4 Living conditions of local communities

Infrastructure and poor accessibility to basic services are significant threats to the community. Majority of houses are constructed using improvised materials and are therefore quite susceptible to severe weather along the coastal social setting. There are practically no healthcare facilities and even simple medical help requires a long traveling distance on the part of residents. The access to education is limited as there are very few schools that are underfunded and this leads to poor literacy levels among the younger generation. Furthermore, clean drinking water and hygiene facilities are also problematic, being extremely dangerous to health. There is also a lack of transport connections, digital connectivity and communication which further isolates the residents to economic development. The declaration of Churna Island as a Marine Protected Area has curtailed the normal fishing practices leading to economic imbalance to the locals relying on the sea as their sources of livelihood. In the meantime, although ecotourism has increased, the residents are usually left out of the ecotourism benefits as a result of lack of formal training and access to capital. To eliminate such conditions the targeted investment in infrastructure, education and community-based tourism activities that would enable residents to participate in and enjoy sustainable development is needed.

4.5 Unemployment

The recent status of the Churna Island as an MPA, though ecologically admirable, has had the unwanted effect of limiting access to well-known fisheries areas by thousands of artisanal fishermen of Sindh and Balochistan who previously depended on the island marine biodiversity to earn an income^{28 29}. The absence of other sources of employment opportunities combined with poor infrastructure and inadequate vocational education has been able to leave a substantial number of inhabitants in economic strain. Furthermore, uncontrolled tourism and industrialization have reduced locals to peripherals since they are rarely reaped in the economic gains of ecotourism because of lack of sufficient skills and investments.³⁰ To counter that, a multi-pronged approach is necessary which includes introduction of aquaculture (carps farming in ponds) can help diversify the livelihoods, introduction of microfinance and government-supported subsidies can help empower the residents to become part of the eco-tourism sector; and the creation of the community-led conservation and tourism programs can help provide

²⁸ P. Michael Godde, Martin F. Price, and F. Michael Zimmermann, *Tourism and Development in Mountain Regions* (Wallingford, UK: CABI Publishing, 2000).

²⁹ Bruno Messerli and Jack D. Ives, *Mountains of the World: A Global Priority* (New York; London: Parthenon Publishing Group, 1997).

³⁰ Davide Geneletti and Dorje Dawa, "Environmental impact assessment of mountain tourism in developing regions: A study in Ladakh, Indian Himalaya," *Environmental Impact Assessment Review* 29, no. 4 (2009), <https://doi.org/10.1016/j.eiar.2009.01.003>.

inclusive development. When enforced in consultation and alignment with policy, these measures have the potential to turn unemployment into a sustainable economic resiliency.

The Island of Churna is the place with a huge population of artisanal fishermen who are grossly under-serviced in terms of education and medical care. The educational facilities are low, there are not many schools and the available ones are underfunded with poor teachers, lack of basic facilities and unqualified teachers. Economic compulsions, cultural limitations or the lack of secondary educational opportunities cause many children to drop out of school, often girls. Students usually have to walk very far to attend classes and they have no access to digital facilities that alienate them even more to modern learning facilities.³¹ As a result, literacy rates remain low, and opportunities for upward mobility are scarce.

Medical care is equally dire. Mubarak Goth does not have permanent clinics or hospitals and even the simplest medical treatment requires the residents to travel to the urban areas such as Karachi, which are expensive and time consuming. Emergency services are practically non-existent; maternal and child health indicators are especially poor because of the insufficient prenatal care and immunization. Waterborne diseases are common in society which are aggravated by the absence of clean water and sanitation facilities. Living conditions are a demonstration of the cycle of deprivation in which families live in shanty homes whose living conditions can easily be affected by coastal weather, lack of access to electricity and clean water. Lack of investment by the people has made the community peripheral even though it is close to the emerging ecotourism destination. To students, the aspiration to study is usually marred by the reality of having to add to the family income by going fishing or working as an informal laborer. In the absence of specialized measures like mobile health unit, community school and vocational training, the future of a better quality of life is grim.

4.6 Insufficient fundamentals

1.6.1 Water and Sanitation

The problem of clean water is also one of the pressing issues in Mubarak Goth. In the village, there is no controlled water supply system and instead, the people have to rely on tanker water or shallow wells which are mostly polluted. The sanitation facilities are practically absent open defecation and poor waste disposal are the norm and more so the risk of the outbreak of diseases is high. Lack of proper drainage will cause flooding during monsoons, which will further worsen the living conditions and pollute the water sources.

³¹ Nomachule; Subban Lombo, Mogie, "Physical Infrastructure Challenges in Rural Schools: Reflections to Promote Quality Education," *Administratio Publica* 32, no. 1 (2024).

4.6.2 Electricity and Energy Access

Mubarak Goth has intermittent power supply and inadequate power supply. Most families are not directly linked to the grid and still use kerosene lamps or home-made solar panels as a light source. The constant power outages and the insufficient voltage cause the inability to use even the simplest appliances. The result of this is the inability to communicate, educate, and conduct small-scale businesses due to the lack of power, which further increases the socioeconomic divide between rural and urban residents.

4.6.3 Transportation and Connectivity

The village has dire transportation constraints. The access roads are not tarmac and easily get eroded especially during seasonal rains, and therefore traveling to the surrounding towns is costly and unreliable. It has no formal transport network; people usually rely on low rates of personal transportation by cars or even boats. This alienation hinders market, healthcare, educational, and administrative service access.

4.6.4 Digital Infrastructure

Digital inclusion is almost nonexistent in Mubarak Goth. Mobile network coverage is weak, and internet access is extremely limited or absent altogether. The digital divide leaves residents unable to benefit from online education, telemedicine, e-commerce, or emergency communication services. It also restricts awareness campaigns and disaster response coordination during coastal emergencies.

4.6.5 Housing and Urban Planning

Housing structures in Mubarak Goth are mostly temporary and built with materials like wood, tin, or thatch, offering little resistance to storms or saline winds. There is no formal zoning or building regulation, which leads to overcrowding and unsafe living conditions. Most homes lack ventilation, electricity, and sanitation, increasing health risks and diminishing overall wellbeing.

CHAPTER 5

5. Institutional Framework

The effective development of marine ecotourism activities within such an ecologically delicate site like Churna Island is reliant on a well-established institution. Ecotourism development requires proper coordination between various stakeholders, government authorities, non-state people, private sector and the local communities to ensure that evolution of tourism does not go against environmental conservation and socioeconomic development. It is the current chapter that researches both sectors of the respective institutions involved in enabling ecotourism at Churna Island and examines the current policies, forms of coordination, and lacking enforcement.

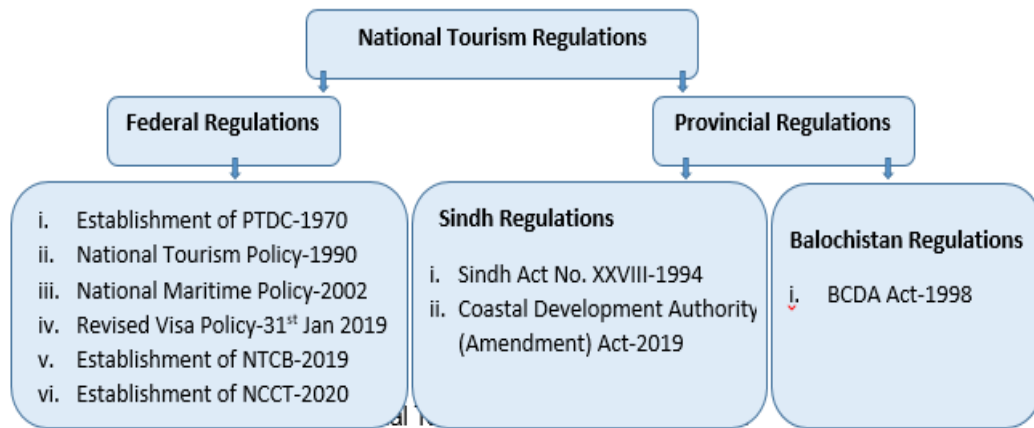


Figure 12: National Tourism Regulations

5.1 Federal government Regulations

5.1.1 Pakistan Tourism Development Corporation (PTDC)

Pakistan Tourism Development Corporation was incorporated on 30th March 1970 under the now-abolished Companies Act 1913 that became subject to replacement by Companies Ordinance in 1984 and is a public corporation limited by its shares [1]. This agency can be described as a government agency whose mandate is to grow and market tourism industry in Pakistan. It has four subsidiaries further partitioned as:

- a. PTDC Motels North Pvt Ltd
- b. PTDC Motels South Pvt Ltd
- c. Associated Hotels of Pakistan (AHP).
- d. Pakistan Tours (Pvt) Ltd (PTL)

Minister Incharge, Secretary In charge and the Managing Director are the members of the Board of Directors (BoD). It has five departments:

- a. Tourism Information Centers.

- b. Marketing, Publicity and Promotion.
- c. Planning Engineering and Development.
- d. Personnel & Administration
- e. Finance & Account.

5.1.2 National Tourism Policy (NTP- 1990)

In the year 1990, the first policy of National Tourism was introduced. It was established as an unconditional policy document, which accords benefits, offers discounts, industrial profits and provision of all services involving tourism. Concessionary loans were also extended to coastal regions of Pakistani geographies (with the exception of cosmopolitan Karachi) as these loans were formerly limited to northern regions only. Five years project was also subject to tax exemption (08 years). Charter flights and tourist helicopters are also allowed to be used in the activities of the private sector. Tour operators and travel agents were equipped with telecommunication facilities like phone, fax and telex facilities. PTDC developed camping grounds and youth hostels which were leased to the private sector to be utilized in tourism and recreation. Seventy two hours transit visa was introduced on arrival of tourists in the country. The government-owned premises could be leased out to the activities of the private sector related to tourism. Tourism adventure activity equipment, including water sports, trekking, hang gliding, mountain climbing, angling, motorboats, water rafting and canoes. Special equipment used in the kitchen and other hotel industry equipment were allowed custom free duty and sales tax exemption under part VII Clause 45 to help cut down the operation costs enabling the private investors. These were very crucial incentives to the promotion of maritime tourism sector in Pakistan by the private sector. Nevertheless, in 2007, 5 percent custom duty was imposed upon Pakistan NTP-1990, a discouraging aspect given the fact that other myriad problems were already being experienced by the maritime tourism sector in Pakistan.

5.1.3 National Maritime Policy (NMP- 2002)

National Maritime Policy (NMP) in 2002 gave particular rules in the management and development of marine resources. NMP-2002 had the primary goal of safeguarding the maritime strategic interests of Pakistan. The policy offered a management architecture of efficient use of the sea and other maritime domains of the Pakistan in liaison with different departments, ministries, and other concerned organizations, through the National Maritime Affairs Coordination Committee (NMACC). The Federal Government also highlighted the importance of water sports activities, maritime tourism and development of infrastructure along the coasts as per Section VI of NMP-2002. It is also reinforced with the NTP-1990 agenda in that the desire to create long term provincial policy concerning the development of maritime tourism and water-sports activities is achieved by the Ministry of Sports, Culture, Tourism and Youth Affairs with consultation of the Sindh and Balochistan under the same section VI Part-0602(c). But with the 18th amendment of constitution of Pakistan, the federal environment of tourism industry has altered. Following the amendment, the tourism industry turned into a provincial area without any

explanation of who would organize maritime tourism and what incentives, which was assured through NTP-1990.

5.1.4 Revised Visa Policy- 31st Jan 2019

On January 31, 2019, policy for visa was revised by Federal Cabinet under Case No. 123/06/2019 and granted 3 months of visitor tourist visa. The visa validity was decided with double stay entries for foreigners from 190 countries for the revival of the tourism industry in Pakistan.

5.1.5 Establishment of National Tourism Coordination Board (NTCB)

The Federal Government in consultation with the provincial government created the National Tourism Coordination Board to promote tourism in Pakistan on 12 March 2019. It is believed to be a great step towards the development of tourism on the national level. NTCB comprises of the following:

- a. The Chairman Board of investment (BOI)
- b. Secretary Inter-Provincial Coordination
- c. Joint Secretaries of Civil Aviation Authority (CAA)
- d. Ministry of Interior and Ministry of information, Foreign office.
- e. Provincial Ministers
- f. Provincial tourism departments of secretaries
- g. Delegates of trade institutions of the private sector (PATO, TAAP and PHA)

To start with, the Government of Pakistan had established nine Working Groups within NTCB but stakeholders of maritime tourism department had not been identified yet. Since a need of Maritime tourism working group which entirely operate on above subject was discovered as a result of a consultative seminar on "Potential of Maritime Tourism Development in Pakistan" organized by the National Institute of Maritime Affairs (NIMA) at Karachi (April 4th, 2019), there was a need to establish a group. It was also promoted subsequently in Tourism Dialogue in Islamabad in April, 2019. The Terms of References (TORs) of the working group have been forwarded to the Federal Government of Pakistan to get their approval.

This coordination agency was supposed to act in tandem with different national and foreign investors in order to boost the tourism industry. It also concentrates on exclusive marketing and promotion plans with the providing the technical assistance at provincial levels. Noticeable results in this industry, especially the development of the maritime sector are still yet to be seen.

5.2 Provincial Context

5.2.1 Balochistan Coastal Development Authority (BCDA) Act 1998

To ensure successful planning and development as well as preservation, construction, monitoring, operation and maintenance of the coastal areas,

Balochistan Coastal Development Authority was established to oversee all the coastal resources including waters in an effective way in the Balochistan province. The Gazette of Balochistan enacted the BCDA Act of 1998 on 12th February, 1998 to provide overall planning and development, monitoring, preservation, construction, and management of coastal areas Balochistan. In the act under Section 07, beautification, development and coordination of the coastal areas within the province were guaranteed. It also had tourism and rural development and drinking water facilities, jetty and harbours, and communication systems, electricity, educational and technical institutions, fisheries and livestock activities along the coastline. In addition, it also emphasized on the partnership with the Federal, Provincial and Public-Private Partnership (PPP) in the development and environmental preservation action. With the 18th amendment in the constitution of Pakistan, the tourism sector became provincial and there was no indication on the institution to take charge on the development of maritime tourism. Nevertheless, no maritime tourism development project involving PPP joint ventures have been witnessed in the past 20 years since the 18th Amendment.

5.2.2 Developments by Balochistan Coastal Development Authority

Balochistan Coastal Development Authority (BCDA) is initiated development projects of 07 tourist destinations along the coast at Lasbella and Gwadar districts. Approximately, PC1 of about Rs.1075 millions are sent to P&D. BCDA is concerned with the Eco-tourism as well and it has initiated tree plantation projects in the coastline. The development projects along the coastlines have also incorporated wind and solar energy projects (BCDA, 2020). During one of the webinars that NIMA organized on the promotion of maritime tourism, the Director General BCDA, Mr. Babar Khan, provided some of the development projects he intends to implement along the Balochistan coastline in the year (2020-21). The significant projects are:

- a. Feasibility analysis of 05 fish landing sites.
- b. About 07 ecotourism resorts to be built on various locations (Gadani, Miani Horr, Kund Malir, Ormara, Pasni, Gwadar Marine Drive, and Jiwani Sunset point)
- c. Construction of 09 rest areas Construction in various points of Coastal Highway (Ghadani, Phoor, Kund Malir, Ormara, Makola Area, Pasni Zero Point, Gwadar, Turbat Zero Point, Jiwani-Gwadar Zero Point)
- d. 08 floating Jetties to be constructed as commercial (tourism, fishing etc.) at Gadani, Damb, Kund Malir, Ormara, Kalamat Horr, Pasni, Gwadar Marine Drive, Jiwani.
- e. Development of 05 beach parks within Gadani, Kund Malir, Ormara, Pasni, Gwadar Marine drive.
- f. Setting up of 02 nurseries of Salicornia plant.

- g. BCDA has also undertaken certain maritime tourism projects as well under the PPP models. Such PPP tourism projects involve Title Park/ Marine Aquarium and Fish Museum in Gwadar, Ferryboat service to tourist, etc. These mega-development projects on the Balochistan coastlines are good signs that BCDA is doing the right thing to make the actual maritime tourism potential in Balochistan come true.

5.2.3 The Sindh Act No. XXVIII 1994

Coastal Development Authority was formed in the development and bedecking of coastal regions in Sindh. Sindh Act No. XXVIII of 1994 (also referred to as the Coastal Development Authority Act, 1994) was enacted on 29th November 1994 to generally develop, improve, and beautify coastal areas of Thatta, Sujawal, and Badin districts in Sindh province. Under Section no. 2, the act guaranteed tourism development projects and drinking water facility, communications, electricity, educational and technical institutions, jetties and harbour construction as well as fisheries development. The act however only covered three districts in the Sindh province above. Section #14 also gave specifications on how to buy, rent out or swap any moving or immovable property in the development projects.

5.2.4 Notification of Coastal Development Authority (CDA) (Amendment) Act, 2019

The amendment of the Sindh Act XXVIII, 1994 is called the Coastal Development Authority (Amendment) Act, 2019. Badin, Thatta and Sujawal districts of Sindh province had only coastal areas covered in the coastal areas in Sindh Act XXVII, 1994. On 18th December 2019, the Sindh Provincial Assembly passed the CDA (Amendment) Bill of 2019, which the Governor of Sindh approved on 22nd January 2020 and released as an Act of Legislature of Sindh. The CDA (Amendment) Act, 2019 / Sindh Act No. IV of 2020 was enacted to widen coastal area all the way to the entire Sindh province. As such, Coastal Areas of the Districts Thatta and Badin into the Coastal Development Authority Act 1994 has since been substituted with the Coastal areas of the Province of Sindh. The Sindh government legislation will help in protection, management and development of the full Sindh coastline including Karachi. The jurisdiction extension of SCDA will enable Sindh to pursue development projects in the entire coastline of the Sindh, which will eventually lead to development of maritime tourism in Pakistan.

5.3 Gaps in Pakistan Maritime Tourism Institutional Framework

When these tourism policy documents and regulations of Pakistan are compared with those of other countries in the region, the following gaps were found in them. Various nations such as Maldives designed their Tourism Master Plans (TMPs) to develop their tourism sector well. The departments of tourism in Pakistan have, however, not yet come up with any Tourism Master Plan. NTCB and NCCT should develop a comprehensive Pakistan Tourism Master Plan that should include a maritime tourism segment in consultation with all four provinces and all other stakeholders. It can be noted that Tourism Master Plans

(TMPs) developed by Maldives government were updated regularly and executed in its national will which led to its success in maritime tourism industries. The case of Maldives being a success story can be simply viewed as a result of a visionary policy and paying particular attention to it by their government.

In Pakistan, there is no particular maritime tourism regulating body where all the concerned parties can be facilitated so that they can have one window operation. The Maldives, an Indian state of Kerala, and the Bali Island in Indonesia have formulated their individual tourism departments as the regulators of the concerned stakeholders (salient of these policies/plans are discussed in the following chapter). To have an efficient mechanism, there is utmost need to have a Maritime Tourism Agency (MTA) or Board as a regulator of Maritime tourism in addition to other stakeholders and come up with effective rules and regulations that will offer single window operations in the development of maritime tourism sector in Pakistan.

The coastline has miles of serene and sandy beaches in Pakistan. The scenic beauty of Pakistan with tourism products has not been exploited due to no funding in advertisement and budget allocation in marketing plans and no marketing plans are detailed in the current policy documents of Pakistan. Similar to Kerala Tourism Policy 2012 and Maldives TMPs, the problem is that one has to design effective marketing policy and budget allocation of small and medium investors to construct motels, guesthouses, tourism villages, water sports activity, games at the beach, etc.

Even though financial rewards such as duties exemption were assured to the private investors in the NTP-1990 to encourage such concerned parties to support the tourism industry in Pakistan. Nevertheless, with the 18th Amendment in the Constitution of Pakistan, there is need to have a clear picture on the responsible department in the provinces to develop and regulate maritime tourism. The problem of high cost on the importation of equipments on water sports and adventure activities has been an issue faced by tour operators in Sindh and Balochistan provinces. At the national level, NTCB and NCCT must reconsider the current policies and make exemption of duties to importation of tourism equipment as well as provision of incentives to attract investors (both local and foreign) in this extremely significant sector of the Pakistani economy.

The spatial development policy (A policy tool to promote tourism activities so as to promote integration with other sectors in a locality or region) is being actively used worldwide to facilitate easy and quick growth of its industry in building tourism infrastructure. These spatial policy tools, however, lacked in the NTP-1990 and the NMP- 2002. Such Spatial Development Policy of tourism activities in Pakistan, with consultation of all four provinces, should also be devised by NCCT to ease the rapid development of infrastructures and to address the problem of land acquisition that hampers the development of tourism especially the maritime tourism sector of Balochistan and Sindh.

The tourism industry especially the maritime tourism is projected to be in a position to boost the GDP (Gross Domestic Product) and eventually enhance the Pakistani economy. However, under good governance of maritime tourism, Pakistan can easily emerge as a tourism destination. Tourism promotion plans and projects can address the aforementioned policy gaps in the tourism sector of Pakistan but it obviously needs a visionary look and devoted attention of the top authority. In the absence of the futuristic vision, it would be hard to plug the policy and strategy gaps towards promoting maritime tourism.

5.4 Role of Stakeholders

Sustainability of ecotourism in Churna Island is based on the cooperation of a multiplicity of stakeholders that tend to perform a unique yet important role within the ecological tourism of the island. These stakeholders are the local fisher folk, tourists who operate in the tourism sector, environmental non-government organizations, government departments and visiting international tourists. The agents of connection between the island to the external markets include tour operators and allied service providers such as boat transport, diving and guided tours, most of whom are based in Karachi. They are therefore key in influencing tourist experience and the ensuing environmental legacy of the activities as well. Marine conservationists and environmental organisations, in their turn, play an intermediate role between expertise and community practice as they spread the knowledge about sustainable tourism standards, among other stakeholders. Tourists would also find themselves in a stakeholder position because their on-site conduct also determines the host environments. All these organizations decide the modalities of the practice of ecotourism, and the study of the distribution of benefits and burdens. The process of stakeholder coordination, nevertheless, is not formal and coherent. As it currently stands, there is no unified management organ that can allow the maintenance of perpetual dialogue between the stakeholders or control the planning and regulation of ecotourism in the Churna Island region. Such institutional gap encourages deviated practices, unequal sharing of benefits, and less level of accountability.

5.5 Non-Governmental Organizations (NGOs)

Non-governmental organizations (NGOs) take center-stage in the establishment and maintenance of conservation-focused tourism activities in the surrounding of Churna Island. Organizations like the Worldwide Fund for Nature (WWF-Pakistan) and the International Union for the Conservation of Nature (IUCN) or even other home-grown environmental organizations have become useful when it comes to popularizing marine conservation and proper use of coastal resources. These organizations have enabled ecological baseline assessments, observing of the coral reefs and creating awareness initiatives to the tourists and the local stakeholders. They also offer capacity-building programmes which include eco-guiding, marine safety and sustainable methods of fishing. These types of intervention promote the exchange of knowledge between scientific networks in professional circles and district residents. Despite contributions, the actions of NGOs are often limited by lack of funds and formal partnerships with government organizations. Most of the

programs are project oriented and have time limits thus limiting their chances of making a long-term impact or scale. Against this backdrop, strengthened partnership between the NGOs, local governments and tourism operators would further been to sanctify conservation goals into ecotourism activities and tourism policies.

5.6 Involvement of Local Communities

Local community involvement forms one of the conditions on which ecotourism projects can be successfully sustained and become legitimate. Small-scale fishermen and their families constitute the dominating majority of the coastal communities in the vicinity of Mubarak Village, in and around the area of the Churna Island and have been long surviving on sea produce and are well-practiced with ecological knowledge. In the recent past, the effort to get the community members involved in ecotourism activities has been rampant where local residents have taken the roles of boat operators, guides, food suppliers and other services providers. This kind of involvement has resulted in alternative sources of income and increased sense of environmental protection as these locals are increasingly realizing the financial worth of a healthy marine environment. However, this process of community engagement has been limited to a great extent to being informal and lacking institutional support. Current structures of participation in the community are rather inadequate and therefore hamper meaningful contributions in the process of tourism planning, resource co-management and linkage to capacity-building opportunities. Moreover, resource allocation and access to information may make certain demographics such as women and young people peripheral in the tourism management and development. As part of enhancing local participation, it should be necessary to ensure that there are inclusive governance mechanisms developed such as the use of community tourism committees, cooperatives and the involvement of the private sector in such partnerships. The process of institutional empowerment with specific training, availability of finance and organizational support is not merely going to improve the livelihood opportunities but also increase accountability and sustainability in the practice of ecotourism.

5.7 Conclusion

There is a package of policy tools that have been outlined by Pakistan to achieve sustainable development, conservation of the marine environment, and responsive tourism planning. These are National Tourism Strategy, Pakistan Climate Change Policy and commitments based on the Convention of Biological Diversity (CBD). Provincial policies like environmental and fisheries policies provide delicate steering in sustainable use of marine resources. However, the integration of marine ecosystem management is enervated. The safeguard of Churna Island is one of the examples of such shortcomings as implementation of national policies and regulations as well as international obligations is not only infirm in Churna Island but non-existent. There are no regulations and plans for ecotourism and marine management including waste management and anchoring which are rarely implemented and checked. Due to this mismanagement leads to pollution in marine environment, coral

destruction and the general loss of landscaping. Some of the key problems that hamper excellent governance involve lack of adequate institutional capacity, unclear jurisdictional turf and a small pool of cadre of trained staff. Therefore, sizeable participation of regulative control of the tourism and conservation activity is usually on evidence-based actions based on the informal norms or the measures at will taken by the non-government organisations and the responsible tour operators. The framework of patchwork is not prepared to deal with the multi-faceted situations that face the ecosystem of Churna Island and citizens of local communities. A site-specific ecotourism and marine management plan composed with all the required elements such as coherent legal systems, sufficient financial resources, and participation of multi-stakeholders is crucial. The regulatory controls must include restrictions on the number of visitors, strict environmental impact studies, harmonic waste management systems and licensing requirements in tourism that are tied to an evident result in conservation.

The ecotourism architecture on the Churna Island, though on an incipient stage of development, has a consortium of various stakeholders operating with discrete yet commensurate roles. The diversity of actors; including government structures, non-governmental organizations, commercial operators, and local people implies the existence of a big involvement in tourism and conservation. However, lack of fully integrated and inclusive institutional framework impairs the achievement of long term sustainability. A much better interaction between these agents, institutionalization of the community involvement in the venture and the strict implementation of the environmental rules are the bare minimum measure towards the development of resilient and inclusive ecotourism model of Churna Island. The active, integrated institutional response is going to be a crucial element in the context of increasing regional tourism to make sure that economic growth can move on with the principles of conservation, social fairness and sustainable development.

CHAPTER 6

6. Global Practices

6.1 Introduction

This chapter focuses on global practices and approaches in marine ecotourism that balances conservation and sustainability with local communities and visitors. These practices includes laws, policies, financial models, on-site management practices and other relevant arrangements. These cases are selected through a structured assessment of peer reviewed articles, reports and websites and shortlisted where there is a visible impact on social, economic and environmental conditions of local communities. Each case is evaluated in terms of socioeconomic outcomes, environmental management, financial structures, governance and legal frameworks. These cases have helped us in identifying gaps in our framework, implementation and management. Therefore, on the basis of positive or negative outcomes of these cases we have highlighted which models are better suitable for Pakistan coast.

6.2 Regional practices

6.2.1 Semporna, Sabah, Malaysia

Malaysia is a developed marine ecotourism destination due to its islands and beaches. It is surrounded by the waters of Andaman Sea, Sulawesi Sea, Strait of Malacca and South China Sea.

Semporna is the largest town located in Semporna district Sabah. It has an area of 442 square miles located near international maritime borders of Indonesia and Philippines. This area is home to several islands that are significant ecotourism sites. These islands include, Mabul Island, Kapalai Island, Matakong Island and Sipadan Island. The distinctiveness of marine habitats at each island makes them a well-known marine ecotourism location.

Marine ecotourism activities in Semporna, Sabah have a direct economic impact on the local population in terms of livelihood as it generates income, employment opportunities and facilitate business growth. These activities include seaweed, pearl, shrimp farming, snorkeling, diving and fish exhibitions etc.

A quantitative study was carried out with 80 respondents which showed that marine ecotourism activities have a financial consequence on the local community which includes generation of employment and business opportunities and development of small and medium-sized enterprises (SMEs).

Marine ecotourism in Semporna has resulted in expansion of small and medium size enterprises among local population. The growth of SME's is apparent in the growth of craft industries, especially those who are involved in producing souvenirs with shells, accommodations, processed food industries and other relevant local sectors. The involvement of local communities is also seen as wholesalers, suppliers, chalet and boat operators and restaurant owners.

Expansion in businesses and services has created a source of income as well as increase in entrepreneurship in local community, resulting in reduction of unemployment rates and poverty. However, SME's are often less stable because during public holidays, weather conditions etc, there is a reduction in the amount of tourist which consequently effects the livelihood of communities that rely on ecotourism. This results in economic insecurity if there is no inclusive economic plan.

Expansion in ecotourism activities created jobs like activity operators and tour guides and created secondary jobs in sectors such as accommodation, logistics and food. Most of the population which was previously involved in fishing has shifted towards these secondary activities like tourism and its services mainly due to higher income and economic security. These opportunities extend further than service sectors towards areas such as environmental conservation, research, and management. The reason behind this extension is the involvement of collaborators including private organizations and government bodies in the development of the marine ecotourism sector. These opportunities resulted in motivating and shifting youth's perception to expand their local areas rather than migrating anywhere else. The extension of marine ecotourism sector also promotes residents to acquire skills and specialized training including education programs.

The following pie chart shows the distribution of households among each income category in Semporna sabah. This chart illustrates that 65 percent of the households earn MYR 2001-3000 per month while only a small portion is seen to be earning above MYR 3500 and 22.5 percent of households are seen to be earning less than MYR 1000. This explains that although ecotourism has generated employment opportunities but still a significant portion is still financially insecure and financial gains are limited to a small number of people mainly divers, resort owners or people directly associated with tourism industry.

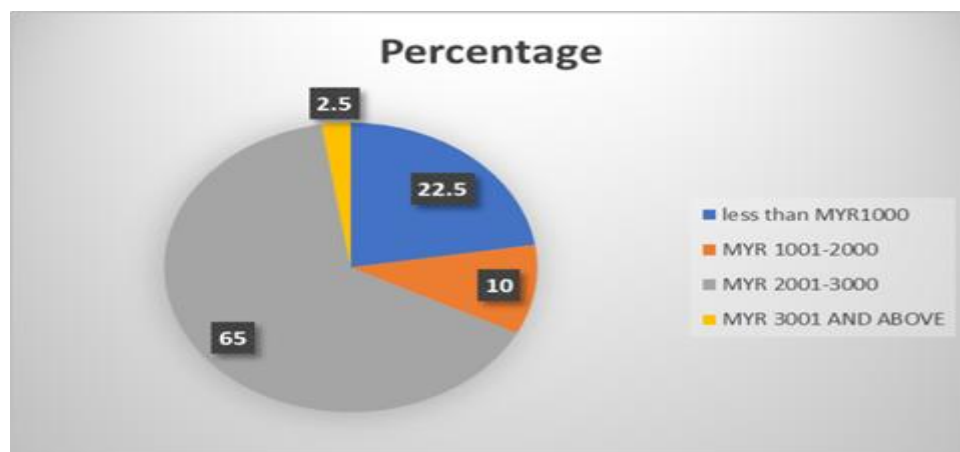


Figure 13: Household income distribution in Semporna ³²

Tourism has boosted this sector mostly due to the higher flow of funds in the industry that aids community development. Consequently, increasing levels of

³² Rosmiza M.Z, "Economic Impact of Marine Ecotourism on the Local Community in Semporna, Sabah, Malaysia," *Pakistan Journal of Life and Social Sciences (PJLSS)* 23, no. 1 (2025), <https://doi.org/10.57239/pjlss-2025-23.1.0066>.

income have occurred, however, it might not be sufficient to interfere with the overall economic well-being. However, visible progress can be observed by means of investment into development of infrastructure, education, and healthcare that offer necessary services such as clean water, improved sanitation, and more advanced public facilities in tourist sites.

Collaboration between SME's and tourism agencies for promotion of marine ecotourism products can help to improve demand and prominence of this area and can regulate economic growth. Therefore, there is a need to implement policies and frameworks that cultivate more integrated and inclusive economic development which should involve active involvement of residents. This will ensure that marine ecotourism holds relevance in fostering economic benefits and sustainability.³³

6.2.2 Ecotourism in Japan

Japan's tourism industry is highly successful contributing to about 7.5 percent to its GDP. In 2024, the number of tourists increased to about 36.87 million as compared to previous year which was 25.07 million. The inbound tourist spending reached to JPY 8.1 trillion (USD 53.3 billion)³⁴. Marine Ecotourism is considered as one of the possible reasons behind this success. Marine ecotourism has become a focal point for development of Japan providing several social and economic benefits to coastal areas.

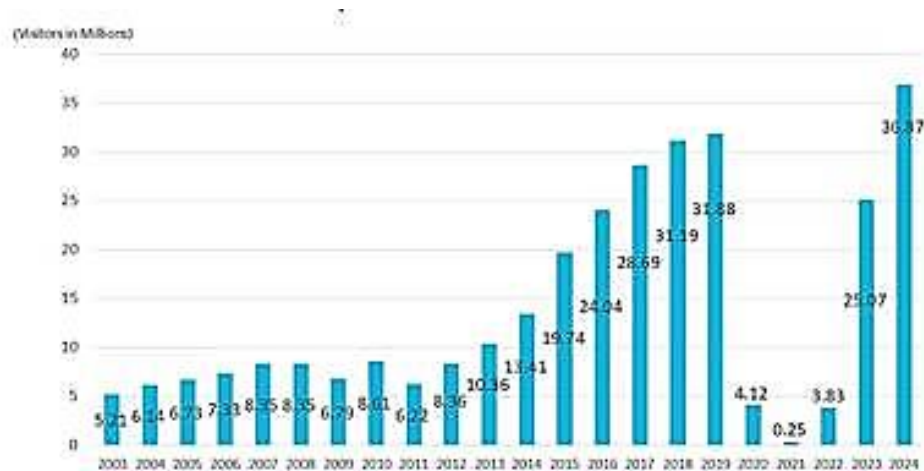


Figure 14: Trend of Japan's Tourism Growth ³⁵

According to recent studies, Ecotourism can be a source of employment, environment safety and community resilience. In Japan, Satoumi, a community-based approach is the most widely used method. Satoumi projects in locations such as Ago Bay, Shiretoko, Nanao, and Hinase Bay have demonstrated how these methods can promote green products, integrate biodiversity conservation

³³ M.Z, "Economic Impact of Marine Ecotourism on the Local Community in Semporna, Sabah, Malaysia."

³⁴ "Tourism in Japan: A look at the Numbers from 2024 and the Outlook for 2025," JITTI USA, updated March 2025, 2025, accessed August 22, 2025, <https://www.jittiusa.org/jittijournal-1/tourism-in-japan%3A-a-look-at-the-numbers-from-2024-and-the-outlook-for-2025>.

³⁵ Koyama, "Tourism in Japan: A look at the Numbers from 2024 and the Outlook for 2025."

into local decision-making and enhance community involvement.³⁶ Because conservation interests and local livelihoods are aligned, Satoumi is a powerful initiative that can help small businesses make money.

The term Ecotourism in Japan is defined by the Japan Ecotourism Society (JES). According to them, ecotourism is an activity that restores local economies by offering tourist experiences of local attractions. These experiences are led by trained guides while preserving culture, natural environment and historical heritage. The Japan ecotourism society focuses on three main elements which includes environmental protection, individuality of communities and a sense of adventure for visitors.

It also considers that ecotourism requires coordination among tourists, government, local communities, researchers and tourist industry. The differentiating character of Japanese approach is its involvement of local communities and involvement of cultural and historical conservation.

Japan offers several renowned ecotourism locations which are mostly located near Okinawa. These include Yakushima which is famous for ancient cedar trees and waterfalls and Ishigaki island which is noted for its beaches and coral, Irimote Island which boasts jungles and mangroves and Ogasawara which is a remote island chain under Tokyo's jurisdiction that offers dolphin and whale watching. Ogasawara also enforces voluntary whale-protection measures, such as maintaining a minimum distance of 100 meters from the animals. These nature-based destinations have been supported by conservation-oriented tourism practices. However, Japanese ecotourism also includes cultural elements, such as rice-farming experiences in Shimane Prefecture, and tours that support local industries.

³⁶ Junko Toyoshima et al., "Assessing effectiveness of satoumi activities in Japanese coastal areas from ecological and socioeconomic perspectives," *Ocean & Coastal Management* 230 (2022), <https://doi.org/10.1016/j.ocecoaman.2022.106354>.



Figure 15: Yakushima island³⁷



Figure 16: Ogasawara Island³⁸

³⁷ "Yakushima," Japan National Tourism Organization (JNTO), accessed August 23, 2025, <https://www.japan.travel/en/destinations/kyushu/kagoshima/yakushima/>.

³⁸ "Ogasawara Islands," Japan National Tourism Organization (JNTO), accessed August 23, 2025, <https://www.japan.travel/en/spot/365/>.



Figure 17: Iriomote Island³⁹



Figure 18: Ishigaki Island⁴⁰

Japan took a significant legal step in 2008 in which it passed a law to support ecotourism. This law was guided by four principles. These principles included environmental protection, tourism industry development, regional revitalization and environmental education. The government also agreed to support communities, train personnel and enhance public awareness. This law has

³⁹ "Iriomote Island (Iriomotejima)," Japan National Tourism Organization (JNTO), accessed August 23, 2025, <https://www.japan.travel/en/spot/570/>.

⁴⁰ "Ishigaki Island and Around," Japan National Tourism Organization (JNTO), 2025, accessed August 23, 2025, <https://www.japan.travel/en/destinations/okinawa/okinawa/ishigaki-island-and-around/>.

offered financial support to communities by covering up 50% of costs of projects in selected areas. Moreover, the Ministry of the Environment sends expert advisors to help align plans according to local needs.

Public relations initiatives have also been initiated, featuring the creation of the “Ecotourism Grand Prize.” It acknowledges outstanding achievement in the area and aids in sharing effective methods. A catalog of certified ecotourism operators was created that outlines tour offerings and environmentally friendly aspects. These initiatives seek to enhance understanding and inspire both public and private partners.

Private enterprises especially major travel firms have contributed as well. In 1985, Japan Travel Bureau initiated an environmental campaign and subsequently created specialized tours such as “Fabre” and “Love Earth” which targets eco-aware travelers. They also incorporated carbon offsetting into their sustainability strategy. H.I.S. is a prominent travel agency which provides ecotours that are designed for individual travelers and has engaged in ecotourism both locally and globally. Smaller firms like Picchio, have shown remarkable innovation.

NPOs like the Japan Ecotourism Society are central to promoting and sustaining ecotourism efforts. Japan Ecotourism Society organizes forums, guest lectures, training sessions for ecotour guides, and symposia for university students to conduct and share research.

Several regional case studies highlight the diverse approaches and challenges across Japan. In Gifu Prefecture, the town of Gero developed a Destination Marketing Organization (DMO) to promote itself as an ecotourism hub. In 2017, the town attracted 1.1 million visitors, contributing to Japan’s goal of increasing inbound tourism. The challenge of limited accommodations was addressed by spreading tourist visits across different seasons and destinations. In Aomori Prefecture, the Oirase area near Lake Towada revitalized its tourism appeal by focusing on unique features like local moss, encouraging longer stays. On Miyakojima Island in Okinawa, an “Eco-island” declaration led to an influx of tourists. However, this caused environmental degradation, prompting a crowd funding campaign to introduce an “Eco-island passport” that promoted sustainable tourism etiquette.



Figure 19: Miyako Island (Miyakojima)⁴¹

Yakushima and Ogasawara are considered much more advanced in their ecotourism practices. They both are considered as UNESCO world heritage sites.

Yakushima has an easier access as compared to other places which comparatively increased its no of visitors. It is also designated as a world heritage site which has informed residents about ecological significance of Yakushima. In comparison, Ogasawara receives less tourists than Yakushima. Bu they are found to be more committed leading to a strong cooperation between local authorities and private operators. In addition Iriomote Island and Amami Oshima are suffering with mismanagement and their administration shows little to no support. However, both places have the potential to improve and learn from practices followed in Yakushima and Ogasawara.

In conclusion, Japan's ecotourism industry stands at a critical stage. This industry requires strong support from government in terms of policy implementation. It also requires collaboration between public and private sectors. As a consequence, ecotourism can become a principle strategy for protection of natural and cultural heritage, sustainable tourism and revitalizing rural areas.⁴²

6.2.3 Raja Ampat

One of the Indonesia's most famous ecotourism destination is Raja Ampat in West Papua. It is mainly famous due to its vast natural resources and tourist appeal which gives it potential for ecotourism.

⁴¹ "Miyako Island Travel Guide – What to do on Miyakojima," Japan-Guide.com, 2025, accessed August 23, 2025, <https://www.japan-guide.com/e/e7300.html>.

⁴² Riho and Brian, "The current state of ecotourism in Japan."



Figure 20: Raja Ampat⁴³

Over the last few years Raja Ampat has witnessed consistent and positive tourism growth. Numerous development and management measures have been implemented to boost and enhance the tourism sector while preserving the region's biological richness and biodiversity.

Marine conservation is a key concern that the government prioritizes at the district, provincial and national levels. This goal is carried out in collaboration with the Worldwide Fund for Nature (WWF), Conservation International (CI) and The Nature Conservancy (TNC), which has initiated a network of Marine Protected Areas (MPA) under the jurisdiction of the central and local governments, with a total area of 2,000,109 hectares currently covered. All MPAs are divided into zones, each of which governs permitted and banned activity. Saving coral reefs has essentially been a motivation since 2004, when the first MPA in Raja Ampat was established. The Raja Ampat Islands Marine Protected Area Management and Zoning Plan document for 2019 - 2038 can be studied for marine conservation activities, which basically discusses the implementation of environmental education, coordination with policymakers, adaptation to climate change, implementation of marine resource rehabilitation programs and coastal areas and campaigning for bans that harm local ecosystems.

Natural resources are critical to the development of ecotourism in Raja Ampat, acting as the foundation for the destination's attraction and determining the experiences available to eco-conscious travelers. The vast natural resources of Raja Ampat, including pristine coral reefs, lush rainforests, diversified animals, and magnificent landscapes, are the main appeal for ecotourism.

⁴³ "About Raja Ampat," Papua Explorers, accessed August 23, 2025, <https://www.papuaexplorers.com/about-raja-ampat/>.

Raja Ampat is still an area with insufficient infrastructure. Circular economic practices like waste management and processing are difficult to adopt. A multidimensional strategy that includes government and community-based initiatives is recommended to establish circular ecotourism in Raja Ampat. In addition to that the government should actively invest in infrastructure and technology such as waste management facilities and advanced recycling technologies to minimize waste. Moreover, educational campaigns for both locals and officials are required to promote mutual benefits of circular economy. Policy implementation that includes incentives for waste management regulations and sustainable practices are also necessary⁴⁴.

6.2.4 Maldives

Tourism is the main economic driver of Maldives and contribute significantly to the country's gross domestic product. In 2024 the GDP increased by 5.5 percent due tourism related activities. Tourist arrival also showed an increase of 8.9 percent leading to 2.05 million in 2024. This increase was mainly due to China, Russia and Western Europe being the leading contributors⁴⁵.

Although tourism in Maldives significantly contributes to its revenue, it can also lead to consequential damage to ecosystems. In order to mitigate these impacts the government of Maldives has encased sustainability into legal frameworks. Article 22 of the 2008 constitution obligates the government to preserve the biodiversity, natural environment and aesthetic appeal for the future generation while article 23 states that the government is responsible for safeguarding the environment ensuring the rights of citizens to a healthy and ecofriendly environment. In 2015 the Maldivian government enforced green tax, which helps in implementing environmentally friendly initiative such as waste management, climate resilient infrastructure and sanitation programs etc. The Maldivian legislation has also established legal frameworks including the Climate Emergency Act (2021), the Environmental Protection and Preservation Act (1993) and the Maldives Tourism Act (1999). Maldives also participates in global climate agreements such as Paris Agreement. Moreover, Maldives Tourism Act and Maldives Tourism Climate Action Plan assign rigid environmental standards for tourism industry.

In addition to that Maldives is also working towards community-based tourism models to increase engagement of local communities ensuring their involvement and benefit sharing. The local communities are actively provided with vocational training and skills development initiatives to gain employability in tourism sectors. They also provide educational and awareness programs which include Manta on Call; a project to increase awareness regarding manta ray conservation, the Olive Ridley Project; a project that works on rehabilitation of turtles and protection of their habitats, Six Senses Laamu that focuses on operational sustainability, manta ray protection and guest education and Diamond Thudufushi; a resort that partners with university for integrated

⁴⁴ Farhan Riswandha Jhuswanto and Nurul Fajriyah, "Circular Economy for the Raja Ampat Ecotourism Development: Perils, Potentials, and Study Cases Discourse," *Journal of World Trade Studies* 8, no. 1.

⁴⁵ "Maldives overview," <https://www.worldbank.org/en/country/maldives/overview>.

conservation studies. Moreover, Maldives has also initiated reef and island cleaning initiatives that not only lead to community engagement but also act as a passage to enhance cooperation between local residents and tourists⁴⁶.



Figure 21: Heritance Arah Eco Resort in Maldives⁴⁷

Many resorts in Maldives have invested in solar and wind energy reducing their dependence on fossil fuels, which has not only reduced operational cost but also provide brand appeal to tourist that supports green initiatives which makes the initial investment in the energy system to be recouped within the next 4-5 years. They have also transitioned to grey water recycling and rainwater harvesting which also reduces operational costs, reduced water consumption up to 20 percent and mitigated the problem of seasonal water shortages. Waste management through recycling programs and composting have lowered waste disposal costs by 20 percent leading to reduction in landfill use and increased satisfaction of guests through visible sustainable commitments. In addition to that most of the resorts hold certification like Earth Check and Green Globe that has resulted in significantly high occupancy rates as compared to resorts that have no certifications⁴⁸.

6.3 International practices

6.3.1 Gazi Bay, Kenya

Gazi bay is located on Kenya's southern coast and is known for its mangrove ecosystems that provide crucial environmental services but are subjected to face pressure from overharvesting and anthropogenic activities. To address

⁴⁶ Paolo Galli et al., "From Stars to Sustainability: An Integrated Analysis of Sustainable Practices and Environmental Policies in Maldives Resorts," *Sustainability* 17, no. 11 (2025), <https://doi.org/10.3390/su17115191>.

⁴⁷ "Top luxury eco resorts in Maldives," Green Healthy Places, 2025, accessed August 23, 2025, <https://www.greenhealthyplaces.com/journal/luxury-eco-resorts-maldives-sustainable-hotels>.

⁴⁸ Ahmed Riyaz, "Impact of Eco-Friendly Practices on Resort Profitability in the Maldives," *International Journal of Modern Hospitality and Tourism* 4 (11/06 2024), <https://doi.org/10.47604/ijmht.3064>.

these problems, Kenya has introduced Gazi Women Boardwalk in 2006 which offers conservation and local development.



Figure 22: Gazi Women Boardwalk⁴⁹

The study conducted in Gazi Bay, Kenya, examined the role of Community-Based Ecotourism (CBET) in enhancing mangrove conservation and supporting local livelihoods. The initiative led by Gazi Women Boardwalk Group since 2006, was established through donor support to provide alternative income sources while encouraging environmental stewardship.

According to a research study conducted on Gazi Women Boardwalk, Ecotourism was found to have a positive impact on the community's socio-economic well-being. Benefits included improved access to education and healthcare, increased entrepreneurial activity, job creation, and support for local schools and clean water projects. The initiative also contributed to environmental protection through mangrove restoration and conservation awareness. The mangrove forest provided both direct use values (such as firewood, construction materials, and fisheries) and non-use values (like air purification and aesthetic appeal), highlighting its importance to local livelihoods and cultural identity.

Nevertheless, several challenges were discovered. More than half of the community (66 percent) said that they had no control over the ecotourism project and 71 percent felt they were not getting a fair financial cut. The project was hampered by issues of bad boardwalk maintenance, mismanagement, poor marketing expertise, the size of the tourist market as well as shortage of accommodation. Moreover, not many of the residents belonged to conservation organizations and what decreased the level of trust and involvement of residents was the strife in the management group. The excessive dependence of the community on the resources of mangroves requires creating additional sustainable management practices in which economic incentives and environmental protection are intertwined. To sum up, the ecotourism of Gazi Bay has shown possibilities of enhancing livelihoods of people in local settings and in conservation of mangroves. Nevertheless, its sustainability requires the resolution of problems in the field of governance, enhancement of the level of

⁴⁹ "Gazi Women Mangrove Boardwalk: Gazi Bay," Abiri Kenya, accessed August 23, 2025, <https://abiri.home.blog/counties/kwale-county/gazi-women-mangrove-boardwalk/>.

participation and transparency, as well as the use of unexploited local resources and digital technologies. These areas can be strengthened to increase the sustainability of the initiative and be used as an example of community driven conservation⁵⁰.

6.3.2 Belize Barrier Reef (Belize)

Belize is one of the important tourism spots, having Belize barrier reef as the main attraction. It expands over the entire coastline highlighting the country as the premier destination for marine ecotourism. According to majority of locals, tourism has helped in improving the health of corals. The dependency of Belize on its tourism industry would require it to safeguard health of its corals in order to continue its success as a tourist spot.



Figure 23: Belize Barrier reef⁵¹

It is evident that mass tourism can have adverse effects on coral reefs. These effects include anchor damage, pollution, direct contact, over development and sedimentation. Although tourism has also created some major positive shifts in the life of local communities. Before tourism flourished in Belize, majority of communities were dependent on fishing as a source of livelihood. Research shows that a significant number of these people is seen to shift from fishing to various stages of tourism.

⁵⁰ Robert M. Runya et al., "Local perceptions, opportunities, and challenges of community-based ecotourism in Gazi Bay, Kenya," *Western Indian Ocean Journal of Marine Science* 21, no. 2 (2023), <https://doi.org/10.4314/wiojms.v21i2.9>.

⁵¹ "Belize Barrier Reef," Encyclopaedia Britannica, accessed August 23, 2025, <https://www.britannica.com/place/Belize-Barrier-Reef>.

The Belize Barrier Reef benefits from a cooperative-based tourism model, with high levels of community participation in eco-tourism activities. Tourism provides a moderate-to-high and consistent source of income for local people. Conservation efforts in Belize are well funded through a combination of UNESCO support and national tourism revenue. These programs are responsible for sustaining reef protection and environmental education. The reef region is equipped with ecolodges, visitor centers and guided mangrove tours which is a source of enhancing visitors' experience.

According to research, tourism development has a profitable influence on coral reef awareness and conservation. The data indicate that as tourism develops, it improves the quality of life of local people. Moreover, additional data showed a positive correlation between tourism development and local cooperation which interprets that ecotourism has resulted in more jobs for residents. The results of this research suggest that Belize's tourism and environmental policies benefit local people and complement coral reef conservation measures. This is particularly so in the case of the widespread designation of MPAs and the regulations requiring that all tourists who visit them be accompanied by a trained local guide. The latter provides an important source of alternative livelihoods and is most likely a major reason for the surprisingly low level of opposition to MPAs from local fishermen. In fact, many of the tour guides encountered during this study had been fishermen in the past and felt that the switch from fishing into tourism had had a positive impact on their lives.

However, a contradiction was observed in the practices of these tour guides. The majority of tour guides who showed their support for conservation and sustainability during interviews are also involved in illegal practices. These practices are often carried out due to economic necessity in times when tourism activities are reduced. This explains that economic need outweighs the values of coral reefs. Moreover, Belize has relatively low population which is one of the reasons behind its better condition as compared to other reefs.

Environmental education is incorporated into school curricula and guide training, fostering a culture of stewardship. Reef access is managed through legal protections and zoning, ensuring sustainable use of the marine environment. Women play an active role in the tourism sector, particularly in mangrove tours and hospitality services. The MPA is effectively enforced, and co-managed fisheries help support long-term reef health.⁵²

6.3.3 Great Barrier Reef

The Great Barrier reef (GBR) is 2300 kilometers long located at Australia's northeast coast. It is one of the most important marine ecosystems and popular tourist destinations of the world. It is designated as UNESCO World Heritage Area. The Great Barrier Reef supports an extensive tourism industry and provides 60000 jobs and hosts 2 million visitors annually⁵³.

A. Diedrich, "The impacts of tourism on coral reef conservation awareness and support in coastal communities in Belize," *Coral Reefs* 26, no. 4 (2007), <https://doi.org/10.1007/s00338-007-0224-z>.

⁵³ "Great Barrier Reef," IUCN World Heritage Outlook (International Union for Conservation of Nature), accessed August 22, 2025, <https://worldheritageoutlook.iucn.org/ar/explore-sites/great-barrier-reef>.

The industry covers diverse activities including day trips, live-aboard diving expeditions, snorkeling, glass-bottom boat tours and underwater viewing experiences⁵⁴. Marine tourism activities, which includes scuba diving and snorkeling, have become primary attractions that capitalize on the reef's biodiversity and coral formations.



Figure 24: Great Barrier Reef^{55 56}

The tourism infrastructure includes various operators ranging from small-scale local businesses to large commercial enterprises. It also includes live-aboard dive boats that are responsible for generating substantial regional economic activity⁵⁷. The industry's structure reflects a mix of day-trip operators, expedition services and ecotourism ventures that cater to different markets and visitor preferences⁵⁸.

The Great Barrier Reef recorded around 2.13 million visitor days in the year 2023. Tourism is considered as the foundation of Queensland economy. International visitors spent AUD 6.3 billion in the year ending March 2025⁵⁹. The southern Great Barrier reef captured AUD 107.5 million in international overnight spending which is a 26.5 % increase while the Whitsundays generated AUD 243.3 million⁶⁰. This data highlights the reefs global appeal and the significance of marine ecotourism which has become important to ensure long term sustainability

The GBR tourism industry serves as a significant employer in coastal Queensland communities. The sector directly employs thousands of individuals

⁵⁴ Alexandra Coghlan, "Last chance tourism on the Great Barrier Reef," in *Last Chance Tourism* (Routledge, 2013).

⁵⁵ "Great Barrier Reef."

⁵⁶ "Great Barrier Reef Marine Park," National Museum of Australia (Defining Moments), 2023, accessed August 23, 2025, <https://www.nma.gov.au/defining-moments/resources/barrier-reef-marine-park>.

⁵⁷ Natalie Stoeckl et al., "Live-aboard dive boats in the Great Barrier Reef: regional economic impact and the relative values of their target marine species," *Tourism Economics* 16, no. 4 (2010).

⁵⁸ Alexandra Coghlan and Bruce Prideaux, "Reef tourism drivers and trends: synthesis report: analysis of recreational and tourism use and impact on the Great Barrier Reef for managing sustainable tourism," (2012).

⁵⁹ "Queensland Breaks International Visitor Spending Record," Mirage News, 2025, accessed August 23, 2025, <https://www.miragenews.com/queensland-breaks-international-visitor-1484347/>.

⁶⁰ "Record-breaking year for Queensland tourism," Inside State Government 2025, accessed August 25, 2025, <https://www.insidestategovernment.com.au/record-breaking-year-for-queensland-tourism/>.

across various roles including boat operators, dive instructors, tour guides, and support staff⁶¹. Marine tourism activities create both direct employment opportunities and indirect economic benefits through supply chain linkages and service provision.

Coastal communities demonstrate varying degrees of dependency on the GBR, with commercial tourism operators showing high levels of both financial and emotional attachment to the reef system⁶². The industry supports local economies through employment generation, business opportunities and infrastructure development. Indigenous communities have also developed specialized coral reef tourism initiatives that combine cultural heritage with marine conservation education⁶³.

The GBR encounters various environmental pressures as a result of climate change. This includes coral bleaching events, ocean acidification and rising sea temperatures. These environmental challenges directly threaten the tourism industry because coral health and marine biodiversity are considered as primary attractions for visitors⁶⁴.

Tourism operators have enforced various eco-management strategies which includes education programs, coral restoration initiatives and sustainable diving practices⁶⁵. The industry recognizes that long-term economic sustainability depends on maintaining healthy reef ecosystems therefore it has invested in conservation efforts and research programs.

Recently, GBR tourist management has stressed on the approaches that recognize relations between environmental health and economic benefits⁶⁶. The main aim of these approaches is to balance development and conservation through stakeholder engagement and integrated planning.

Community based ecotourism initiatives have achieved more equitable distribution of tourism benefits while supporting conservation goals⁶⁷. These programs ensure economic benefits that support both livelihoods and environmental stewardship of local communities. The GBR tourism industry exhibits varying levels of resilience due to various factors that include

⁶¹ Erin Bohensky et al., "The Social and Economic Long Term Monitoring Program (SELTMP) 2013: coastal communities in the Great Barrier Reef," (2014).

⁶² Nadine A Marshall et al., "The dependency of people on the Great Barrier Reef, Australia," *Coastal Management* 45, no. 6 (2017).

⁶³ Henrietta L Marrie, "Indigenous coral reef tourism," in *Coral reefs: Tourism, conservation and management* (Routledge, 2018).

⁶⁴ D Biggs, NC Ban, and CM Hall, "Lifestyle values, resilience, and nature-based tourism's contribution to conservation on Australia's Great Barrier Reef," *Environmental Conservation* 39, no. 4 (2012).

⁶⁵ Lorna Howlett et al., "Coral growth, survivorship and return-on-effort within nurseries at high-value sites on the Great Barrier Reef," *PLoS One* 16, no. 1 (2021).

⁶⁶ Anna Phelan, Lisa Ruhanen, and Judith Mair, "Ecosystem services approach for community-based ecotourism: towards an equitable and sustainable blue economy," *Journal of Sustainable Tourism* 28, no. 10 (2020).

⁶⁷ Kathleen A Nolan, "Improving socio-economic stability and natural sustainability of coral reef ecosystems through mitigation, ecotourism and education," *International Journal of Social Entrepreneurship and Innovation* 3, no. 1 (2014).

diversification of tourism products, adaptive management practices and strong community networks⁶⁸.

Long-term sustainability of GBR tourism requires integrated approaches that include continued investment in coral restoration, sustainable tourism practices and community engagement in conservation efforts⁶⁹.

6.3.4 Costa Rica

Costa Rica provides an opportunity for travelers that seek sustainable options while travelling. Costa Rica is highly dedicated to ecotourism and provides wide range of landscapes and biodiversity. Moreover, tourist who prioritize sustainability often choose locations that follow these guidelines. Costa Rica provides this option to its visitors allowing them verify sustainability practices by looking for certifications and ratings.

Certification for sustainable tourism (CST) is a certificate established by Costa Rica's government that provides sustainability ratings of hotels and tour agencies. This program thoroughly analyzes sustainable practices of business and make sure that they are following them strictly. Another international certification program called The Blue Flag is awarded based on environmental practices. In this way the visitors can have confidence that their travel choices align with their values.

There is another certification program called "The Blue Flag" which is an international certification awarded to specific communities and beaches based on their environmental practices. These programs help visitors in making informed decisions and support business that commit sustainable practices⁷⁰.

The Cocos Island national park accompanied by Bicentennial Marine Management Area is considered Costa Rica's largest Marine protected area (MPA). This MPA is known for its biological significance and safeguards one of the Eastern Pacific's diverse coral reefs. It is characterized by critical pelagic species and high endemism. This park serves as an important breeding and feeding ground for endangered species like the silky and Galapagos sharks and scalloped hammerhead shark.

⁶⁸ Biggs, Ban, and Hall, "Lifestyle values, resilience, and nature-based tourism's contribution to conservation on Australia's Great Barrier Reef."

⁶⁹ Kumar et al., "Ecotourism: a holistic assessment of environmental and socioeconomic effects towards sustainable development."

⁷⁰ "Experience Pure Ecotourism in Costa Rica: A Green Adventure," 2023, accessed August 11, 2025, <https://expat-tations.com/lifestyle/ecotourism-in-costa-rica/>.



Figure 25: Map of Cocos island ⁷¹

This park is internationally renowned for its various statuses such as a UNESCO World Heritage Site (1997), a Ramsar Wetland of International Importance (1998), an Architectural Historical Heritage of Costa Rica (2002), and a “Blue Park” for Global Ocean Refuge by the Marine Conservation Institute (2019).

In December 2021, Carlos Alvarado Quesada, Costa Rica’s former President, successfully expanded marine protections around the Cocos Island National Park and its surrounding seamounts (now the Bicentennial Marine Management Area). It increased the country’s total ocean conservation area to 161,129.56 km².



Figure 26: Cocos island⁷²

⁷¹ "Cocos Island," accessed 2025, August 23, <https://www.aggressor.com/destination/Cocos>.

⁷² "How to get here — Cocos Keeling Islands," Cocos Keeling Islands Tourism Association, accessed August 23, 2025, <https://cocoskeelingislands.com.au/travel-info/how-to-get-here/>.

The FAICO and Alliance are collaborating for a General Management Plan. This plan will focus on recently expanded Cocos Island National Park and Bicentennial Marine Management Area, as well as a complimentary Fisheries Plan for the latter. The Alliance is also focusing on building connections with the area's administrative teams and international networks such as Big Ocean. In addition, they are also emphasizing on reducing financing gaps to regulate effective MPA implementation. For this purpose, they are assisting in adoption of a new revenue stream mechanism. In 2022, Blue Nature Alliance's first phase was concluded. This phase played a key role in expansion of protected areas from 11,683 km² to 161,129.56 km²⁷³.

Costa Rica shows how measures such as strict park management, payments for ecosystem services and sustainability certifications can help a country flourish its tourism industry and attract visitors while safeguarding ecosystems. Although there are still key challenges to be addressed like overcrowding but still the current model has supported rural livelihood conservation, financing and jobs.

In the end, Costa Rica can teach a replicable lesson: establish ecological boundaries, ensure tourism is tied with local benefits, and gauge success in terms of performance evaluation rather than tourist inflows.

6.3.5 Bonaire Island

Bonaire Marine Park consists of Klein Bonaire and the water around Bonaire reaches a depth of 60 meters from the high-water mark. This area lies within the territorial waters and the authority of the island executive of Bonaire. Klein Bonaire is considered as the largest uninhabited island in the Caribbean. This area is home to abundant coral reefs and is also a parts of protected underwater park

⁷³ "Costa Rica's Cocos Island," 2025, accessed August 11, 2025, <https://www.bluenaturealliance.org/locations/costa-ricas-cocos-island/>.



Figure 27: Bonaire Island⁷⁴

The Bonaire Marine Park accommodates over 350 species of reef fishes and 50 varieties of stony corals. This park hosts around 2,700 hectares of coral reefs, mangroves and seagrass beds. The flora and fauna of this park are considered relatively less degraded and in healthy condition. The beaches of Bonaire and Klein Bonaire provide a nesting ground for sea turtles. These sea turtles feed in Lac Bay mainly due to its location which is isolated from the sea by coral reefs. The bay is surrounded by mangroves and seagrass meadows. Bonaire's Marine biodiversity certified as having outstanding intrinsic value at the World Heritage Marine Biodiversity Workshop in Hanoi, Vietnam.⁷⁵

Tourism in Bonaire is promoted through a series of initiatives which not only protect Bonaire's environment but also enhance tourist's experience. One of the initiatives is 'The Bonaire Bond'. This pledge is designed for tourists to sign a promise that they will ensure a safe travel and promote sustainability to protect Bonaire's natural appeal for future generations. This Bond serves as a reminder regarding the importance of tourism for the livelihood of local communities. Moreover, the island will also adopt a coral tree from Reef Renewal Bonaire foundation in exchange for every signature. Bonaire has also implemented on coraql restoration programs. The coral restoration program includes research and community involvement to restore mature coral fragments in the reef system. Moreover, the island also hosts activities like "Tourism Scavenger Hunt" for children which is an effort to engage and raise awareness of tourist regarding development in tourism industry⁷⁶.

Bonaire's journey towards sustainability began decades ago when the island's government and local communities recognized the need to protect their unique

⁷⁴ "Bonaire," 2021, accessed August 25, 2025, <https://www.worldatlas.com/islands/bonaire.html>.

⁷⁵ "Bonaire Marine Park," UNESCO World Heritage Centre 2011, accessed 18, 2025, <https://whc.unesco.org/en/tentativelists/5627/>.

⁷⁶ "Celebrating Tourism Month on Bonaire," 2023, accessed 23 August, 2025, <https://bonaireisland.com/celebrating-tourism-month-on-bonaire/>.

ecosystem from the burgeoning pressures of tourism and development. One of the initial and most important step was the formation of Bonaire National Marine Park in 1979. This park covered the entire coastline which included mangroves, coral reefs and seagrass. Apart from this revolutionary initiative several other regulations are also implemented to safeguard the environment of Bonaire. For example, use of renewable energy, legislation for pollution control, solar panels, wind turbines and water conservation measures such as grey water for irrigation and rainwater harvesting.

The success of Bonaire's sustainable regulations is largely associated with active participation of local communities. Local communities are largely interested in participating in and organizing beach cleanups and projects for protection of endangered species such as sea turtles and flamingos. These initiatives also provide education and awareness to both local communities and tourists regarding the significance of conserving Bonaire's natural resources.

The residents in Bonaire are also incorporating green practices in their business. They are trying to reduce environmental footprints and maintain Bonaire's ecological balance. Furthermore, it promotes a sense of dignity and achievement among its residents.

This island is also involved in reef restoration programs. These programs implement inventive techniques which encourage coral growth and restoration. The Reef Renewal Foundation Bonaire (RRFB) uses coral nurseries to grow fragments of coral. These corals are then transplanted back on to the reef. This process has shown remarkable success. Thousands of corals are being restored in damaged areas. Statistical analysis from RRFB has showed that over 20,000 corals have been revived.

In addition, there is an environmental recognition program for the dedication shown by diving instructors for conservation and sustainability. This award is called "The Green Star Award" given by the Professional Association of Diving Instructors (PADI). There are strict no-touch rules implied during diving in Bonaire. This rule ensures the safety of fragile reef ecosystem.

Bonaire features a range of ecofriendly resorts that offer luxury with sustainability. These Resorts along with hotels and other accommodations are working on water conservation, energy efficiency and waste management. Ultimately leading to offering travelers a comfortable yet sustainable stay.

Bonaire sets ambitious goals for carbon neutrality. The island is trying to reduce its carbon footprint by leveraging solar power and other renewable energy sources. Reducing the carbon footprint is very important for stabilizing global temperatures, preserving biodiversity, and ensuring the health of our planet for future generations. Bonaire's efforts contribute to the global sustainability goals outlined in the Paris Agreement and set an example for small island communities worldwide⁷⁷.

⁷⁷ "Sustainable tourism on Bonaire," updated 22 february 2024, 2024, accessed August 23, 2025, <https://sunwisebonaire.com/blog/sustainable-tourism-on-bonaire/>.

6.4 Comparative Socioeconomic Impact of Marine Ecotourism

6.4.1 Churna Island vs. Global Marine Ecotourism Leaders

Aspect	<i>Churna Island (Pakistan)</i>	<i>Raja Ampat (Indonesia)</i>	<i>Belize Barrier Reef (Belize)</i>	<i>Cocos Island (Costa Rica)</i>	<i>Bonaire (Caribbean Netherlands)</i>
Community Involvement	Very limited; mostly Karachi-based private operators	Strong CBT model; locals manage homestays and eco-tours	Co-operative-based tourism; high community participation	Limited due to remoteness, but national conservation benefits	Locals involved as rangers, dive guides, and operators
Income from Tourism	Low; informal and seasonal earnings	High; major local livelihood source	Moderate to high; consistent income from eco-tourism	High-value tourism funds national conservation	Stable; eco-fees sustain local economy
Conservation Funding	None; no visitor fees or reinvestment	Entry fees fund conservation and education	UNESCO support + national funding via tourism	Dive permits fund rangers, patrols, and scientific research	Mandatory nature fees finance reef protection and infrastructure
Infrastructure	Poor: no waste management, visitor facilities, or signage	Community-run eco-lodges, docks, and trails	Visitor centers, eco-lodges, guided mangrove tours	Controlled access points; high-end liveaboards only	Well-marked dive sites, mooring buoys, boardwalks
Training & Education	Absent; no certification or local ecotourism training	Marine tourism training provided to villagers	Environmental education in schools and for guides	Research programs and conservation education	Dive certification, marine park awareness programs
Regulation	Unregulated; reef damage from boats and divers	Visitor caps, no-take zones, eco-guidelines	Managed access zones, legal reef protections	Strict permits; only licensed operators allowed	"No-touch" dive rules, mooring buoys, reef-safe diving enforced
Social Inclusion	Mostly male; no formal inclusion of women	Increasing female involvement in hospitality and guiding	Women involved in mangrove tours and hospitality	Limited direct community access	Gender inclusion in conservation and tourism roles
Environmental Impact	Recently designated as MPA but Coral degradation, plastic waste and fishing practices exist	Managed tourism, marine zoning, community monitoring	Effective MPA enforcement, co-managed fisheries	High marine biodiversity; strictly protected	Coral recovery supported by visitors

This table represents a comparative analysis between global ecotourism examples across the globe, emphasizing their management, ecological values and community roles. It compares marine ecotourism models (e.g., Churna Island, Raja Ampat, Belize, Cocos and Bonaire) highlighting how their conservation funding, regulation, infrastructure and community involvement vary with managed sites successfully linking tourism and conservation while Churna lags behind.

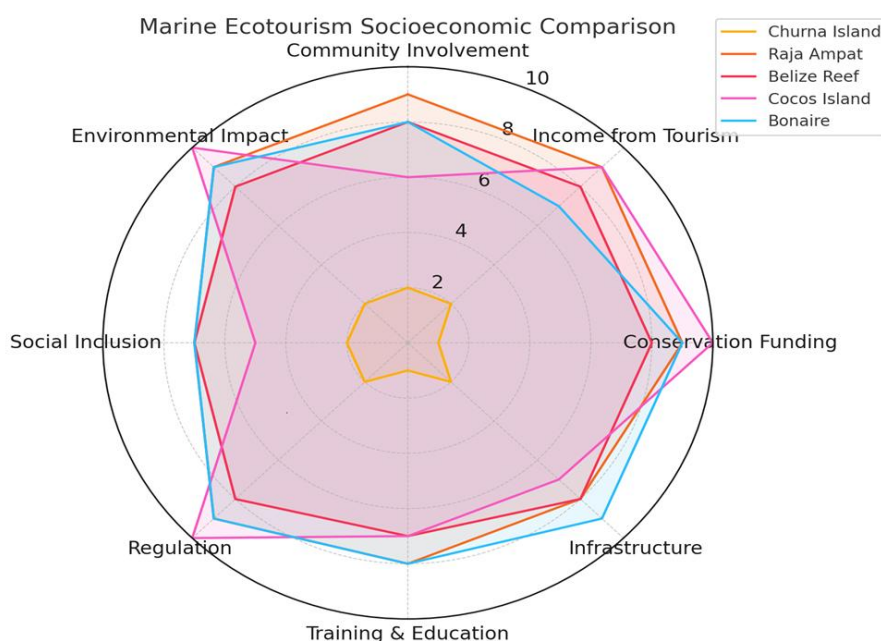


Figure 28: Marine Ecotourism Socioeconomic Comparison

6.5 Recommendations

- Create community-based snorkeling and diving cooperatives with local fishing societies around the Churna Island to advance local livelihoods and ensure equitable distribution of tourism benefits
- Introduction of a systematic fee-based visitor management system on Churna Island and the revenues to be used in conservation of the coral reefs, waste management, safety services and community development.
- The government should formally designate the Churna Island with well-defined zones (no-take areas, controlled tourism zones, and navigation routes) to conserve biodiversity and have sustainability in the utilization of marine resources.
- Implement compulsory boat operator, diving instructor and tour guide training and certification on reef protection, visitor safety and ecological management.
- Encourage the application of environmentally friendly structures such as mooring buoys, floating jetties and garbage management structures that may



reduce physical interference to the coral reefs and facilitate regulated tourism practices.

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