

# Eco-Tourism Ana Environmental Sustainability in Socotra, Yemen: A Brief Report



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## Abstract

This report will examine the challenges of maintaining environmental sustainability as development and eco-tourism expand in Socotra, Yemen, based on existing literature and the author's own research and excursions to the island. Often referred to as the 'Galapagos of the Indian Ocean,' the tiny archipelago of Socotra, Yemen, is undergoing infrastructure development and growth of eco-tourism [1]. Socotra's unique trees, endemic plants and reptiles, crystal-clear aqua waters with spinner dolphins, and welcoming Indigenous Peoples are attracting tourists and an eco-tourism industry [2]. However, with resumption of weekly flights from Abu Dhabi (UAE) and development of water, sanitation, energy, education, communication, transportation, and health infrastructure, eco-tourism is on the rise. Nonetheless, Socotra's unique biodiversity is highly vulnerable and the very attractions that bring visitors to the island could be destroyed by it.

**Keywords:** Eco-tourism; Socotra; Environmental sustainability; Development; Yemen; World heritage site

## Eco-Tourism and Environmental Sustainability in Socotra, Yemen: A Brief Report

This report will examine the challenges of maintaining environmental sustainability as development and eco-tourism expand in Socotra, Yemen, based on existing literature and the author's own research and excursions to the island. Often referred to as the 'Galapagos of the Indian Ocean,' the tiny archipelago of Socotra, Yemen, is undergoing infrastructure development and growth of eco-tourism [1]. Socotra's unique trees, endemic plants and reptiles, crystal-clear aqua waters with spinner dolphins, and welcoming Indigenous Peoples are attracting tourists and an eco-tourism industry [2]. Although for centuries Socotra was a stop for ships sailing from India to Africa, it remained fairly isolated until reunified with Yemen in 1990 [3]. From 1990 until about 2020, visitors were still limited "to a few scientists and hardy eco-tourists" [1]. However, with resumption of weekly flights from Abu Dhabi (UAE) and development of water, sanitation, energy, education, communication, transportation, and health infrastructure, eco-tourism is on the rise. Nonetheless, Socotra's unique biodiversity is highly vulnerable and the very attractions that bring visitors to the island could be destroyed by it.

Since 2022, when weekly flights resumed to Socotra from Abu Dhabi, United Arab Emirates (UAE), there has been a surge in eco-tourism and development. Fortunately, much of the recent development has focused on clean energy sources. Solar energy is already in use across Socotra, and plans are underway to replace current diesel-powered electric plants with solar power [4]. There is also great interest in developing wind and tidal power to reduce use of fossil fuels [5]. Newly drilled wells and reservoirs powered by solar panels pump clean water through black hoses that cross the island to hundreds of homes. In more rural areas, construction and use of cisterns for collecting rainwater for gardens and livestock has been reclaimed, reducing the need to move livestock to find water, thus protecting thousands of hectares of land from erosion [1,6].

## Background

The impact of climate change is being felt by around the globe. Without expensive imports, small islands must ensure the resources available for food, water and shelter are used wisely, so that life is sustainable [7-10]. Unfortunately, many small islands

are already experiencing severe impacts of climate change as sea levels rise, temperatures rise, and violent storms increase as homes are washed away and access to clean water is endangered [1,8,11-14]. Developing nations usually have limited resources to adapt to the impacts of climate change--the causes of which they have contributed little.

Socotra's fragile and unique ecology has been maintained for Millenia by the island's indigenous people [1,15]. Over one-third of the plants and 90% of the reptiles on Socotra exist nowhere else on earth [16]. Knowledge of traditional practices, such as when to fish and when to limit fishing; when and how to harvest plant resins such as dragon's blood or frankincense; and, how to preserve foods, has been key to environmental sustainability [1]. This knowledge has been passed down through the "waning memories, songs, and stories of the elders" [3]. Traditional practices and knowledge sustained the environment while still meeting the needs of residents [1].

However, as development of the island continues and more tourists arrive, the ecology and traditions are changing. For example, the asphalt road built in 2012 that encircles the island has divided natural migration patterns of certain animals and created flooding dangers in other places. Previously, sheikhs or elders regulated fishing nets to ensure smaller fish were not caught but lived on to grow into the next generation [1]. Now, commercial fishing is expanding as new refrigeration allows safe storage of the catch for exportation [1]. A new university (Socotra Archipelago University) has tripled its student body in just three years, and a new vocational school offers training in car mechanics, carpentry, and sewing (for females). Based on the author's research in 2022, few youth expressed an interest in living an agrarian life, or relying on fishing, instead envisioning a future in tourism, education, law, and health care [1]. Although growth and development are bringing clean water and energy, education, and health care, the negative consequences, such as garbage, land degradation, and potential loss of traditions, are also evident [1,17].

Scientists who studied Socotra for decades, and formed an organization called Friends of Socotra, successfully advocated for the protection of the island's unique biodiversity. In 2000, Yemen declared most of the Socotra Archipelago a National Park [1,17]. In 2003 and 2008, respectively, the United Nations declared Socotra a UNESCO Man and Biosphere (MAB) Reserve and a UNESCO World Heritage site [1,17]. These designations protect the vast majority of land and waters on and around Socotra. At the same time, these protections limit locals' traditional uses of the land and sea, forcing them to seek other means of survival [1].

### Eco-Tourism on Socotra: A Growing Industry

As noted earlier, Socotra has been a destination for adventure tourists for several decades. These tourists came to the island knowing they would sleep in tents, use filters to ensure the safety

of drinking water, and expect no electricity or mobile phone network. However, as interest in development grew, eco-tourism was promoted as a strategy to support economic develop while still protecting the environment that draws visitors. Although still not complete, the growing water, energy, communication, and tourism infrastructure is successfully drawing visitors and new residents to Socotra. The number of eco-tourism companies on the island is growing quickly, including the island's first woman-owned and woman-operated tour company (Socotra Bliss). Foreign investors from the UAE and other Arab countries, are buying land, building hotels, and hiring locals. And, tourists are still arriving to sleep in tents and eco-camps, now with clean water, Emirati mobile phone service, and toilets.

Some eco-tourism projects follow local traditions and values while still meeting the needs/interests of tourists [1]. For example, one community is sharing the profits and responsibilities for a solar-powered eco-camp built for tourists using local materials [1,18]. Water from the eco-camp is used to irrigate the forest [1,18]. This project reflects Socotra's' collective values, such as cohesion and cooperation [1]. The income from the eco-camp helps offset losses in income from restrictions imposed on fishing [18].

Many government officials, scientists, locals, the United Nations--are concerned that development is damaging Socotra's ecology. The World Heritage Committee and International Union for Conservation of Nature have recommended that Socotra be added to the list of World Heritage Sites in Danger [1,19]. Indeed, on this author's first trip to Socotra, plastic pollution primarily plastic water bottles--covered the streets in Hadibo. Hundreds of plastic grocery bags waved from hundreds of blades of grass between Hadibo and the airport. Hadibo beaches, once proclaimed as the most beautiful in the world, were strewn with garbage. However, on this author's last trip to Socotra, before which a functioning government had been installed, the trash was almost gone! The streets had been cleared of crushed plastic bottles, plastic bags removed from fields, and garbage cleaned from the beaches. Environmental sustainability remains possible, even with eco-tourism development.

In 2020, [20] noted he feared that development of eco-tourism would primarily benefit foreign investors, with locals left to work in low paid service-sector jobs [20]. Recent allegations by the Socotra Wildlife Society suggest that outside investors have, in violation of Yemeni law, bought vast swaths of land in the mountains and along the coasts [21]. All of this also brings up concerns about Socotra's' losing traditional connections to the land that protected the ecology and people for millenia [22].

### Conclusion

Socotra offers many adventures for tourists, including hiking to hidden mountain pools or caves with ancient drawings. Odd-looking bottle trees, umbrella-shaped Dragon's Blood trees, and

swollen Socotra Desert Rose (also known as umbrella trees) draw out the cameras and mobile phones. Boat trips to deserted beaches, sometimes with spinner dolphins jumping alongside, delight tourists as much as the children who greet them not wanting gifts but interaction. The warm hospitality of locals who usually staff eco-tourism companies, preparing meals, guiding excursions, and cleaning up, leaves an enduring place in visitors' memories.

The benefits of development for residents are clear. With clean water becoming accessible across the island, women and girls no longer must make long treks to collect water and carry it home. Solar panels are reducing reliance on fossil fuels and wood for energy and cooking. The asphalt road makes movement of people and resources easier. During the author's first trip to Socotra, a foreign non-governmental organization (NGO) performed 500 cataract surgeries at Khalifa hospital, primarily on children and women, in one day. Development of sanitation and waste management infrastructure protects the land and water from pollution. Residents and visitors can see the positive changes development is creating on Socotra.

At the same time, it is also clear that the ecology is in danger on Socotra. During the author's last trip to Socotra, it was observed that palm trees supposedly imported from the UAE had been planted in neat rows where a new development is being built. While the asphalt road around the island provides access and movement, it also takes tourists to places not previously visited, increasing risk of environmental degradation. In addition, the water and energy resources used by tourists put additional pressures on limited resources [1]. The influence of western consumerism on the island's youth are also likely to result in further distances between the people and the environment. "As development increases, the lives of the people and their relationships with the environment are changed in ways that some welcome [23], and others fear [1,20].

As eco-tourism and development increase on Socotra, it is unclear if the unique biodiversity of the island, and the traditions of its people, can be sustained. Development is intended to reduce poverty and improve human health and well-being. There is evidence this is true on Socotra. In addition, eco-tourism is providing welcome revenue for locals, reducing reliance on other sources of income that are more damaging to the environment [24]. There is great international interest in protecting Socotra's indigenous beautiful and unique plants, animals, oceans, people, culture and language. Only time will tell if the island's eco-systems will survive growth and development.

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