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## AMPLIFY TOURISM EMPLOYABILITY AT BIODIVERSITY HOTSPOTS IN GALLE CITY, SRI LANKA

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### **Abstract**

Biodiversity, the variety of life on Earth, is at the heart of what drives the tourism industry because it is a large part of what makes tourist destinations so attractive. Tourism development is clearly linked to biodiversity-rich biomes. Galle city which is blessed with variety of fauna and flora, is a captivating tourist destination in Sri Lanka. Thus biodiversity hotspots in Galle city such as Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake are vital for tourism development. The objectives of this study are to explore the relationships between tourism development and biodiversity hotspots in Galle city, to explore innovative methods to enhance tourism development protecting unique and diverse ecosystems in the biodiversity hotspots and to empowering communities in the surrounding areas leveraging and mobilizing available natural resources for biodiversity financing. Brief interviews were conducted with 50 tour guides and 100 tourists from various countries to identify the most attractive locations in Galle city and why they liked them. Same questionnaire was given to 150 residents, randomly selecting 50 from each hotspot of the 03 communities living in the surrounding areas of the 03 hotspots to obtain detailed information on individual village economies and resource flows into and out of the 03 villages close to those hotspots for understanding local residents' level of dependency on materials that could affect biodiversity in the 03 hotspots. It was revealed that tourists prefer to explore the un-spoilt, rich biodiversity in those 03 hotspots. It was found that there is a significant potential for the 03 hotspots to be further developed as an eco-tourism destinations introducing novel tourism activities. Further, it was revealed that local residents are highly dependent on materials and so that there is a tendency that it could affect biodiversity in the 03 hotspots. As a result, the communities in the surrounding areas can be financially empowered developing tourism. It is highly recommended that tour-guides and local communities have to be offered awareness programmes on regular basis. Thus Tourism development of Galle city has a symbiotic and parasitic relationship with biodiversity hotspots.

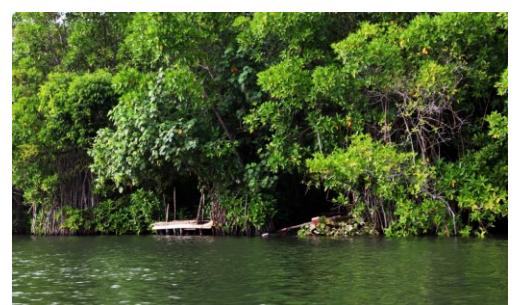
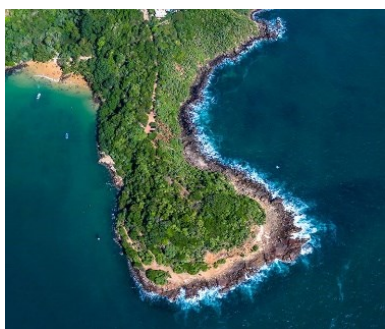
**Keywords:** *Tourism development, Biodiversity hotspots, Innovative methods, Natural Resources*

## 1.0 Introduction

The variety of plant and animal life in the globe, or in a particular area, can be simply characterized as biodiversity, or more precisely, biological diversity. It is crucial for the processes that support all life, including human life, on Earth. We cannot have the healthy ecosystems that we depend on to give us the oxygen we breathe and the food we consume without a diverse variety of animals, plants, and microbes. Tourism is described as a social, cultural, and economic phenomena that involves individuals traveling to locations outside of their normal area for leisure, business, or professional objectives. Biodiversity and tourism development are closely inter-related. On the one hand, tourism is frequently supported by biodiversity, which is defined as the diversity of life on Earth. Tourist attractions like tropical forests, coastal habitats, and mangrove swamps, rely heavily on their natural qualities and attractiveness to draw visitors. Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake in Galle city are blessed with rich biodiversity. What fuels the travel and tourism sector is biodiversity.

The Kottawa evergreen woods provide the local population with a variety of goods, including fire wood, building supplies, food, and medicine. The local populations depend on forests, agriculture, cattle, honey, and handicrafts as their main sources of income. The local populations use forest items such roots, fruits, tubers, and plants for medical uses as well as timber for agricultural tools like yokes and ploughs.

On Sri Lanka's southern coast lies a mountain called Rumassala, or Buona Vista in English. Only 5.5 kilometres separate it from Galle city. Rumassala has a diverse ecosystem that includes both the southern coast's ocean and woodlands. Rumassala is home to a large number of endemic plants and animals that are unique to this mountain and cannot be found elsewhere on the island. In the area of Rumassala, the forests and the seashore are both recognized to be a home for plants and are both rich in biodiversity. Numerous bird, reptile, and mammal species, many of which are endemic, as well as unique medicinal plants, may be found in the forest. The coral reefs and the Rumassala mountain range, however, have been protected. Due to its significant biodiversity, the Rumassala region, including the forest and coral reefs, is now protected as a sanctuary.



The Kottawa ever green forest is a stunning, quiet, and cool lowland evergreen habitat that is situated 21 kilometers from the city of Galle in the Galle District of the Southern Province. This forest, also known as Punchi Sinharaja, is located between 50 and 300 meters above sea level. The Kottawa rainforest is also a great sanctuary for birds. The vegetation is dominated by Dipterocarpus and tree fern species, and on the enormous tree trunks of these species, moss and orchids flourish. It is also a fantastic place to see some magnificent Sri Lankan butterflies. The Purple-faced Leaf Monkey, Toque Monkey, and Giant Squirrel are the three most prevalent species in the forest's canopy. Beautiful non-venomous snakes from Sri Lanka and unusual agamid lizards are just a few of the reptiles that may be found there. The unpolluted streams that wind through the forest are home to a variety of freshwater fish, the majority of which are native to the country.

The Koggala Lake which is a part of the lagoon, a well-liked body of water adjacent to Galle town, is located in the Galle district. Due to its pristine terrain, which provides the ideal circumstances for some species, the lagoon is a paradise for nature enthusiasts trying to uncover endemic species. The vital elements that represent the area's true draw for tourists are the lagoon's rich biodiversity and ecosystem. Eight little islands may be seen strewn around the mangrove swamps that make up the lagoon's perimeter. A variety of species can reproduce on the mangrove trees' deep roots that are embedded deeply in the mud. Crabs, oysters, and even barnacles fall within this category. Different species of fish use the tiny nurseries created by the intricately woven roots.

## **2.0 Literature Review**

The literature on the link between tourism and biodiversity includes both project and policy studies as well as academic research publications, and some examples from this literature offer some flavour of work in the topic. While many of the project and policy studies are archaic, they do highlight a number of essential aspects of the tourism-biodiversity interaction that have lasted the test of time. 'Tourist and Biodiversity: Mapping Tourism's Ecumenical Footprint' (Christ et al. 2003) was relinquished twenty years ago as a result of a collaborative Cumulated Nations Environment Programme/Conservation International initiative that investigated the overlap between tourism development and biodiversity hotspots. The project's goal was to accentuate nature-cognate possibilities and imperils for biodiversity conservation and better human wellbeing, and it provided a number of recommendations to increment tourism's contribution to biodiversity. The authors concluded that 'biodiversity is vital for the future magnification of the tourist sector,' but verbalized that there was a 'clear lack of cognizance of the links—both positive and negative—between tourism development and biodiversity bulwark' (Christ et al. 2003).

'Tourism Sector and Biodiversity Conservation' (European Commission 2010) was designed for minuscule and medium-sized enterprises, independent hotel owners, as well as senior executives and local managers in sizably voluminous international tourism companies, and sought to guide companies towards the most opportune implements and methods for

integrating biodiversity conservation into their business activities. Having verbalized that, the European Commission (2010) verbally expressed that, despite the fact that minute and medium-sized firms account for 80% of tourist companies, reaching out to them to give assistance on incorporating biodiversity into their activities was a reason for worry. However, the European Tourism Going Green 2030 project (European Commission 2021), which provided a 'review and analysis of policies, strategies, and instruments for boosting sustainable tourism in Europe,' suggested that capacity building, tailored to the desiderata of minuscule and medium-sized enterprises, should address a variety of topics, including biodiversity, and should fixate on activities that could be facilely applied and implemented in day-to-day business operations.

'Tourism Fortifying Biodiversity,' a document on 'Applying the Convention on Biological Diversity Guidelines on Biodiversity and Tourism Development,' was relinquished by the Amalgamated Nations Environment Programme and the Convention on Biological Diversity in 2015. The manual aimed to provide 'information for planners, developers, managers, and decision makers involved with tourism development and resource management in sensitive biodiversity areas.' Its goal was to 'avail them in mainstreaming biodiversity concerns and ecosystem accommodations within sustainable tourism development.' Its primary target audience was 'public ascendant entities and other agencies in a position to influence tourism impacts, while additionally pertaining to potential tourists' (Coalesced Nations Environment Programme and the Convention on Biological Diversity 2015).

According to the Cumulated Nations World Tourism Organization's (2010b) 'Practical Guide for the Development of Biodiversity-predicated Tourism Products,' sustained tourism sector expansion is being matched by incremented consumer prospects for more ecologically cordial tourism locations. This, in turn, was considered as necessitating the development and management of sustainable and biodiversity-predicated tourist goods, integrating tourism with the sustainable utilization of natural resources and conservation management. The Guide, on the other hand, argued that in many potential tourism areas, there is inadequate local competence to engender tourism that benefits more than just the local population. However, it withal preserves local biodiversity. The Guide's goals were to "raise vigilance on the issue of biodiversity conservation with tourism operations and to provide conceptions on orchestrating, management, marketing, and monitoring of such biodiversity-predicated tourism products," Its two target audiences were tour operators, product engenderers, and tourist agencies, as well as non-governmental organizations (Amalgamated Nations World Tourism Organisation 2010b).

The Coalesced Nations World Tourism Organisation (2010a) examined the relationship between tourism and biodiversity in 'Tourism and Biodiversity,' looking to assess how tourism can contribute to the bulwark of biodiversity and enhance its role as a main resource for tourism destinations. This report limpidly demonstrated 'the high value of biodiversity for tourism,' but stressed that biodiversity 'needs to be bolstered for the long-term prosperity of tourism,' and advocated for the 'efficacious application of land use orchestrating and development controls in destinations to influence incipient and subsisting tourism activities,

and to eschew potentially deleterious developments' (Amalgamated Nations World Tourism Organisation 2010a). The Coalesced Nations World Tourism Organization (2010a) recommended incorporating biodiversity considerations into national and local sustainable tourism plans.

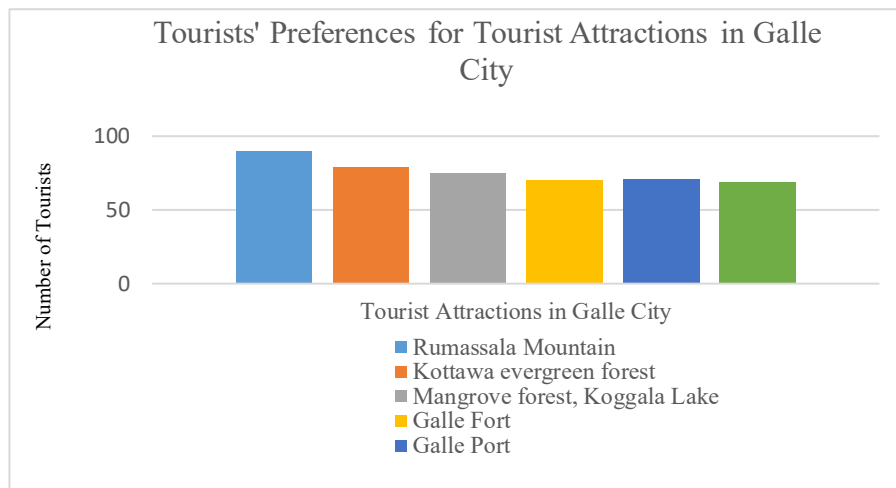
### **3.0 Methodology**

Brief interviews were conducted with 50 tour guides in Galle city and 100 tourists from various countries ( United States, United Kingdom, India, Australia, China, Japan, New Zealand, South Africa, France, German, Greece, Pakistan, Bangladesh, Italy, Russian Federation , Canada, Ukraine, Maldives, Saudi Arabia, Sweden, Spain, Norway, South Korea, Mexico, Switzerland, Poland, Kazakhstan, Czech Republic, United Arab Emirates, Israel, Finland, Singapore, Jamaica, Costa Rica, Portugal, Malaysia, Thailand, Taiwan, Argentina, Brazil, Chile, Colombia, Morocco, Sudan, Kenya, Mauritius, Nigeria, Indonesia, Myanmar, Philippines, Vietnam, Afghanistan, Bhutan, Nepal, Denmark, Finland, Belgium, Austria, Oman, Qatar, Iraq, Egypt, and Netherlands) to identify the most attractive locations/ their preferences for tourist attractions in Galle city and why they liked them. Since the tourists were from North America, Carribean & Central America, South America, North Africa, Sub-Saharan Africa, North East Asia, South East Asia, Oceania, South Asia, Northern Europe, Western Europe, Central/ Easter Europe, Southern/Mediterranean Europe, and Middle East the overall objective of visiting Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake in Galle city could be obtained from those interviews. Since Sri Lanka gets the highest number of tourists from those countries, those tourists' views might give the authentic reasons. Further, the tour guides who accompany those tourists in the Galle city to show them the tourist attractions must have given their genuine reasons.

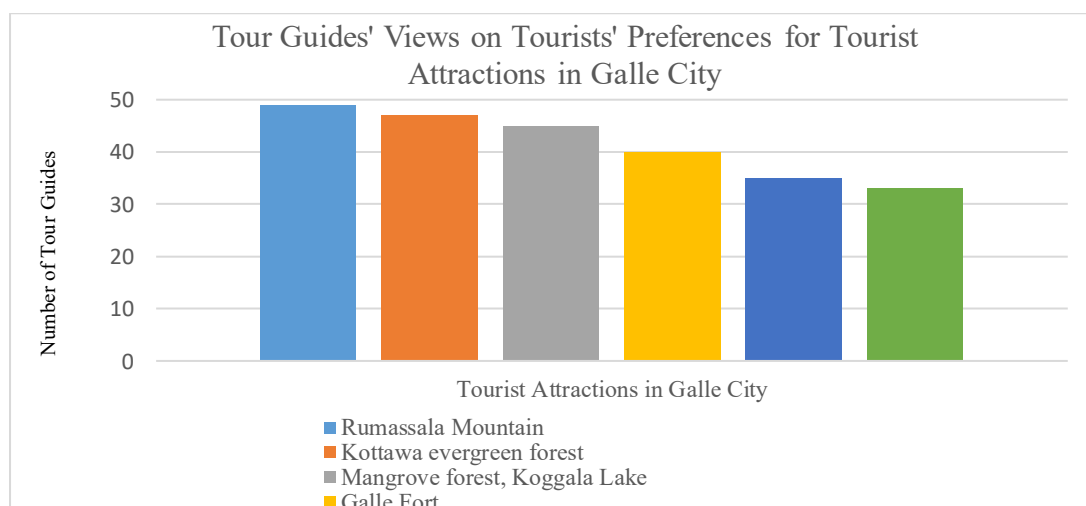
Self -designed same questionnaire was given to 150 residents of the 03 communities living in the surrounding areas of the 03 hotspots Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake in Galle city, to obtain detailed information on individual village economies and resource flows into and out of the 03 villages close to those hotspots for understanding local residents' level of dependency on materials that could affect biodiversity in the 03 hotspots.50 residents were randomly selected from each biodiversity hotspot to obtain accurate information.

### **4.0 Findings**

According to the interviews conducted for the 100 tourists from various countries the following results were obtained for tourists' preferences for tourist attractions in Galle city.



According to the above chart it is obvious that the tourists preferred to visit the 03 biodiversity hotspots in Galle city, Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake more than the other tourist attractions in Galle city. Furthermore, according to the interviews conducted for the 100 tour guides from the Galle city the following results were obtained for tourists’ preferences for tourist attractions in the Galle city.



The above chart again emphasizes that the tourists prefer to visit the 03 biodiversity hotspots in Galle city, Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake more than the other tourist attractions in Galle city.

Moreover, it was revealed from the interviews conducted for both tourists and the tour guides that tourists prefer to explore the un-spoilt, rich bio diversity in those 03 hotspots due to the following reasons.

The Rumassala mountain, which attracts tourists from all over the world, is home to a wide variety of bio diverse, including mammals, birds, insects, and reptiles as well as certain unique and endemic flora. Additionally, several visitors enjoyed researching the therapeutic plants that may be found on this mountain. Since there are many coral reefs and diverse marine life in the water that is closer to the Rumassala Mountain. Tourists enjoyed diving, snorkeling, and exploring the variety of marine life. The reef helps the local fisherman catch

fish as well. Tourists loved to see and participate in stilt fishing, a traditional method of fishing used by local fisherman in this region.

Due to its great biodiversity, the Kottawa evergreen rainforest provides visitors with many of chances for cultural interaction, photography, adventure, fishing, trekking, relaxing, birdwatching, and wildlife spotting. In this evergreen forest, there are roughly 170 different species of trees that have been identified, of which about 100 are native to the region. There are 12 endemic bird species among the 70 kinds of birds. It is also a fantastic place to see some beautiful Sri Lankan butterflies. The Purple-faced Leaf Monkey, Toque Monkey, and Giant Squirrel are the main species in the forest canopy. Beautiful non-venomous Sri Lankan snakes and unusual agamid lizards are among the reptiles that may be discovered in the area. A variety of fresh water fish, the most of which are native to the nation, are found in the unpolluted streams that run through the forest. Interviews with tourists from a variety of horizons found that because of the incredible biodiversity mentioned above, travellers choose to visit the Kottawa evergreen rainforest.

According to brief interviews with the tourists, the amazing bio-diversity of the Mangrove forest, Koggala lake, might draw a large number of visitors. Furthermore, because it was virtually undisturbed by visitors from the south, tourists enjoyed it. Furthermore, the lagoon is made up of eight tiny islands, including Mangrove Island (Madol Duwa), Cinnamon Island, Kathduwa, and others. On Cinnamon Island, guests may explore and learn about the process of cinnamon manufacturing. A visit to the spice garden (placed on the lagoon's bank) will provide travelers the opportunity to learn how spices are made. These little islets are made up of thick mangrove swamps, and while there are a few streams that link to this lagoon, it is mostly supplied by rainwater. Boat cruises around Koggala Lake to visit these gorgeous islands are thus highly popular among tourists since they will be able to view several species of mangroves as well as animals in action.

From the questionnaires given to the 03 communities living in the surrounding areas of the 03 hotspots Rumassala Mountain, Kottawa evergreen forest and Mangrove forest, Koggala Lake in Galle city, it was revealed that local residents are highly dependent on materials and so that there is a tendency that it could affect biodiversity in the 03 hotspots.

The local community receives a range of products from the Kottawa evergreen woods, including food, medicine, building materials, and firewood. The primary sources of income for the locals are from the forests, agriculture, livestock, honey, and handicrafts. The locals utilize wood for agricultural implements like yokes and ploughs as well as forest products including roots, fruits, tubers, and plants for medicinal purposes. Through small-scale agriculture, hunting and gathering, and the exploitation of forest products, the local population directly depends on the forests for food, medicine, fuel, and shelter.

Additionally, Rumassala Mountain gives the local populations access to a variety of essential resources including wood, grazing land for cattle, clean water, and the air. They frequently rely on farming, fishing, or herding for a living.

The lagoon's hydro catchment area covers an area of more than 55 square kilometres and provides the local population with a means of subsistence. Despite being practiced on a much lesser scale, paddy farming and fishing are well-liked livelihoods that are made possible by the presence of this water body. The Koggala Export Processing Zone, an industrial area located inside the watershed area, receives help from the lagoon as well.

The above findings were helpful to capture the value of utilizing biodiversity hotspots through tourism, the need to support conservation efforts tourism, and the need to invest in nature-based solutions to upgrade the standards of the 03 communities living in those 03 hotspots'

## **5.0 Conclusions & Recommendations**

Tourism development and bio-diversity hotspots have a direct link. It is clear that biodiversity is critical to the responsible recovery of tourism and, more broadly, to the development of a more sustainable tourist economy. Further, it is assumed that introducing innovative tourist activities such as hiking, camping, mountaineering, mountain biking, parachuting and horse trekking for tourists at Rumassala mountain will assist tourism development as well as the community. Furthermore, it is assumed that tourist activities such as local community visits, wildlife night-spotting, bird watching, cycling, amphibians, insects, reptiles spotting, traditional music performance and photography will assist both tourists and the community at Kottawa evergreen forest. Moreover it is assumed that tourism development can be enhanced at Koggala Lake assisting the community through lagoon tours, day/night camping, bird watching, crocodile watching, mangroves eco-tours and photography. Therefore all the above activities will facilitate not only to enhance tourist growth while safeguarding distinctive and diverse ecosystems in biodiversity hotspots, but also to empower communities in the surrounding areas by utilizing and mobilizing abundant natural resources for biodiversity finance. At the same time, the direct influence of tourist development on biodiversity can be harmful at times, therefore biodiversity conservation programs and researches must be included into tourism development projects. In many ways, such contrasting viewpoints exemplify the quandary at the heart of the relationship between biodiversity and tourism growth.

Developing and promoting experiences in the bio-diversity hotspots in Galle will benefit both tourists and local communities. Therefore it is vital to increase the infrastructure and services of those biodiversity hotspots and involve the local community in tourist decisions and choices. Further, it is also significant to educate tourists and make them aware on how to be more responsible and respectful of those biodiversity hotspots through awareness programmes. Furthermore, it is crucial to conduct awareness programmes for tour guides, chauffeur guides and local communities on environmental conservation, usage of environmental management practices to reduce waste levels and to properly treat and dispose of remaining wastes at regular time periods. It is essential to create national parks, nature reserves, and other protected areas to preserve their biodiversity and correspondingly boost



their tourism appeal. Moreover, it will be a must to organize campaigns to clean up local habitats such as beaches and let the tourists, tour guides and local communities to participate in them. If the government and private organizations plus hoteliers support local and regional projects/researches aimed at tackling biodiversity loss at those three bio-diversity spots it will benefit to conserve the environment and improve the livelihood of local communities. Promoting education and awareness-raising activities for relevant stakeholders and developing integrated management strategies are promising resolutions for successful ecotourism development and biodiversity conservation in Sri Lanka. Tourism should be developed according to global standards in relation to effective conservation, management and development of natural assets, with due respect for ecosystems and biodiversity.

There are numerous empirical study options, but these rudimentary examples highlight the potential scope for studies on the link between biodiversity and tourism. Primary examinations of incipient tourist development plans in a range of places, including coastal, wetland, forest, and degraded ecosystems, as well as how conflicts between tourism and biodiversity bulwark are managed in such environments, provide fertile ground for future research. Quantification and monitoring research might be salutary, for example, in analyzing the long-term impact of biodiversity conservation projects, or the influence of tourism on biodiversity over time. as well as the impact of growing visitor numbers in a variety of tourist situations. Digital technology may play a key part in perpetual monitoring programs in this case. Research investigating whether and how tourist enterprises and organizations communicate biodiversity and biodiversity conservation information to clients, as well as if and how such communications promote patronage, needs empirical inquiry.

## **6.0 References**

- Buckley, R. (2010). Conservation tourism. Wallingsford: CABI.
- Christ C, Hillel O, Matus S, Sweeting J (2003) Tourism and biodiversity: mapping tourism's global footprint. Retrieved from: <https://bit.ly/3Q4P9SM>. [Accessed 13 July 2022]
- Curry, S. (1990). Tourism development in Tanzania. *Annals of Tourism Research*, 17(1), 133–149.
- European Commission (2010) Tourism sector and biodiversity conservation: best practice benchmarking. Retrieved from: [https://ec.europa.eu/environment/archives/business/assets/pdf/sectors/Tourism\\_Best%20Pratice%20Benchm arking\\_Final.pdf](https://ec.europa.eu/environment/archives/business/assets/pdf/sectors/Tourism_Best%20Pratice%20Benchm arking_Final.pdf). [Accessed 3 July 2022]
- Gunatilleke, N., Pethiyagoda, R. and Gunatilleke, S. (2008) Biodiversity of Sri Lanka. *Journal of the National Science Foundation of Sri Lanka*, 36, 25
- Hall, C. M. (2006). Tourism, biodiversity and global environmental change. In S. Gössling, & C. M. Hall (Eds.). *Tourism and global environmental change* (pp. 211–226). London: Routledge.
- Harrison, P. (2006). Socio-economic baseline survey of villages adjacent to the Vidunda catchment area, bordering Udzungwa Mountains National Park. Dar es Salaam: WWF Tanzania.
- Hunt, C. A., Durham, W. H., Driscoll, L., & Honey, M. (2015). Can ecotourism deliver real economic, social, and environmental benefits? A study of the Osa Peninsula, Costa Rica. *Journal of Sustainable Tourism*, 23(3), 339–357.

- Hunt, C., & Stronza, A. (2014). Stage-based tourism models and resident attitudes towards tourism in an emerging destination in the developing world. *Journal of Sustainable Tourism*, 22(2), 279–298.
- Iddi, S. (1998). Eastern Arc Mountains and their national and global importance. *Journal of East African Natural History*, 87(1), 19–26.
- Mgonja, J. T., Sirima, A., & Mkumbo, P. J. (2015). A review of ecotourism in Tanzania: Magnitude, challenges, and prospects for sustainability. *Journal of Ecotourism*, 14(2–3), 264–277.
- United Nations World Tourism Organisation (2010b) *Practical guide for the development of biodiversity-based tourism products*. Retrieved from: <https://www.eunwto.org/doi/pdf/10.18111/9789284413409>. [Accessed 13 July 2022]
- United Nations World Tourism Organisation (2010a) *Tourism and biodiversity: achieving common goals towards sustainability*. Retrieved from: <https://www.e-unwto.org/doi/pdf/10.18111/9789284413713>. [Accessed 10 July 2022]
- United Nations Environment Programme and the Convention on Biological Diversity (2015) *Tourism supporting biodiversity*. Retrieved from: <https://www.cbd.int/tourism/doc/tourism-manual-2015-en.pdf>. [Accessed 14 July 2022]