



# AALBORG UNIVERSITET

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IMPACT OF ECOTOURISM ON THE SUSTAINABILITY OF LOCAL COMMUNITIES

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Case: Freiburg and Triberg (Black Forest National Park)

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## **Abstract**

This research project aims to examine the relation between the sustainability of local communities of Freiburg and Triberg of Black Forest National Park of Germany. This research has adopted a mixed method. From the perspective of qualitative, a total of six semi-structured interviews are carried out. We have found that eco-tourism has positive impact on the Freiburg & Triberg while sustaining the living standard and reliance's only on ecotourism is major drawback in economy. And to ensure the preservation of natural environment, sustainable techniques, including sustainable energy source were founded pivotal for the economic development of Black Forest National Park communities.

From qualitative point of view, employing Triple bottom line theory to evaluate how ecotourism contributes to economic viability, social well-being and environmental conservation in the region. Key findings highlights the economic benefits of job creation and revenue generation, alongside challenges like economic dependency and seasonal fluctuations. Socially, the study reveals community engagement and cultural preservation efforts, but also identifies issues of cultural erosion and social conflicts. Environmentally, the research underscores the dual impact of ecotourism on biodiversity, noting both conservation successes and environmental degradation. Adaptive strategies for climate change and lessons from the COVID-19 pandemic are also discussed, emphasizing the need for resilient and sustainable tourism practices. The analysis part provides a comprehensive understanding of the sustainability outcomes. The study concludes with recommendations for policy and practice, advocating for balanced and collaborative efforts to enhance the resilience and sustainability of ecotourism in the Black Forest region.

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## 1. Introduction

Ecotourism is turning into an emerging paradigm- shifting phenomenon in this modern age where everything is conscience driven. The International Ecotourism Society (1991) defines ecotourism as a new form of responsible tourism that promotes tourism to natural areas that conserve the environment while also improving the quality of life of the local population. Das & Chatterjee (2015) state that ecotourism has turned into an important tool that conserves local culture and environment while uplifting the livelihood of the local community.

This study is dedicated to ecotourism and focuses on two major cities located in the Black Forest National Park i.e. Freiburg and Triberg. In recent years ecotourism has seen a phenomenal rise across the world (Fennel, 2020). Freiburg and Triberg are nestled in the natural beauty of the Black Forest Region. Since the establishment of the Black Forest National Park in 2014 these two destinations have become a hub for ecotourism enthusiasts from not just within the nation but also beyond the national boundaries (Reif, 2019). Despite that very little research has been done on the impact this growth in the local tourism industry has had on the sustainability of the local community. Consequently, this research will investigate the impact ecotourism have had on the sustainability of the local communities and different challenges and obstacles that the local communities have faced or facing while moving towards sustainability.

### 1.1. Black Forest National Park

Black Forest National Park also known as Nationalpark Schwarzwald was established in 2014 located in the Southwestern part of Baden- Wurttemberg region of Germany. According to National Parks of Europe (2023) Black Forest National Park covers an area of 10062 hectares of evergreen forest, rolling hills, rivers and valleys. The park stretches from Pforzheim in the north to Freiburg in the South is an inspiration for many German fairytales like Hansel and Gretel, Rapunzel and



Sleeping Beauty. Since its establishment Black Forest has seen a growth in tourist visiting from not only Germany but all over the world (Reif, 2019). As the Black Forest covers a large area it covers many municipalities, cities, and towns and each of these places have their own specific characters so instead of doing an overall study of this huge Nature Park this study chooses two specific towns, Freiburg and Triberg for the research.

#### 1.1.1. Freiburg

Freiburg or known as Freiburg im Breisgau is a city located in Southern Germany and lies on the Western Edge of the Black Forest and is situated close to the state of Baden- Wurttemberg near the Rhine River (BlackForestGermany, 2024). Freiburg is an old city of Germany and celebrated its 900-year anniversary in the year 2020. The city is renowned for its blend of natural beauty, medieval charm, history, architecture, and modern sustainability. According to Thomas (2012) from WWF Freiburg is often hailed as a pioneer Green City of Germany for its effort towards sustainability through eco friendly urban living, featuring extensive bike paths, energy efficient buildings and relentless commitment to move towards renewable energy.

Bragantini (2020) states that ecotourism is the main attraction for Freiburg as the city is well known for its green economy and that is what attracts thousands of people towards the city. Its close proximity to Black Forest National and its sustainability initiatives towards conserving nature, energy and environment is what makes it a perfect travel destination for any eco or environment conscious travellers.

#### 1.1.2. Triberg

Triberg also known as Triberg im Schwarzwald is a small town located in the heart of central Black Forest and is one of the major tourist destinations in the Black Forest National Park. Triberg is

famous for its cuckoo clocks traditional made by the locals and waterfalls which also includes the biggest waterfall in Germany making it a very beautiful tourist destination. According to BlackForestGermany (2024) about quarter million people visit the place every year and many tourists are attracted to the destination due to its rural charm and natural beauty. Triberg's rural location offers the visitors a unique glimpse into its traditional German culture and a beautiful landscape, forests of the National Park and local German festivals and markets.

Das & Chaterjee (2015) states that any ecotourism stie must put great emphasis on natural attractions, sustainable tourism practices, and the promotion of the cultural and ecological heritage and Triberg embodies these principles of ecotourism.

## 1.2. Problem Statement

Ecotourism is emerging as a popular promote sustainable development specially in regions with rich nature and cultural resources. According to Rahmawati et al. (2021) despite ecotourism offering a lot of benefits it does have a lot of short coming specially in terms of cultural and economic aspects. Though the Government and local communities might be able to realize environmental benefits through implementation of different rules and regulations and conservation efforts it might not be able to realize the economic and cultural benefits (Salper & Hall, 2011) and this can a sense of demoralization and decrease community involvement in the long term.

Additionally, in the regions where locals mainly depend on Tourism as the main source of income are more susceptible to volatility and imbalances. This might create a situation where in order to maximize their income during the touristic seasons the local communities might stress their local available resources which might have an adverse effect on both the environment and culture (Sharpley, 2022).

Freiburg and Triberg are beautiful ecotourism destinations and since the establishment of Black Forest National Park tourism in these places have greatly increased. Despite ecotourism aiming to balance ecological and cultural preservation with economic benefits its actual impact on the local communities remains conflicted as there is dearth of research and the consequences vary from destination to destination (Dondeyene et al., 2012). This thesis specifically explores the multifaceted effects of ecotourism on the local communities of Freiburg and Triberg and their sustainability. It will be done by evaluating both the positive and negative outcomes of ecotourism and provide a comprehensive analysis of whether ecotourism practices contribute to sustainable development or undermine the long-term sustainability goals.

### 1.3. Research Questions

1. To what extent has ecotourism contributed to improving sustainability in the local communities of Triberg and Freiburg area?
2. What challenges do the local communities of Triberg and Freiburg area face while trying to counterbalance environmental, economic and cultural sustainability?

### 1.4. Research Objective

1. To assess the extent up to which ecotourism has improved sustainability in the local communities of Triberg and Freiburg.
2. To identify the challenges faced by the local communities of Triberg and Freiburg in balancing environmental, economic and cultural sustainability.

### 1.5. Motivation of Study

Xu et al. (2023) explains that Ecotourism is both its own fundamental problem and its potential for future growth, based on the current research academic trend mainly in the tourism discipline. Due to the recent pandemic of COVID-19 many changes have been made in the tourism industry. Both the industry and the tourists have acknowledged the importance of ecotourism (Xu et al., 2023). It is an established fact that ecotourism plays a great role in conserving the environment in the current tourism industry but how it impacts the local communities economic and cultural sustainability is still underexplored. So the motivation of this study is to explore how ecotourism impacts local communities and the three pillars of sustainability.

### 1.6. Focus of Study

Despite eco-tourism covers several dimensions with numerous researchers trying to analyze it from different perspective and within various fields, this study focuses to a specific aspect. This research investigates to what extent ecotourism has contributed to sustainability of communities. By doing so, the research aims to show the comprehensive understanding of challenges of ecotourism area while counterbalancing environmental, economic and cultural sustainability. This targeted approach allows for detailed exploration of the interplay between ecotourism and economic, cultural and environmental aspects of sustainability. Hence, the study is structured to examine these interconnected themes comprehensively.

### 1.7. Structure of Research

- 1. Introduction:** In this section of paper, we have given a brief explanation of eco-tourism and the significance of researching this particular research topic, also we have given

the research gap within the topic with this the research questions and objectives are enlightened.

- 2. Literature Section:** In this part, we will try to provide extensive theoretical knowledge on ecotourism and its relevancy to all three aspects of economic, socio-cultural and environment. We will also try to provide a summary of local community's perspective towards ecotourism some previous researcher findings on economic, cultural and environmental relationship and a theory that best explains the relation between ecotourism with sustainability and challenges faced while attempting to counterbalance environment, economic and cultural sustainability.
- 3. Methodology:** This section of the paper will illuminate upon the use of various research methods and their applicability and the logical explanation behind certain methods. Similarly, we will try to provide insights over which our research findings will favor.
- 4. Findings:** This section will illustrate the information about our collected data. This section will further expand the empirical data into meaningful insight. Both qualitative and quantitative findings will be presented in best possible manner.
- 5. Discussion:** This section will explain about the comprehensive findings from the literature and empirical sections. Later, we will also try to examine how the results connect to the theoretical findings.

**6. Conclusion:** This section will conclude our research where a brief summary of all the research will be mentioned. Here, discussions about the limitations will also be stated and major reasons for the study will be justified by facilitating the necessary answer to our adopted research questions.

## 2. Literature Review

### 2.1 Sustainable Tourism Development

Sustainable development is a multifaceted concept that seeks to fulfill the human needs not only for the present generation but also for future generations with the protection of the natural environment. The most widely recognized definition of the sustainable development comes from the Brundtland Report, formally known as "Our Common Future", published by the World Commission on Environment and Development in 1987. According to the report, sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development [WCED], 1987, p. 43).

According to Van Der Merwe (1999), sustainable development can be defined as a technique formulated to change the course of economic advancement to safeguard the basic standard of livelihood for all associated with it and simultaneously protecting ecosystems and community that are crucial to life. Similarly, to achieve the goals of consensus-building it is required by the

sustainable tourism forum to include all the possible stakeholders as well as political leadership. To achieve this, the impacts from the preventive techniques need to be implemented. According to Hall (2008), transformation from one state to another can occur in sustainable development and tourism practices. In contrast, educated visitors with meaningful insights while maintaining upper degree of satisfaction, needed to be increased in the adoption of sustainable tourist approaches (World Tourism Organisation, 2001). There are some serious repercussions that developing countries may realize when drastic environmental and economic unrest is observed (Chaytor, 2009). It is a fact that ecotourism despite advocating itself as environmentally friendly and socially conscious travelling and other activities are still deeply prevalent in ecotourism concept (Wall, 1997). Also, there are various policies in tourism that sums up to create negative impact on the ecosystem with serious consequences. According to the report of tourism Queensland (2002), the problems observed can be considered as the contributing factors from tourism activities such as structure of vegetation, deforestation frequencies and industrialization of natural resources for personal use. According to Bhatta, (2009), bottom line nations that are just introduced with the concept of ecotourism has been regarded as success underlying the fact that it supports the local community and promotes the community development.

Many individuals are faithful on the fact that ecotourism brings both positive and economic changes on the peripheral societies. The term “ecotourism” simply depicts the frequency of outdoor activities that are controlled to be environmentally, economically, and socially sustainable and in return provides appreciation of the natural and cultural assets (Alzghoul & Jamaliah, 2023). Every year there have been proven increase in the aspects of ecotourism in that helps to build economic development and fosters conservational ideas. The primary objective of ecotourism ideology has been to conserve natural views to be enjoyed by outsiders and preventing the

biological diversity for the unforeseen future ( Bansal et al., 2011). According to Vogt (1997), ecotourism is often coined as the sustainable development option for rural settings, as it can both provide support o environmental practices and economic development. Any touristic exercises that is not providing any support to sustainability of any ecological factors cannot be said to have ecotourism principles.

According to Bhuiyan (2012), Sustainable development generates phenomenal potential for any community underlying limitations in the sectors of economy, society, culture, ecology and physicality. All in all, sustainable tourism development is a essential tool that helps to achieve widespread engagement and consensus framework for necessary involvement of all stakeholders to prevent and minimize impacts of human evolution.

The roots of sustainable development can be traced back to social and political movement of the 1960s and 1970s aimed at addressing environmental issues and advocating for the protection and preservation of the natural environment. The movement emerged primarily due to increasing awareness of the harmful effects of industrial pollution and environmental degradation on human health and ecosystems. Influential publications, such as Rachel Carson's *Silent Spring* (1962), highlighted the dangers of pesticides and pollution, leading to heightened public concern and activism (Carson, 1962). The concept of sustainable development further highlighted into global prominence from the Brundtland report. It emphasized the interconnectedness of economic development, environmental protection and social equity (WCED, 1987). The agenda of sustainable development was included in 'Agenda 21' and 'Rio Earth Summit (1992) at the United



Nations Conference on Environment and Development (UNCED). Further the Millennium Development Goals (2000) set targets for addressing global challenges such as poverty and health and Sustainable Development Goals (2015), expanded these targets to include 17 goals aimed at achieving sustainable development by 2030. In brief, Sustainable development background hails from 1960-70s environmental movement that was fueled by industrial pollutions' harm and hence need for sustainable development is required.

Fadahunsi (2011) mentioned that tourism industry is rather complex and requires advanced tools to guide to make best decision and maintain the balance of conflicting requirement of sustainable growth on social, economic and environmental areas. According to Wall (1997), even though ecotourism has been claimed as back bone of theoretical consciousness for environment and society it still is deeply found in travel and tourism sector. There are 17 sustainable development goals (SDGs) also known as universal goals whose aim is to ensure that all people have equal opportunities to live a better life without compromising our planet (United Nations, n.d.).



Figure 2.1. Sustainable Development Goals. (United Nation, n.d.)

A sustainable tourism policy needs to be inclusive of ideas that are related to economic, social and environmental sustainability that supports each other (Medina, 2005). According to Wall (1997), tourism demands to be economically success, environmentally secured and culturally ethical to follow up sustainable development ideas. Thus, to achieve sustainable tourism various factors such as envrionmental protection, balance in touristic behaviour and socio economic attributes are nessary to follow the standards ( Brown et a., 1997). Buckley(2004) states ecotourism can bear both negative and positive impacts on society, environment, economy and culture. The terminal objective of ecotourism is to enrich the environmental factors while monitoring sustainable practices like envrionmental preservation and cultural restoration (Okech, 2011).

## 2.2 Concept of Eco-tourism

The international Ecotourism Society (1991) illustrates ecotourism as “thoughtful travel to natural places that are aware of environmental conservation and dedicates to make better life for locals”. According to Jalani (2012), ecotourism can provide for economic development and preserve the protected sites by generating income that can be employed to manage site sustainably, facilitate local employment and bring over the sense of community ownership. Ecotourism has been considered as a tool by the conservationists to conserve the natural resources and enhance livelihood of indigenous communities (Stronza, 2007). For any biodiversity conservation promotion of local livelihood via ecotourism has been taken as vital policy (Lai & Nepal et al., 2007). There are several examples of how ecotourism has contributed to eradicate poverty in developing countries and preserve natural resources (Surendran & Sekhar, 2011). Ecotourism has been greatly known to generate larger number of employment opportunities for locals who has been handling touristic activities in the area.

Even though the increasing fame of ecotourism it has been founded that current regulations of ecotourism does not fully benefit conservations or local resident (Banerjee, 2010). The terminology of ecotourism has been poorly or misunderstood in many cases. Heinous events such as mismanagement, increasing population, lack of sufficient fund and illegal hunting, developmental gaps have portrayed ecotourism as a joke. When introducing ecotourism, it has been observed that only problems such as economic inequality, instability, and negative socio-economic and cultural effects are highlighted (Gulink et al., 2001). There are consequences when

tourism is employed to generate revenue in fragile or sensitive ecosystem (Banerjee et al., 2003). This concludes that ecotourism is discussable topic and needs careful understanding before using it. Ecotourism has been successfully transformed many tourism sites to economic corridor, but some have horribly failed. A wave of debate has been fluctuated on some scholars arguing on facts that ecotourism indeed failed to deliver expected results to some communities but rather caused only overtourism and insecurity (Coria & Calfucura, 2012). Social influencers also pointed out that natural reserves take away the local people's right of access towards critical resources which in result makes bad impacts on social and economic aspects. This unwanted problem later causes protected area's goal of sustaining it impossible as to sustain local resources community participation is necessary. This is long term raises hatred towards the ecotourism principles and eventually damage ecosystem. Hence the careful examination of the communal aspects needs to be done to protect marginalized communities inhabited in the area(Springer, 2009).

In reality the overall experience of ecotourism in the present is mixed of both positive and negative aspects. There is evidence that shows that ecotourism do have the potential to provide better society in terms of income generating ideas, empowerment of locals and preservation of endangered species. According to Horton (2009), economic inequality and suppression of local indigenous people seem to prevail with the existence of ecotourism therapy. This can happen with real life examples of limited access to land resources for local farmers and alienating locals from decision making process that leads to further aggravation. In addition, rise in the conflict between people, policy and wildlife has caused social unrest in the society which is also a result of failed ecotourism concept.

### 2.3 Evolution of Ecotourism as Sustainable Development Strategy

Ecotourism can be termed as factor for prosperity of nation, development and progenitor of gross national income (Fennell, 2001). Nevertheless, critics argue over the fact that tourism development is destructive in long term as it mildly contributes towards environmental degradation. The increase in tourist number is the tinder on which quality of life and environment burns for any target destination. The fast upbringing of tourism industry has caused severe environmental issues such as level of noise, air quality reduction, contribution to water pollution, flora and fauna hazard, draining of wetlands and coral reefs and more which leads to nature depletion in protected sites. Hence, International Union for Conservation of Nature in 1992 entitles tourism as the one of the major threats to natural resources. To fix the issues related with increasing tourism industry many authors have advised tourism industry to follow the sustainable goals (Balmford et al., 2022, Holden, 2003, Mihalic, 2000, Sharpley, 2000, Tepelus & Cordobci, 2005).

Sustainable development is the combination of two primary theories namely development theory and environmental sustainability theory (Sharpley, 2000). The author further illuminates on the fact that tourism needs to build upon the foundation of preservation of ecosystem and equitable development. Ecotourism is rooted back to 1980s where Hector Ceballos-Lascurian has terms a sustainable tourism and provided first recognizable definition (Sharpley, 2006). According to Gossling (2005), World business council has put forth the term eco-efficiency in 1995 which target to reduce the overuse of resources which bears ill effects. However, in 1997 sustainable tourism was acknowledged by Rio+5 sessions as development issues. In the convention of 2002, the United

Nations “International Year of Ecotourism” has coined a major increment of ecotourism as significant form of sustainable tourism (Butcher, 2006). Recently in 21 December of 2012, United Nations World Tourism Organization (UNWTO) has acknowledged ecotourism as successful tourism concept that holds grounds against poverty and environmental protection.

In present days one of the popular growing tourism markets is ecotourism as number of eco-tourists has been triple faster in comparison to traditional tourists (Blangy and Mehta, 2006, Das, 2021, Starmer & Smith, 2004). The study has also claimed that the 5% of total global holiday market will be captured by Ecotourism as going “greener” demands will rise and environmentally appropriate tourism experiences by 2024 (Sharpley, 2006).

The number of international tourists on the ecotourism sites has been rapidly expanding at 6.5% of total market capture which is observed to be annually increasing by 5% (Das, 2011). There still lies a dilemma over which drives the ecotourism that is supply or demand. Sharpley (2006) states that rise in ecotourism is credited to supply however Perkins and Grace (2009) mention that ecotourism can also be demand driven. In brief, increasing awareness over the degrading effects of mass tourism, increasing awareness of environmental impacts, expansion of middle class families are some compelling reasons that demands the ecotourism concept (Holden, 2003, Mihalic, 2000, Sharpley, 2006).

## 2.4 Economic aspects of Ecotourism

It cannot be unwise to state that ecotourism provides support to livelihood of the people and conservation to protected areas. Sustainable tourism development in protected areas opens up

alternative path to prevention of environmental areas (Nyuapane & Poudel, 2011). According to Wunder (2000) economic supports towards natural preservation is highly recommendable for overall sustainability. It is imperative to build economic foundation for the sustainable livelihood of the locals or else the purpose of ecotourism cannot be met. Hence Ecotourism can be also termed as a strategic factor to protect biodiversity while contributing towards financial aids to locals. As per Sorensen and Grindsted 2021, talk about sustainable tourism as an original way to advance the green tourist sector and make it simpler and faster to accomplish sustainable development objectives. According to Ma et al. (2021), green tourism can help nations take advantage of the tourism industry's potential to strengthen their greening economic systems while also protecting the environment. Such a model for ecotourism might be taken into consideration, leading to a stable interaction between the three social, economic, and environmental components that will raise the bar for the green economy.

#### 2.4.1 Employment and Income generation via Ecotourism

According to Stronza (2007), many indigenous communities in tropical parts of the world are reliant on ecotourism for better income sources and overall economic upliftment. In rural communities' ecotourism has been playing a key role of economic rescuer by facilitating new jobs, new business ideas and skill development opportunities (Scheyvens, 2000, IUCN, 2012). Ecotourism has turned out to be an important means of income generation for the local people of Amazon regions of the country such as Bolivia, Peru, and Ecuador. It is either by getting directly involved in the tourism by being guide, managers or housekeeper or by selling products or providing services such as the transportation to the tourists. In fact there have been plenty of cases where people have left their present job and get involve in the tourism sector. This behavior from

the workers supports the idea that getting involved in the ecotourism sector does not really require high skills which in return can increase the participation of people in the following sector (Stronza and Gordillo, 2008). Eco tourism has helped generate tons of semiskilled jobs such as cooks, travel guides, shopkeepers, etc. These employment generations due to ecotourism has helped improve the lifestyles of many local residents (Mbaiwa and Stronza, 2010). There are various types of tourism but getting employed in ecotourism can contribute to large changes in the economic condition of many local families since this usually happens in rural areas and can really contribute to improving the economic status of poor families (Stronza, 2007). Ecotourism is able to provide better access to tourist through organized visits while safeguarding the livelihood security of locals with employment (Ashley, 2002, Goodwin, 2002). With the development of ecotourism site chances of opening jobs in services such as hotels, restaurants, souvenir boutiques and food market is increased on the other hand concept of eco-lodges, campsites and homestays accommodations also serve to aid in economic benefits directly to locals (Mustika et al., 2012, Reimer and Walter, 2013). In the context of marine tourism industry job opportunities such as hiring fishing boats, water tours and scuba diving services acts as great benefactors to aid locals (Hoyt, 2005). Despite of some threats, like environmental impact and induced immigration, studies has shown that ecotourism often facilitate profitable and sustainable income sources compared to that of traditional tourism methods which eventually leads to environmental awareness and conservation.

In the academic studies it was observed that whenever exploring the economic impact upon the tourism industry in ecotourism potential country has proven to be more profitable than that of other earning opportunities (Mustika et al., 2012). The research has grasped the major expenses and other direct expenses but failed to explain the multiplier effect to capture other hidden expenditure.



The tourists who came to visit the country on research did not wanted to leave the nation as they enjoy income that is above the average they earn in their country, this leads to the effect of induced immigration and had hazardous impact on the locals earnings. Consequently, the induced immigration also leads to extreme use of the natural resourices and impact on biodiversity. Similarly in another research it has been observed that on the longest navigable underground river channel system in the world is the primary source of income for most coastal households (Jalani, 2012).

Several researchers in the northern Australia has observed that there is economic development of the locals through ecotourism via micro businesses and its was further clarified using SWOT analysis ( Fuller et al., 2005). The research paper on this topic has emphasized upon the significance of Community Development Employment Projects in sustaining indigenous owned and managed micro businesses by funding them. Thereby highlighting Community Based Ecotourism concept that holds the mutually associated relationship between environmental conservation, local economic livelihood and cultural restoration, Reimer and Walter (2013) have brought forward the solution to the complexities related with tourism and conservation. However, there is no systematic measurement of effects caused by ecotourism is neglected but research analyses each of the impacts through focus group discussion and participatory observation. Employing analytical framework for ecotourism the project seems to hit the seven components of authentic ecotourism that includes travel to tourism sector, reducing environmental and cultural effects, building environmental awareness, facilitation financial benefits and empowerment of local individuals, respecting local tradition and supporting the human rights and democracy. In similar manner, Wunder (2000) has provided with theory of how local benefits from the income

flows and supports the locals by increasing environmental awareness. The case study approach generates the comprehensive explanation of the intricate process of tourism targeted transformation via financial encouragement particularly with no means of quantitative testing due to lack of economic and environmental data. Economic advantages are very important in reducing the people's dependency on the forest resources and enhancing their participation in conservational effort just like that of India's Periyar Tiger Sanctuary.

#### 2.4.2 Ecotourism: Far from Equity

According to Goodwin (2002), there is no doubt about how local people have to pay the price for economic benefit in ecotourism. For example, in any rural society indigenous tribes are being dominated by local leaders and decide the course of employment which fails to address the fair distribution of income. Furthermore, the lack of knowledge has been proven to cause marginalized society in far side of decision-making process. This discrepancies in long run only favors the ones that are in power hence creates inequality in local community (He et al., 2008). One of the many problems with this unequal income sources can be low-skilled and temporary jobs in small scale industry. Thus, more than 80% of employment to any rural ecotourism destination goes to outsiders (Hsu & Lin, 2013). Coria and Calfucura (2012), stated that there are various causes for favoritism and uneven resources distribution in communities which are bound by skill constraints. Hence the author has clarified that ecotourism activities should not be treated as the only source of income to indigenous communities. One of the best possible way to deal with such problems should be to compliment such activities with other non-consequential actions. Lastly, the perception of local community towards the high value of non-timber forest products has also caused the constant degradation of the ecological resources (Delang, 2006). One of the most important parts of the

global tourism market today is eco-tourism. Eco tourism basically means to visit natural places such as national parks, wildlife reserves that are made for the protection of the nature. Ecotourism mainly benefits the local community financially which motivates the locals to conserve and preserve the same community. Ecotourism is really good and effective way of protecting the environment and also improve the economy of the community (Nash, 2001).

#### 2.4.3 Ecotourism related to compulsory displacement

The cost of creating National Parks in protected areas occasionally results in compulsory displacement of locals (Cernea & Smidt- Soltau, 2006). On the other hand limited access to protected areas and declaration of land to forest authorities leads to homelessness and employment risk for locals who does not acknowledge ecological conservation as sustainable earning source. Physical displacement for creation of national park and limited access to resources has resulted poverty. There are costs to ineffective conservation measure because of failure in prohibition to be paid by locals (Arjunan, Holmes, Puyravaud and Davidar, 2006). In another words, several national parks cause threat to human life or crops in the surrounding area of because of wildlife attack or biological issues that is damage to locals in economic aspects. This in the long run creates the bad example of conservation attempts in locals' perspective (Maikhuri et al., 2001).

The economic impact of ecotourism can be debated by simplifying one group focused on benefits like new income sources and improved household status through ecotourism-related jobs. Carefully planned ecotourism can enhance local economic development in many ways such as

reducing dependency on natural resources and biodiversity conservation. However, another group is judging significant issues such as revenue fissures due to labor involvement from outside, unequal income distribution, forced displacement for the establishment of protected areas causing poverty and basic life insecurity. Eventually, limiting the access of the sanctuary's risks unemployment and damage from wildlife towards crops and agricultural commodities brings homeless like situation. Thus, even though having great potential to shape the tourism sector ecotourism still bears the burden of forest dependency and improper conservation practice. Consequently, ecotourism bears huge potential advantages despite of its adverse impact on socioeconomic aspects while undermining its overall effectiveness.

#### 2.4.4. Multiplier effect of ecotourism

There are several scenarios where the advancement of ecotourism has facilitated the production systems that is relevant to goods and services towards tourism such as handicrafts, agriculture and other services that are most likely to be used by tourist. Informers that are linked with ecotourism related activities observed that positive impact of ecotourism is often seen in the advancement of livelihood. It has been watched that locals have changed their profession to more income generating one in ecotourism related activities as tourism provide higher grounds to it (Jalani, 2012).

Scholars like Guha and Ghosh (2007) has measured the limit to which tourism brings better opportunities in Indian Subcontinent. The research continues when socio-economic indicators such as “tourism attendents”, “forest depednets” and “involved in economic exercises” revokes that tourism attendents spend 19% on dining and 38% on other nonfood items that is relevant to other respondents. The income generated from such approach at least occurs in annual consumption. A handful of scholar have argued that ecotourism practices is only for on seasons

but defending authors have stated that income generated as extra income source on the top of traditional employment. It is clearly possible for someone who earns the extra income doing tourism related activities will spend on consumable items. The rising demand of those consumable goods will generate new employment opportunities. Thus, revenue earned from these activities had consequently rewarded the prosperity for the locals and has local development ( Seetanah et al., 2011). A very integral parameter of research paper of Taylor et al., (2006) is that it has employed Social Accounting Matrix (SAM) to entice the direct and indirect impacts on tourism on the particular destination. Direct income is taken from the income of selling the products and services to tourists like hotels, restaurant and other transportation services with indirect income from other parties that are not involved in touristic activities. This had helped author to come to conclusion that tourism has utmost impact on economic growth of particular landmark.

An intriguing concept presented by Wunder (2000) is that , particularly for developing nations the fast expanding tourism sector has shown to be significant source of cash and foreing inflows. With this locals will have an abrupt motivation and challenge to safeguard the resources that brings them the income also the direct profit gain for owners and partnership of tourism services leads to indigenous groups development (Stronza, 2007). Thus by helping join local communities with protected areas adds financial gain to both parties and encourages conservation of biodiversity. However, there is probability of complex dilemma between the biodiversity conservation and poverty elimination as personal interest and economic gain and other externalities try to hinder the goal of sustainable tourism practices. Many scholars has agreed upon the fact that ecotourism has made biodiversity vulnerable by exacerbating towards huge number of people (Cernea & Smith et al, 2006). In real world scenario ecotourism has failed to fulfil the contracts made to

indigenous communities by not providing fair distribution of economic benefits and compulsory displacement and land security.

## 2.5 Ecotourism Market Dominance

As the awareness among the people about the improvement of the environment increases ecotourism has become more popular and its demand has been increasing every year (CREST, 2019). Apart from the increase in the popularity of eco-tourism it also promotes the importance of the conservation of resources and increases participation among the locals which in return can help in economic and infrastructural development of the local area (Coria and Calfucura, 2012). In 2023 the ecotourism market was valued to be around 216.49 billion USD and has been predicted it to rise up to 260.76 billion USD by the end of 2-25 and has been forecasted that it will reach about 758.93 billion USD by the year 2032 (Fortune Business Insights, 2024).

Digital marketing is one of the key factors that helps in promotion for any industry including tourism industry. It targets and helps to reach huge number of people to sell the products and services. Organizations use different platforms such as email marketing, search engine optimization, and many more to advertise their market share of their products. This change and inclined towards digital marketing in the past few years had have really positive effects among consumers. People are highly dependent upon the internet and other people's online reviews before formulating a travel plan. Apart from that the sellers and buyers can directly talk with each other about any inquiries.

Companies involved in ecotourism have been creating emotional storytelling videos about the destinations that create an emotional connection between the buyer and the destination (Fortune Business Insights, 2024).

The age group has also been playing an important role in the increase in the number of eco-tourists. Out of all age groups, the number of millennials is rising significantly. And due to the rising awareness about the environmental protection and online advertising, these age groups are inclined towards eco-friendly tourism. Out of all the age groups, millennials tend to spend more during their travel. The major competitors in the market of eco tourism provides various types of offers and discounts with their travel itinerary. All these campaigns about environmental protection in social media and high spending by the consumers during travel will further increase dominance in the market (Fortune Business Insights, 2024).

## 2.6 Socio-cultural factors of Eco-tourism

The socio-cultural impacts focuses on the changes on different horizons of community like societal, collective, and individual values, behavioral patterns, social interactions, ways of life, means of communication, and community framework (Page, Stephen J. ; Brunt, Paul ; Graham ; Busby, 2002). Tourism fosters a sense of mutual comprehension and respect among different peoples and societies. Archer, Cooper, and Ruhanen (2005) emphasized how the cultural and national diversity among tourists and locals can lead to significant mutual understanding. Moreover, tourism incentivizes local communities to safeguard their cultural heritage, contributing to social stability by generating positive economic outcomes. The authors also noted that tourism

plays a role in preserving ancient cultures and lifestyles. Social advantages encompass the preservation of traditional heritage, enhanced intercultural dialogue and empathy, better social welfare and quality of life, improved commercial options, and increased recreational activities (Cooper, C. P; Ruhanen, L. M; Archer, 2005).

(Schaff, 2009) has compiled a range of positive impacts of tourism that contribute to the social welfare of communities. These include stimulating infrastructure development (such as roads, communication networks, healthcare facilities, education access, public transportation, and clean water availability), enhancing local or regional safety and security, supporting workforce development (including rights and working conditions), fostering civic pride in community, culture, heritage, natural resources, and infrastructure, raising awareness of mutual benefits for all community stakeholders, creating new opportunities and expanding perspectives, promoting cultural understanding and preserving cultural and social heritage including local languages and dialects, supporting and preserving local crafts and skills, cultivating a sense of well-being, fostering greater cross-institutional understanding, appreciating cross-stakeholder goals and agendas, building skills and influence, strengthening government policy enforcement at national, regional, and local levels, enhancing skills through training (such as administrative, service industry, maintenance, guiding, etc.), building collective and individual capacity, and empowering communities and genders socially and financially. Ecotourism enhances social stability, harmony, and traditional culture while also reducing political conflicts (Bin et al., 2008). However, there are also negative socio-cultural impacts associated with ecotourism. Poor management can lead to social conflicts between local residents and government authorities (Bin et al., 2008). Additionally, ecotourism may challenge authentic cultures and values due to Western influences (Bin et al., 2008). Local cultures and traditions can be negatively impacted if they are altered to align with



tourists' cultures (Folk, 2019). Zambrano, Broadbent, and Durham (2010) noted that tourism can lead to increased rates of alcoholism, drug addiction, and prostitution (as cited in KC, 2017). Moreover, it can foster unhealthy competition among locals vying for tourist dollars (Scheyvens, 1999).

While tourism brings economic benefits, it also has profound socio-cultural implications for the communities of the Black Forest (Kronenberg, K., & Fuchs, M, 2021). Rapid tourism development can lead to the commodification of culture, as traditional practices and customs are often commercialized to cater to tourist preferences (Quang, T.D., Noseworthy, W.B., & Paulson, D, 2022). (Garau-Vadell et al., 2018) explain how original culture like the traditional ceremonies, entertainment activities, local food, and cultural events gets transformed and lose their novelty and uniqueness from the influx of large-scale tourism. Numerous studies have examined and identified the negative effects of tourism worldwide. Tourist destinations often become overcrowded and congested due to tourism. Furthermore, the influx of visitors may disrupt the social fabric of local communities, leading to tensions between residents and tourists and challenging the preservation of authentic cultural heritage (Rhama, B, 2022). Some of the positive socio-cultural impacts of tourism include the provision of jobs; better income; stimulations of the local economy and improved security in the destination area. However the major negative impact will be the migration of people to the area in search of jobs, influence of visitors' culture on local culture and the way of life of local people (Bello et al., 2017). Tourism helps develop mutual understanding and appreciation among the cultures of visitors and locals to reduce stereotypes and enhance cross-cultural awareness (Özdemir & Yolal, 2017).

As climate change affects temperatures and weather conditions, tourist visits may shift in terms of timing and location. This could disrupt traditional tourist seasons and impact cultural events and festivals. Changes in tourism patterns due to heat stress and uncomfortable conditions at lower altitudes may reduce tourist numbers in these areas, negatively impacting local businesses and employment. (Endler & Matzarakis, 2011). Ecotourism in general has been known to raise the living standard of locals, while empowering them socially and realize them with respect for different cultures. Facilitating facilities such as infrastructures, health benefits, awareness and educating from tourism development goals helps to develop positive relation towards conservation (Nyuapane & Poudel, 2011). Various community-based initiatives have formed coalition between the conflicting governmental bodies and local communities over the usage of resources. These communities are often supported by institutions that regulates the use of resources from natural reserves. The involvement of local community in the process of formulating new plans and smooth execution is monitored to gain the goal of ecotourism (Rowat & Engelhardt, 2007, Stone et al., 2008).

The socio-cultural impact of tourism is multidimensional that influences moral values, behaviours and community structures. Tourism has been known to create mutual understanding and respect while protecting the cultural heritage with economic gain that leads to improved social stature. Several positive results including intercultural dialogue exchange, protection of traditional practices and community empowerment. In another context negative results like unorganized managerial decision leading to social conflicts, cultural dilution and substance abuse has affected socio cultural standards. Fast tourism development may treat culture as commodity and tamper

with community regulations. Hence, ecotourism is fairly able to promote the cultural and economic gains but it is recommendable to avoid adverse socio-cultural consequences.

#### 2.6.1. Community Participation and Ecotourism

Community participation is often termed as the solution to the problem of many unsustainable activities (Stone et al., 2008). There are several cases where any particular communities are being gained from natural resources seems to help restore the same natural resource in hope of sustaining themselves. For example, farmers or fisherman in rural area of India who subsequently rely on Mangrove forests intend to help restore mangrove vegetation in hope of benefit. This clearly specifies that in the event of gaining tangible advantages from conservational efforts community assumes themselves as stakeholder and in the process support the ideology. These efforts adds sense of success and pride on the participants of having done something they desire which is goal of ecotourism to bring people work together (Parras, 2001).

#### 2.6.2. Empowerment via Ecotourism

Empowering local communities via facilitating them with social, political economic seniority is primary aspect of Ecotourism. Economic growth form formal job opportunities and other informal sector employment and business idea helps to transform community. According to Scheyvens (2000), ecotourism helps to empower community socially by building the sense of mutuality and integrity inside community. Shared income often enables community to remain in harmony thus ushering the social empowerment. Psychological power coincides with community member's self-

esteem that can be raised by outside recognition and appreciation of community's unique cultural, natural and traditional knowledge thus political empowerment arises from participating in decision making process (Nyuapane & Poudel, 2011). In any bio diversified area under ecotourism, financial gain from touristic practices helps to bring actors together while creating strong bonds for co-existence (Wunder, 2000). There is also possibility to empower the locals via building educational institutions from the revenue generated via ecotourism practices which will help in building human capital.

According to World Bank (2002), empowerment consists of four prime components namely information access, participation, accountability and capacity of local organization and ecotourism targets all these to meet sustainable goals (Sutawa, 2012). Even though empowerment has capability to influence self-esteem of the locals, many take empowerment as granted and consider it as their own assets leading to misuse. They even try to become selfish by nullifying interest of other stakeholders. This might even create the problem of disorienting individuals from the path of sustainable practices.

According to Horton (2009) ecotourism provides options to traditional gender roles by providing them with opportunities to move from their traditional duties of household duties of cooking, cleaning and looking after children. The author has discovered that concept of ecotourism in several nations has created opportunities to open up employment vacancies in small business, cabins and handicrafts. These chances helped the local women to gain economic advantage and extending their potential from traditional gender values. Women involvement in the ecotourism projects

features the extended benefit for larger number of community members. Consequently, women are most focused to bring economic change in their life but also gets to look after the health and hygiene for themselves. Thus accessing self-confidence, knowledge and awareness opens up power status in society. According to Thein (2009), gender parity helps women explore how equal opportunities can unlock potential for women's right of education, health awareness and necessary skills to maintain their traditional life.

#### 2.6.4. Conflict between conservation and socio-cultural gains

There is no doubt that rapid tourism growth in ecotourism leads to socio-cultural development however, if touristic activities turn other way in crowding, crimes, displacement from ancestral lands or sexualization then it also leads to social unrest. There are several numbers of issues that may arise with the conservation approach as economically suffering national parks during the peak seasons might not avoid accommodating influx of tourist. For example, the author has discovered that in the national parks of Ranthambore and Corbett National parks in India forest authorities cannot handle the huge influx of tourists however to minimize economic pressure officials are forced to arrange massive tour programs. This has resulted in wildlife trying to chase down the guests as they are disturbed (Banerjee, 2010). In case of other destinations similar to prior one higher tourist injection leads to cultural erosion and also higher intake of alcohol consumption is prone to local cultural values (Wunder, 2000).

#### 2.6.5. Uncertainty in community participation

There are several examples of bureaucratic structure of the forests prevents the residents from taking part in planning process (Banerjee, 2010). Hence understanding the bottom line of the participatory tourist development strategy in the context of developing countries like Asian nations and Latin America and so called former second world countries. Tosun (2000) has outstanding classificational ability to find the reasons for operational, institutional and cultural barriers to community engagement in these nations has been broadly categorized. The author has evidence from the countries like India, Mexico, Thailand and Turkey where a brute centralized public administration system and interestless politicians power protects the community participation. Likewise, factors like vague job descriptions, overlapping duties from the governmental agencies with no responsibility amongst them and lack of information etc rather make it difficult to coordinate implementation of participative tourism development strategy. The inability of adequate legislative framework, investment, qualified human resources, bureaucrats' mindset and dominance of the powerful people are major reasons for structural failure. The author also describes from personal experience that it is a challenging task to convince bureaucrats who have zero experience in tourism sector to have incorporated with community and to promote community involvement. Tourism operators in certain developing countries in the field of tourism such as Mexico and Turkey trespass upon the right of local indigenous groups to benefit from public spaces like beaches or sea. The author again points out another example where widespread discrimination occurs boosting hate in the society. There are other infrastructural discrepancies in the touristic institution which is common in developing nations. Another example of hindrance to community involvement in tourism industry can be cultural barriers of how poor's limited ability to manage destination and lack of awareness towards effective involvement.

## 2.7 Environmental Aspects of Ecotourism

Alternative to the financial use of natural resources can be represented from the Ecotourism perspective (Li, 20004; Wood, 2002). Sustainable tourism development in preserved sites facilitated another option towards the exploitative abuse of environmental assets (Nyupane & Poudel, 2011). According to Wunder (2000), to enhance environmental standard one of the key players is indeed ecotourism. The ideology behind the sustainable use of the exhaustible natural resources can be the green growth policy governed under ecotourism principles. A necessary revenue generating asset that works in par with resource management is biodiversity of that natural resource. However, Holden (2003) considers inadequate environmental knowledge generate catastrophic results. Thus, substantial increment in the environmental degradation from human activities demands that environmental agenda need to be involved in evolution of tourism. The author has highlighted the significance of conserving the resources while monitoring the increasing crisis of natural resource degradation. Overtime, instrumental ethics can be neglected to accept more conservation-based ethics, which takes into account that financial interests of all parties involved in conservation of natural resources. In addition, the difference in the economic backgrounds of urban and non-urban sectors the environmental aspect of urban tourism values more than economic aspects (Wu, Wang & Ho, 2010). In the context of travel related decision, tourists decides destination by analyzing environmental quality of destination as growing awareness in tourists and monopolistic standard of tourism market guides towards making eco-friendly target (Mihalic, 2000).

### 2.7.1. Biodiversity Conservation from the prospect of Ecotourism

According to Lisaboda (2009), ecotourism paves the path for conservational aspects as its principles guides to save flora and fauna of fragile ecosystems. Ecotourism can be treated as the successful conservation regulations for its ability to preserve larger scope of animal kingdom via means of sustainable income sources to the residents (Salvador et al., 2011). One of the primary revenue generations for national parks is through the entrance fees, voluntary donations and environmental conservation campaigns that focuses on conservation efforts (Reimer & Walter 2013). Another prospect of ecotourism explains complexity of tourism with biodiversity conservation by targeting on the economic benefits from the natural reserves over which locals take pride about their resources and take preservation approach (Nyuapane and Poudel, 2011). Furthermore, with progress in income level and livelihood of locals brings positive impact on the national park by changing their behavior (Abbot et al., 2001). Ecotourism respects the basic foundation of sustainable tourism practice by employing techniques to reduce the environmental impact and hence provides support to conservational efforts like reforestation and biodiversity monitoring (Zambrano et al., 2010). With conservation there is observable results that tends to protect locals from any environmental hazards like flooding, or natural calamities, this inspires locals to preserve their surroundings (Badola et al., 2012). Another way to minimize green-house



gas emissions can be through the promotion of ecotourism which can reduce carbon footprint (Badola, 2010).

Despite of various examples of ecotourism supporting the environmental balance, a growing number of articles shows that it is not as effective as it is advertised. There are conflicts among scholars on ecotourism being device of revenue generation. Although it has been observed that ecotourism in developed nation seems to work however in developing nation poorly planned strategies seems to impact environment. Hence careful planning is integral part while modifying ecotourism principles.

### 2.7.2. Ecotourism in terms of Business Policy

According to Isaacs (2000), ecotourism fails to work as wildlife conservation strategy for its deficiency to cover the long-term sustainability to conserve environmental assets. He declares that ecotourism is a shadow market designed to pull tourist enthusiast and visitors. Ecotourism surely works to focus its consumers on its activities offered in any conservation sites but fails to consider the income gain while deteriorating environmental property. According to Honey (2008), in his book “Ecotourism and sustainable development-Who owns Paradise?” the outerlayer of ecotourism advertises its self was sustainable development through tourism however the marketing in reality is just conventional mass tourism encased in delicate layer of green (pp.51). He believes that ecotourism has much to correct and is in beginning phase thus broader principle and practices are required to carefully filter its discrepancies. According to Scheyvens (2000), in many so-called

ecotourism sites in remote areas, infrastructures are arranged on the cost of deforestation and use of exhaustible resources. This concludes that fact that proper infrastructure is still lacking in ecotourism sites.

Another example of Ecotourism as business policy can be found on findings of Kirkpatrick (2001) where in Lower Gordon River, being one of the largest fresh water stream in Australia has allowed the inclusion of speed boats to meet the tourist demand. This has resulted in the erosion of banks and fall of trees due to extreme water disturbances. This leads to the statement that profit motive of ecotourism sector has lead to demise of beautiful scenic reflection of rainforest-covered banks.

### 2.7.3. Conflict between biodiversity conservation and ecotourism

According to Drumm (2008), with the higher influx of tourist in ecotourism sites that exceeds the holding capacity of it causes depletion of the very natural resources for which tourists had come to enjoy. The environmental impact of tourism is the most significant negative aspect of the tourism industry. The increment of tourists makes the tourism destination overcrowded and congested. The heavy traffic jams and parking issues contribute to environmental degradation, such as increased air pollution and noise, as well as the physical strain on infrastructure (Almeida-García et al., 2016). Tourism activities disrupt and degrade the local environment and ecological system. It affects the natural habitats and ecosystems which further influence indirectly to various other sectors like output production and manufacturing sectors as they adapt to the demands and pressures of a

growing tourism industry.(Andereck et al., 2005). According to a report by European Union, tourism development is a major contributor of carbon emission in Europe. The report highlights that 20% of these emissions are associated with housing, including hotels and guest houses.(Sofronov, 2017). The environmental impact of tourism can also be highlighted in terms of carbon emission. a single round-trip transatlantic flight generates a significant amount of carbon dioxide (CO<sub>2</sub>), approximately equivalent to half of the CO<sub>2</sub> emissions that an average person produces in a year through various activities such as driving vehicles and heating their home.(Sunlu, 2003). Tourists often introduce exotic species of insects, wild and cultivated plants. This can cause significant disruption and even destruction of local ecosystems (Eber et al., 1992). These non-native species can upset the natural balance, and lead to severe ecological consequences.

The initial impact of tourism begins with the construction of new developments. Tourists often demand items like refrigerators, air conditioners, aerosol spray cans. These items are commonly used tourism products and contains ozone-depleting substances (ODSs) such as chlorofluorocarbons (CFCs) and halons. These ODS are a significant contributors of ozone layer degradation. Additionally, emissions from jet aircraft are a major source of ODSs(UNEP, 1998), one of the most basic factors against Ecotourism can be extensive use of resources from overseas and emission of CO<sub>2</sub> that deteriorates the delicate balance of target destination (Buckley, 2004). The environmental impact of tourism on the Black Forest region is a pressing issue that demands attention (Baloch, Q.B., Shah, S.N., & Mahar, M, 2022). Unregulated tourism activities, such as deforestation, pollution, and habitat destruction, pose significant threats to the region's delicate ecosystems and biodiversity (Nguyen, C.P., Nguyen, B.Q., & Tran, D.T., 2022). Moreover, the influx of tourists can exacerbate issues such as overcrowding, noise pollution, and wildlife

disturbance, further compromising the environmental integrity of the area (Bowitz, E., & Ibenholt, K., 2009).

With increasing popularity of ecotourism there is consequences on the limited number of exotic creatures in their habitat and hence impacts the endangered creatures like bear, whales and tigers and also birds (Steven et al., 2011). There is reciprocative relationship between the number of tourists and birds in national parks (Kreiner et al., 2013). The genetic behaviour of some creatures is affected with introduction of toursits in their habitats in the name ecotourism. Researcher have discovered that recreational activities have negative impact on rare creature like changes in temperature, heart rate rise and stress hormone. This will eventually cause a chain reaction that would be degrading the ecological balance. In similar manner, increased touristic activities in marine protected sectors has suffered significant damages to coral reefs and marine organisms. Scuba diving has caused the reef damage to the coastal ecotourism sites as physical contact with corals results in vegetation damage (Hasler et al., 2008).

According to Kruger (2005), mass habitat restoration in many countries has started due to severe pollution by visitors raises the question on ecotourism's gap in policies and practice. This clearly means that without proper planning the local benefit of ecotourism turns to environmental disaster. Additional problems such as uncontrolled immigration, inefficient land reform policies and unsustainable resource use in the Bardia National Park and Sukla Phanta Wildlife reserve had surpassed the benefits of ecotourism (Baral & Heinen, 2007). The dispossession of private structural properties like land and loss of control over it will compel farmers to look up into wildlife

areas for survival efforts. According to Laudati (2010), there is severe consequence of stretching the territory of national park boundaries into private landowners like farmers.

In the context of whale watching, Orams (2000) has depicted that tourism industry has expanded to little over 65 countries in 1995 which was in 12 countries before 12 years. The monetary valuation for the activities related to this type of ecotourism is over 550 million USD. However, the impact of the tourism industry on the endangered wild animals is very intriguing. The total closeness of the vessels to the natural habitat of whale's noise pollution of the vessels to their habitat has caused alarming behavioral pattern. Another researcher in the same field has mentioned that these kind of aquatic ecotourism has serious influence over their behavior and surely life. The economical gain from accessing this type of industry has not even stopped the haven for all the sharks and whales in Bahia De los Angeles has reflected as negative impact of ecotourism. This concludes the fact that whale watcher operators need to design the tour in such a way that can contribute to the welfare of these aquatic animals.

In several situations, above mentioned contradictory challenges are becoming more impractical as the emphasis shifts towards using the tourism as the key source of revenue generation under the name of responsible travel. Eijgelaar, Thaper & Peeters (2010) have noted that number of cruise passengers have been tripled in between 2000 to 2007 by the means of Antarctic cruise tourism. This kind of traveling technique is termed as the "responsible tourism" as it targets to raise the awareness of environmental problems before the destination perishes forever. The authors have denoted that there was no relation on visitors having understood of the environmental issues.

Likewise the consequences of these kind of travel is considerable in the environment as climate change and increase in greenhouse gas emission are observed. Whenever a passenger travels to enjoy their vacation to different destinations each one emits around 409 kg of CO<sub>2</sub> per day and 7.8 tons of CO<sub>2</sub> per journey. This is the leading cause of polar ice caps melting and as a result of climate change, the survival of Arctic wildlife species such as polar bear is diminishing (Dawson et al., 2010). The primary consequence of the 22% down in the polar bear populations in the Canadian waters between 1988 and 2004 was climate change. According to the estimates the polar bear observing industry has produced 210000 tonnes of CO<sub>2</sub> per season, which is massively greater than any other ordinary activities in ecotourism. Visitors have a greater want of witnessing the wildlife that are only found in these waters such as seals, walruses, polar bears, beluga whales, penguins and other many different kinds of endangered animals.

All in all, majority of authors have promoted the idea of ecotourism development in protected area given the condition that ecotourism does give option to unsustainable use of resources. Tourism can have many positive impacts like the preservation of historic buildings and monuments confined in a protected area, protection of ecological processes, conservation of biodiversity, conservation of values, culture and built heritage resources. Tourism provides a platform to convey the significance of natural and built heritage, as well as cultural inheritance, to both visitors and residents. This can be done through guided tours, informational displays, educational programs, and interactive experiences. This awareness can lead to more responsible behaviors and consumption patterns, contributing to the conservation and respect for these sites (Eagles et al., 2002). Ecotourism is able to define the principles of sustainable tourism and helps reduce environmental impact and favors the conservation by means of reforestation or financial support.

On the other hand, some authors argued over the fact that potential advantages form environmental damage to protected sites without through strategy deals significant damage to economic, environmental and social principles. Analyzing various scenarios authors are quite unimpressed and concluded that ecotourism is not full proof solution to biodiversity conservation.

## 2.8. Challenges in Ecotourism

Ecotourism is fashioned in such as way that variety of challenges are attributed to it such as environmental degradation, cultural deterioration. One of the major environmental criticisms of ecotourism is that it is mostly dependable on the resource usage inclusive to travel and other activities contributing to carbon emission (Buckley, 2004). The wildlife habitat and surroundings are disturbed when touristic activities occur in their vicinity (Gonzales, 2018). Even in the case of trekkings, most visitors seem to scrape away the soil moisture, plants and micro insects when they march through. Some of the tourists even have the audacity to slice natural beauty to write their names on trees (Giampiccoli, 2015). There is always risk of plucking flora as so-called admiration of nature by visitors (Mtapuri and Giampiccoli, 2019). This clearly illustrates that environmental protection measures are failing to contain the damage made.

On the other hand some authors promotes the fact that ecotourism is insignificant in economy boosting (Walter and Khanal, 2018). But in present scenarios external stakeholders such as hotels and lodges are being benefitted more than the locals ( Giampiccoli et al., 2015). In developing nations mostly natural reserves are belongings of private institution or person (Korth, 2016). To sum up, this eventually end up in making personal benefit that will support only the owners.

Various large corporations use the concept of ecotourism and turn natural resources in their own private commodities that generates wealth for them but does not seem to involve local communities (Mtapuri & Giampiccoli, 2019). Different branches of governmental bodies are responsible for their job and if proper management is not employed they might never fulfill their duties (Sebola, 2008).

According to Hirtenfelder (2014), during the ecotour in protected sites of local communities, tourists may try to access the sensitive place of great importance to locals. This unwanted tourists might unintentionally disrespect community morals and values which may turn to chaos (Santarem et al., 2018). Key principle of ecotourism site is to benefit the communities that hosted however status of living for those in preserved areas are questioned (Tella et al, 2017). There is a chance of social unrest between tourists and locals whenever the thin membrane of antagonization is teared (Santarem et al., 2019). The requirement for the modern recreational platforms are often felt in natural guiding and survival tactics (Yip et al., 2006). The medium of information exchange has raised problems for the lcoals and tourists leading to façade in communication (Clifton & Benson, 2006; Schellhorn, 2010). One of the most ambiguous examples of how the “Nature Conservancy” conservationists classify risk is claimed by Drumm that mentions how tourists have classified tourism as threat in 78 conservational plans because of its impact in the period of 7 long years. If this persists in the future and no actions are taken then quality of visitor experience will downgrade and important ecosystems are lost with extinction of unique species.



## 2. Theoretical Framework

### 2.1. Triple Bottom Line (Theory)

The concept of triple bottom line theory was first coined by John Elkington where considering any entity or organization as the creator of value needs to take several aspects into account (Nogueira et al., 2022). It has also been mentioned in the paper on Corporate Social Responsibility as any organizations' overall performance needs to be calculated on its joint contribution to economic gain, environmental standard and social stature (Green Paper, 2001). According to Savitz (2006) triple bottom line theory grasps the idea of sustainability by precisely estimating the impact of any entity or organization towards its profitability and stakeholders' value as well as environmental capital. The theory is also known as notion 3P that is planet, people and profit as its target is to maintain activities in business entities related to environment and socio-cultural attributes (Wu & Zavodna, 2013). It has been widely acknowledged by "United Nations Environment and Development World Commission" that depicts "our common future" is the major actor responsible for the increased public awareness of the concept of sustainability (Nogueira et al., 2022). Thus, Triple bottom line can be considered as an important tool for any organization to achieve its sustainability objectives as ecotourism has similar values (Zavodna & Trejtnarova, 2013). Triple bottom line promotes ecotourism practices by putting forth comprehensive framework for analysis and allowing economic livelihood while maintaining environmental and socio-cultural standards (Wondirad et al., 2020). According to Kisil (2013), in any scenario if any organization provides employment services to people, then that economic promotion should not harm environment nor socio-cultural standard. Triple bottom line advocates upon the supremacy of environmental coherence with ecotourism technique by focusing on conservation measures such as responsible water use, lowering carbon emissions and biodiversity protection while ensuring perpetuality of

resources to economic and cultural integrity (Sentanu et al., 2021). However, it becomes necessary for community to find the equilibrium station where economic benefits are balanced with environmental and socio-cultural status and ensuring ecotourism guides to sustainable process to all (Nguyen & Kelly, 2018).

Even though much research has been conducted to trace the economic importance of tourism but they somehow does not seem to understand how revenue generated is dispersed in communities (Michael et al., 2019). For instance, ecotourism has been known to boost local business by facilitating tourism related activities in national parks leading to create revenues from hotels, restaurants and shops (Saayman, 2006). This can be often observed in Black Forest national park where local artisans sell handcrafted items which benefits community from ecotourism ( Moisey, 2002). Research has been conducted to show how ecotourism creates employment opportunities that in turn leads to economic sustainability for instance, ecotourism in Costa Rican National Parks has led to jobs in guiding, hospitality and management (Bushell et al., 2007 ). Ecotourism has also boosted the need for tour guides, retail workers and maintenance personnel in the area of national park which contributes to economic sustainability ( Miller et al., 2023). The importance of diversified local economic activities is important for reliable tourism market fluctuations as tourism destinations solely reliant on tourism are prone to economic downturns in periods of crises ( Reif, 2019). In the context of national parks alternative livelihood measures such as sustainable agriculture and local art or crafts can be done to reduce dependency on tourism ( Tarbert, 1998). All in all, to support community and sustainability there is strong need of equitable distribution of revenue earned from tourism which shows importance of fair revenue-sharing techniques ensures all community members are equally benefitted ( Adeel & Safriel, 2008). Destinations with

ecotourism concept seems to employ cooperative models and community funding to distribute revenue fairly ( Lee & Son, 2017).

Another significant aspect of triple bottom line in ecotourism relatable destination is environmental sustainability. Studies has been conducted to demonstrate that a well-structured ecotourism project supports conservation approach and protects endangered species while contributing to ecological aspects (Wakamatsu et al., 2021). For instance, national parks have been observed utilizing incomes generated via tourism to support habitat restoration and species monitoring initiatives (Buckley, 2013). For any ecotourism site it is imperative to sustain natural resource management and hence sometimes stricter resource management policies are implemented to maintain ecological integrity (Schwarz, 1997). Some ecotourism sites have been found out to implement sustainable forestry practices and water conservation measures to manage natural resources. With Global warming ecotourism sites are facing critical challenges to maintain as ecotourism destinations by altered water vapor concentration and increased temperatures which threatens biodiversity and touristic activities (Tolvanen & Kangas, 2016). Hence adaptive measures are suggested to be employed by national parks such as reforestation and climate tolerable infrastructures to mitigate these impacts (Kala & Kumar, 2021). Lastly it is crucial to know how to counter the challenges with environmental aspects within organizations like National parks. Hence, educating tourists and stakeholders can enhance their appreciation and support for preservation initiatives (Wang & Zhou, 2019). According to Mussetta & Fletcher (2016) national parks offers educational activities and other interactive exhibits to create awareness among tourists (Corney, 1998).

Lastly, cultural heritage has been significantly considered as important aspect of ecotourism. According to Huang & Zhong (2008) studies has been conducted that highlights through tourism traditional practices and cultural sites can be preserved. Many national parks has done efforts to incorporate local traditions and crafts into the tourism experience which in long term makes sure local culture is preserved (Munster & Richards, 2010). Another aspect of socio-cultural sustainability is to ensure similar social stature for all not matter what. According to Ruhanen & Whitford (2021) there are some societies where marginalized communities often benefit least form the touristic development programs. Thus, the goal of ecotourism concept is always to minimize that chance. There are many ecotourism sites that incorporate inclusive tourism that later provides opportunities and benefits for each belonging community members that is including marginalized groups (Fresnoza et al., 2024). It has been observed by many scholars that community engagement in tourism planning and managements often promotes to sustainable results by involving local communities in decision making process and with this their support rises and increases probability of successful tourism development needs (Harju & Jutila, 2021). According to Simpson (2001) Local residents that are engaged in advisory councils and participatory planning exercises often bring communities together. All in all, ecotourism possess the power to enhance the quality of life for all the local communities by improving overall infrastructure and services through investing revenue generate from touristic activities in public amenities such as healthcare, transportation and education ( Kumar & Urbanc, 2019). In case of Black Forest national park via ecotourism there has been constant increase in living conditions for residents and overall wellbeing (Bhadouria et al., 2014 ).

### **3. Methodology**

#### **3.1. Introduction**

Divya Sreekumar (2023) defines research methodology as a structured and scientific method that is used to collect, analyze, and interpret qualitative or quantitative data collected through different data collection methods to evaluate hypothesis or answer to research questions of the study. Jensen (2020) adds research methodology gives a systematic design to the study to ensure that the study addresses research aims, objectives and research questions.

In this part of the study, Saunders Research Onion will be used to illustrate step by step methodology of the study. The research onion depicts different decisions made by the researcher while designing and structuring the study. For the thorough understanding of the research case study research strategy is used and interpretivism was used the research philosophy. The study will use an inductive approach as multiple insights of the local people have been gathered from interviews, surveys, and researchers' experience through sight visitation. Semi structured interviews were conducted, survey questions using both qualitative and quantitative methods were distributed, and the researchers visited the site to observe the life of the locals living within the proximity of the Black Forest area specifically the Freiburg and the Triberg region. The study also illustrates the different limitations and restrictions faced by the researchers while conducting the study.

#### **3.2. Research Onion**

Saunders et al. (2009) explains that the main purpose of Research Onion is to aid in addressing the pattern employed for specific research. Research Onion has different layers, and each layer of research onion has a distinct set of tools needed for conducting the research. This gives the research a structure which makes the research process more organized and manageable. Research onion

provides a detailed overview of all the processes employed during the study and furthermore provides each procedure during the study and its documentation. The diagram below displays the structure and form of the Research onion and how it is utilized to explain the overall research process.

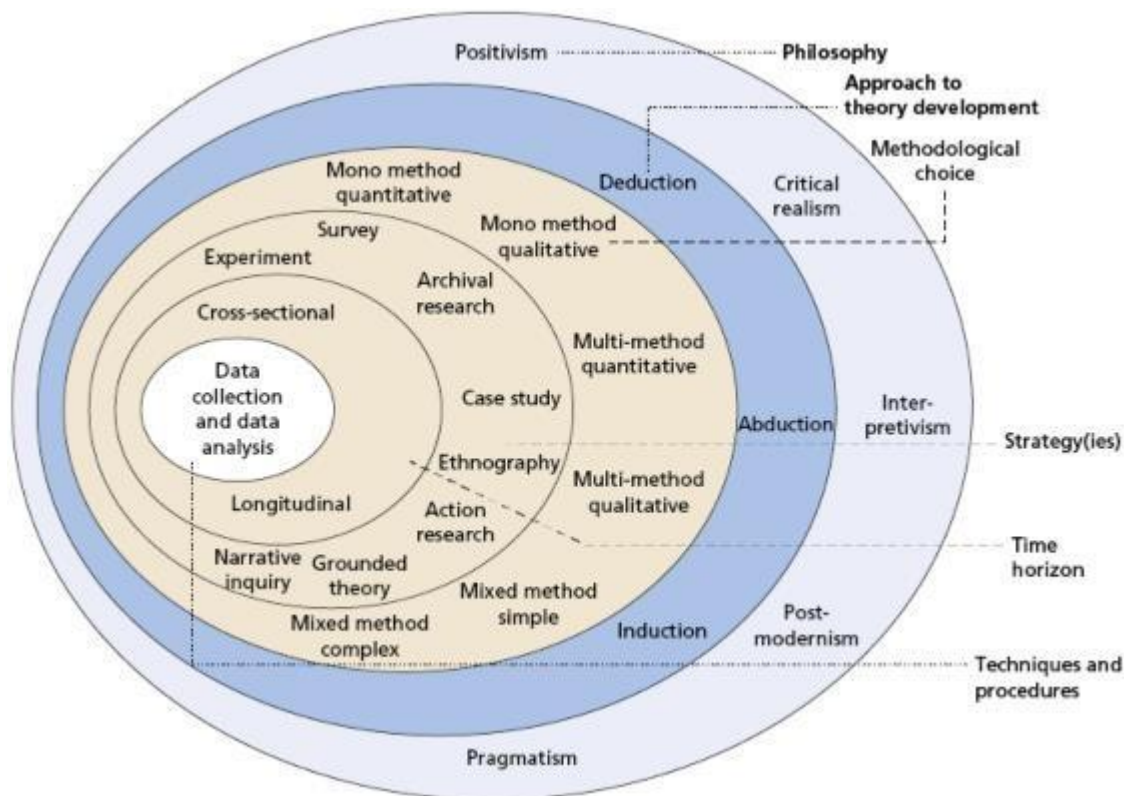


Figure 1: Saunders Research Onion (Saunders et al., 2007)

### 3.3. Research Philosophy

Research Philosophy is the outermost layer of the Research Onion. As the outermost layer it is the foundation of any research. Saunders et al. (2009) states that research philosophy can be defined from an ontological or epistemological perspective or can be based on the research presumption and is usually characterized by the belief that the research is constructed upon. According to

Creswell & Creswell (2017) Ontology the nature of reality and what the researcher knows and understands whereas epistemology is the process how a researcher obtains that knowledge and comes to understand the actuality. Three main philosophies with different ontological and epistemological assumptions are positivism, pragmatism and interpretivism have been used in this study.

The paper uses pragmatism as it allows to integrate both qualitative as well as quantitative data. Pragmatism was chosen as it seemed to be the best fit for carrying out this particular investigation since it gathers both subjective as well as objective facts by utilizing both philosophies. Furthermore, it also allows the researcher to understand the truth of the event through the views of people involved, as opposed to drawing conclusions from one sided phenomenon. Saunders et al. (2009) asserts that pragmatic philosophy suggests that there are multiple ways to understand the world's reality rather than depending on only one side. It views life as a kind of entertainment where everyone is an actor who play different roles, and it is especially important to comprehend how everyone perceive and act out these roles.

The main purpose of the study is to investigate how ecotourism has improved the sustainability of the local community. It emphasizes the outcomes of ecotourism, particularly those that draw attention to sustainable activities and community involvement. The study also focuses on the benefits, drawback, and different challenges of eco-tourism and enlighten the stakeholders and policy makes especially in the Freiburg and Triberg area of The Black Forest National Park. The objectives are to advance sustainable futures of the local population and eco-tourism practices in the Triberg and Freiburg area while also enhancing the positive aspects of the tourism industry. As a result, this study will consider of many viewpoints and make the text more relevant and understandable.

### 3.4. Research Approach

This layer of the research onion covers the selection of data collection and analysis by the researcher. Mainly there are two types of research approaches i.e. inductive and deductive. Mark Saunders et al. (2009) states that inductive method, beings with a theory and gradually develops its focus on particulars, moving from particular to the general, whereas the deductive method starts with hypothesis derived from the observed patterns and seeks to verify and confirm them to construct a more comprehensive theory.

This research paper uses an inductive approach as it is more suitable for the intended study which tries to understand the current situation of ecotourism and its impacts on the sustainability of the local communities. An inductive approach aims to collect experience and opinions of the local community members of Triberg and Freiburg area of Black Forest National Park through different interviews and surveys. Using taking this approach, the study hopes to improve knowledge about local communities' sustainability and eco-tourism, empowering the local residents and encouraging sustainable activities leading to a overall sustainable development of the area.

### 3.5. Research Strategy

Malhotra (2017) in her study defines research strategy as a plan or activity of searching for and assessing information found is carried out. Among the various research strategies offered by the research onion the study uses the case study strategy as the adequate search strategy for the study. Creswell (2017) defines a case study as an in-depth analysis of a specific subject intended to provide a profound understanding of the problems in practical environment. Furthermore, Saunders (2009) adds that a case study researcher should consider the cultural and social circumstances. As a result, the study is primarily qualitative in nature and is aligned with inductive



approach and interpretivist philosophy. By using a case study strategy, the research aims to improve the knowledge regarding the local communities, sustainability, and ecotourism.

### 3.6. Research Choice

Research choice is another layer of the research onion. Despite having different research choices this study uses mixed method approach to access ecotourism and impacts on the sustainability of the local communities. Saunders et al. (2009) explains that mixed method research does not mix qualitative and quantitative data but rather combines them sequentially or concurrently. Putting it differently, even though mixed method research incorporates both qualitative and quantitative viewpoints during the technical phase of the study the analysis of data is done independently of the other. Through the data from the local community members and the business owners, the study seeks to provide a more thorough knowledge of the relationship between eco-tourism and sustainability of local communities.

The study's quantitative component requires gathering a lot of information about the region's sustainability and ecotourism. This can include the experiences visitors had while in Freiburg as well as their thoughts and viewpoints regarding the actions the local people have taken to protect the environment and guarantee their long-term well-being together with additional crucial measures like the impact on the economy and environment. Therefore, quantitative data will help analyze and comprehend the quantitative foundations of the sustainability of locals' ecotourism.

To investigate how tourism impacts the community, especially if it has made them more sustainable, is the goal of qualitative study. In addition to analyzing the negative impacts of tourism on the community, it's critical to evaluate the influence of local economic, cultural, and environmental factors.

### 3.7. Time Horizon

According to Saunders (2009), only two options are available when choosing temporal horizon: cross-sectional and longitudinal. Any data that is collected at any single point of time is termed as Cross-sectional time horizon data whereas, a data that has been gathered over extended period is termed as Longitudinal time horizon data. While conducting research of ecotourism in Black Forest Region, qualitative data will suffice the brief time period spent to gather the data and hence cross-sectional time horizon is most suited for this research. Cross-sectional studies can be carried out in relatively shorter period of time at minimal cost in comparison to longitudinal studies as they do not require long term observation and is time and resource saving (Levin, 2006). Cross-sectional studies are prone to biasness as it relies on participants' remembering ability to recollect past events or experiences (Sedgwick, 2014) , in the context of Black Forest Region the data collected are only provided at one point in time and is susceptible to capture changes or developments over time ( Wang & Cheng, 2020). Another drawback of cross-sectional study is that it might not provide definitive or affirmative findings when it comes to cause and effect relationships.

Cross-sectional study methods are normally limited as it requires capturing sample of participants in the field of Black Forest Region from a huge study population (Sankoff, 2008). This shows that sample bias might incur generalization for the research conducted over in Black Forest National Park.

### 3.8. Techniques and Procedures

The study technique might incur qualities that makes the data collection as well as analyzing the data with convenience. In the data collection method, the researchers' technique of data gathering can be shown in the form of primary data. However, every data conducted must be gathered in the time frame as academic research guideline suggests. According to Driscoll (2015), "the ultimate target while conducting the primary research is to understand something that is new and can be validated by others which can be used to terminate any biases that are created by researchers in the process". This can also be taken in another manner that primary data helps to look up into the new insights as well as perspectives from respondents' point of view as they have experienced that. In this research assessing the effects of ecotourism over sustainability of the local communities in the region of Black Forest National Park nearby residents has provided the major data in their perception. Quantitative data were collected in the form of online survey methods as well qualitative data was collected through semi- structured interview to fulfill the primary data collection for this research.

#### 3.8.2. Online Survey questionnaire

During the process of data collection, the careful designing of the questions and other crucial information is crucial to obtain the required influx of data that explains the research objective through various means, for example survey questionnaires. The questionnaire that has been designed for this research covers the wide range of topics that is demographic data, locals' engagement and experiences, cultural sense, environmental awareness, visitors' awareness on use of natural resources and personal comments on destination. According to Singh (2017), the Likert scale is a set of statements provided to study either real or hypothetical situations. With this

functionality Likert scale is helpful in a variety of circumstances and helps determine the emotion and agreement level to an extent.

To further verify the effectiveness and the clarity of the question a pilot test had been employed to the nearest friends and colleagues who have better knowledge with ecotourism and thus some minor adjustments were made to the responses. According to Cohen & Manion (1994), pilot study is conducted to filter the actual required data from the population members who are conveniently available to participate during the study. This is to make sure that respondents will have no trouble answering the questions but also no glitches to record data for improved questions. This further boosts the evaluation of questions and the reliability of data collection process. The survey was shared through the snowball method. The researchers passed the survey to different staff in the restaurants, guest houses and stores they visited during their travel and also asked them to pass them on to their colleagues and if possible, to their family and friends. Numerous social media and communication mediums are used to share the survey. Various Facebook communities like Freiburg Im Bresigau, Triberg expats and local universities were helpful in providing the survey poll. As the deadline approached the survey was declared closed and data collection was handled.

### 3.8.3. Semi Structured Interview

According to Dornyei (2007), any qualitative interview can be considered good if it has the key feature of natural flowless and adequate details to question. To fulfill this, it is therefore vital for researchers to understand that there is no just listening or just talking about the topic. The target area for this research paper is very close to Denmark, the data collection process is carried out by the researchers themselves. Hence, during the data gathering process researchers have been out to the target destination and performed the interview in person to the respondents to remove any of the biases. The interview questions were made on hand by researchers, and some are edited on

spot to compensate for the experience gained during the visit. Though the researchers were having difficulties during the interview as German speakers were not very fluent in English. The respondents were interviewed in their own workplace or in their familiar surroundings and this made them feel comfortable providing personal experiences. Also, the researchers did keep the mind occupied of the respondents by actively participating even the unnecessary details to cure boredom. According to Berg (2007), “while conducting the interviews it is integral for interviewers to keep up with interviewee’s motivation by keeping boredom at corner”. This step was performed by interviewers by asking the interviewee with minimal demographic questions like age for women and personal queries. At the end of the interview respondents were given free choice of comments on some topics if they feel like it to relieve the stress that interviewers might build up during the interview. Free comments and questions asking capabilities provided to interviewees provide them with stress free environment to reduce the data validity (Ishtiaq, 2019).

After the interviews were performed to be thankful the researchers re-expressed their gratitude to the interviewees and tried to discuss the ways of future contact.

### 3.9. Ethnographic Field Work

According to Powdermaker (1969) the core of observation method is to understand by immersing oneself into the society as far as possible and see, feel and act as anthropologist belongs there. This allows researchers to understand psychological realities of a culture, and its values. It is also crucial for researchers to detach oneself and construct abstract reality where a map of social relations, including rules and the way they must work with (Levon, 2017). Our research was aimed to investigate the impact of ecotourism on the sustainability in the Black Forest National Park region

with particular focus on the areas of Triberg and Freiburg and other area around this. As master's students from Aalborg University, we had spent almost 10 days conducting ethnographic fieldwork to collect qualitative data and insights from local stakeholders' inclusive business owners and residents. Our primary destination of study was Triberg Waterfall and Freiburg area as both hold significant ecotourism attractions.

A significant role of any ethnographic fieldwork is to evaluate and absorb the personal experiences of researchers during field visits. Ethnographic studies enable us to penetrate the target world via social relationships and interactions with concerned places and people. The ethnographic fieldwork for this research was completed with series of participant observation, semi-structured interviews and informal conversations to gather data. Our approach during the field work was immersive and has allowed us to engage with target community and experience dynamics of ecotourism firsthand. The target is to gain knowledge on how ecotourism influences economic, social and environmental sustainability in Black Forest National Park.

### **Insight from Triberg Waterfall**

According to Moisey (2002), national parks normally provide job opportunities and foster new business ventures to surrounding areas. It was observed that local businesses, particularly selling souvenirs and traditional handicrafts greatly benefit from tourism. The Triberg Waterfall has helped to boost the local economy by attracting visitors to spend money on dining, accommodations and local handicrafts. We have observed a peak rise in tourist visits that shows

how it boosts local economies. According to Miller (2023) tourism can boost cultural exchange but also may lead to cultural commodification if attention is not paid. In our field visit we found out that tourist's influx brings about both positive and negative social impacts. Positively the exchange of vibrant culture between tourists and locals brings people together, but it also strains preservation of local traditions and community resources. Residents had expressed concerns about cultural erosion and requirement for better management to maintain foundation of heritage. While observing the waterfall we also found that local authorities had implemented several measures to mitigate environmental impacts on tourism such as efforts on waste management, cleanliness and techniques to preserve waterfall area. Despite national parks' boundaries there were some red flags like high foot traffic challenges causing soil erosion and biodiversity disruption. Even though educational awareness programs and guided tours tried to emphasize the importance of conservation, but more comprehensive strategies are required to solve environmental issues in the area. Buckley (2019) and Schwarz (2020) emphasis on how ecotourism can finance conservational efforts but also pressurizes the need of stringent environmental practices to move away negative impacts.

### **Insights From Freiburg**

Freiburg is often coined as a model of sustainability because of the progressive policies and commitment towards renewable energy. During our fieldwork we observed that Freiburg's economy is practically sourced from Ecotourism because of its emphasis on sustainable practices. The solar energy initiatives and eco-friendly infrastructure drive the tourists towards its nature and ecotourist and researchers also get drawn towards it. This attraction also attracts economic benefits from markets, restaurants and hotels. During our stay we observed that in the city hotel there is

friendly reminder of using towels and how minimal use is ideal to less water usage. Furthermore, in Freiburg the social fabric is very firm because of its commitment towards sustainable community involvement. According to Saarinen (2019), tourism often serves as dual blade in social impact whilst emphasizing the importance of balance between economic gain and cultural preservation. We had observed that local residents had taken pride in their city's green initiatives and are voluntarily engaged in promotion of environmental awareness. We also came to learn that festivals and events focused on sustainability such as annual Green Week help to usher sense of togetherness in the community also with some visitors. Similarly, we were amazed by the environmental policies in Freiburg that are designed to minimize the ecological footprint of tourism. The city has used extensive public transportation networks and bike friendly infrastructures such as dedicated lanes and other waste management systems to minimize environmental degradation. We also find out that Freiburg has been serving as role model to other cities in the area and for tourists.

### 3.10. Ethical consideration

One of the key components of conducting a systematic research approach is to focus upon ethical issues that need to be carefully handled at each step of the project. While conducting an appropriate research strategy it is crucial to consider the fact that the impact of potential biases and search biases may arise. All researchers engaged with research objectives need to adhere the issues that are subject to alter the course of finding such as individual participation in the research as well as larger population whose interests are addressed in research (Greenwood, 2016., Pullman and Wang, 2001., Tolich and Fitzgerald, 2006).



The researchers that are conducting systematic research must ethically consider the significance and relevance of evidence submitted in primary research reports while respecting the quality of review (Major & Savin-Baden, 2010).

**Cultural sensitivity and verification:** While conducting the research it is imperative for researchers to recognize the underlying cultural backgrounds of target destination, in this case Black Forest National Park, South Germany. This research design incorporates cultural significance to facilitate various respondents involved from various cultural backgrounds. This clarifies further that the research has been conducted while ensuring all the cultural norms and values are followed and various measures are employed to remove possible cultural biases in data collection process or interpretation.

**Voluntary Engagement:** During the period of conducting this research the value for the respondent's voluntary involvement has been primarily highlighted. The respondent was rewarded with the right to not participate at a moment's notice if they feel insecure. During this research respondents were made aware of consequences that if they do not wish to participate no negative consequences are administered.

**Confidentiality and Anonymity:** For various personal reasons personal interviews with higher degree of confidentiality and anonymity are focused on this research. The data that is collected from the respondents is secured with higher significance, stored, and provided with utmost assurance that the data is used for academic purpose only to approved eyes.

**Bias Avoidance:** To nullify the chance of biased data collection the respondents were asked to reply with honesty without providing them with any pattern or predefined samples. The research has been conducted while keeping in mind to eliminate any biases that could hinder the originality of data or interpretation.

**University criteria and APA style:** This project has been summarized to the moral standards that has been set by university guidelines and other educational institutions and hence the written paper is totally as per standards. To preserve the consistency and academic integrity of the report the guidelines are on par to APA style.

**Data Retention/ Deletion:** To protect the respondents' confidentiality the data retention as well as deletion is guaranteed, and all the other information will be utilized for research purposes only. In the event of completion of a project, the data are subjected to be securely preserved and stored in accordance with institutional guidelines. Also to protect respondents' privacy their comments will be removed, and personal information will be identified.

**Exclusion of Inappropriate and Personal Inquiries:** While conducting the research all possible efforts has been taken to prevent any event of inconsiderate, intrusive or excessive personal questions. The primary target while researching was to become as considerate and polite as an

interviewer could possibly get while focusing on the dignity and well-being of the participants. All in all, the consideration of being professionally ethical can be demonstrated in this academic project while staying under the grounds of ethical standards. Hence this research upholds the respondents' right, reliability and protection of validity by resolving the ethical scenarios that might occur.

### 3.11. Integrity of research

The academic integrity for any research is highly sensitive towards the study's quality and trustworthiness by addressing the essential parts of validity and reliability. According to Scanlan (2006), the best possible way to protect the validity and reliability of research is to prevent its integrity of research and use of training modules or curriculum greatly enables researchers to achieve that feat.

#### 3.11.2. Reliability

There are many inscribed advice from many scholars such as Scanlan (2006) to implement the idea of improving reliability. In this research the methods have been carefully explained as well as theoretical base of the study are properly described and methods of the research and techniques for investigation between ecotourism and sustainability and locals are explored. To prevent possible biases and other miscalculations, the transcribed qualitative data like oral interviews are taken in such a way that it is as real to the original form. The dedication to reliability in this research is found in as in the data processing time the genuine quotes from the interviews are listed. Doing this step not only reduces the risk of misinterpretation but also guarantees the realistic transition of the participants' point of view. The interview guide that has been followed during the data collection stage extends the additional consistency to the research as well as the validity of data between the interviews and overall study's reliability.

### 3.11.3. Validity

In any research it is vital to understand whether the targeted study can be expressed in terms of validity (Scanlan, 2006). In the intervals between the qualitative research, it was made clear that difficulties associated with in. To hold the validity of the research the participants chosen were carefully picked to ensure that their contributions were directly linked to research objectives. From the respondents' point of view the project's descriptions showed finding that are suitable to fulfill the framework for understanding the research result. In addition, foreign international students, and the use of voice to text translation in some interviews in English provides the minimal borderline to language obstacles and enhances data interpretation and transcribing accuracy. Furthermore, the project's commitment to authenticity can be observed as use of voice to text for some participants who are having hard time in English guarantees the validity of research. This further demonstrates the higher level of ethical practicality by considering the personal interests and desires of the participants.

## 4. Data Analysis, Results & Findings

Eldridge (2024) defines data analysis as the systematic process of collecting, cleaning, transforming, describing, modeling and interpreting data employing various analysis techniques. Velázquez (2023) further expands that data analysis helps analyze raw data to conclude the information to help in decision making process or expand knowledge. Shamoo and Resnik (2009) added that inductive references from data that can be used in distinguishing signal from noise present in the data can be done from different analytic methods. It is very important to ensure that

the data is accurate as inappropriate and wrong statistics can distort the findings and mislead the readers and may impact negatively at policy implication level (Shepard, 2002). Hence making sure that data collection and data analysis is one of the most integral parts of any research.

This chapter of the study covers different analysis and evaluation of both quantitative and qualitative data collected during the study. As mentioned above the qualitative data was collected using semi-structured interview. Whereas survey was used to collect data from a broader population. The collected data were analyzed and interpreted in this chapter.

#### 4.1. Qualitative Analysis

Qualitative Analysis is one of the analysis methods used in this study. As mentioned above, semi structured interviews were used to collect data for this study. The interview is collected from the perspective of locals from both Freiburg and Triberg and includes both the employees and employers from the area. According to Surendra (2013) there are basically two major ways of analyzing qualitative data i.e. inductive and deductive. This study uses an inductive method to analyze the collected data.

*Table 1: Information of the Respondents of Qualitative Analysis*

No	Name of Interviewee	Sex	Occupation	Location
1	Elma Schmidt (Respondent A)	F	Waitress	Les Hermann (Freiburg)
2	Georg Wiengarn (Respondent B)	M	Owner	Adlers Café (Triberg)
3	Andrea Meinhardt (Respondent C)	F	Owner	Food Truck (Freiburg)
4	Anetta Braun (Respondent D)	F	Ticket Counter	Triberg Waterfall (Triberg)
5	Petra (Respondent E)	F	Store Manager	Eble Uhren Park (Triberg)

6	Lukas Muller (Respondent F)	M	Store Manager	Haus Der (Triberg)
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#### 4.1.2. Ecotourism and Environmental Sustainability

The main goal of ecotourism is to create a thoughtful travel to reduce environmental damage for the welfare and long-term sustainability of a destination (Fennel, 2020). For any site whose one of the main attractions is nature and its beauty environmental sustainability is very important for long term sustenance of the destination.

*“... we have seen great improvements in the biodiversity, air and water quality of the ecosystem. I always wonder if these gifts from nature can be preserved to our future generation and one day they will surely inherit this natural heritage.” (Respondent A)*

*“... ongoing conservation efforts to the national park has promised us with improvements into the biodiversity and air, water quality and over all ecosystem health. This step has reassured us to know that our future generations will inherit and thanks us for the thriving natural heritage.” (Respondent B)*

*“... Well, it is lush greenery to the clean air and water, it's clear that the natural environment is thriving here. But you should have seen it before it used to be darker and greener. And let me tell you, as someone who's been cooking up delicious meals in this area for years, I proudly appreciate the importance of protecting this pristine environment for our sons and daughters.” (Respondent C)*

*“... Flora and fauna have increased in numbers as well as the animals in the forests are also increased in comparison to what we had 10 years prior. Use of sustainable produces from our*

*local resources had reduced the reliability and encouraged locals to maintain this state. Overall I will say the awareness is spreading for environmental protection campaigns.” (Respondent D)*

*“ The air feels cleaner, the forests seem healthier, and there's a general sense of harmony with nature which you can also see. While I am not sure about the specifics of environmental indicators, these observations that I see points that efforts to preserve the natural beauty of the Black Forest are definitely paying off.” (Respondent E)*

*“... resurgence of local wildlife, improved air and water quality, and the overall health of the forest ecosystem. The efforts to preserve and protect the environment have been very effective, and it's something we, as a community, take great pride in. to maintain this local communities are dedicated to sustain environmental sustainability.” (Respondent F)*

Based on the Respondents reply all the respondent agree that they have seen a significant improvement in the environmental condition since the establishment of the Black Forest National Park which established the region as an ecotourism site. The respondents have stated factors like resurgence of flora and fauna, improved air, and water quality as the main indicators to see the improvement in the environment. Nyaupane & Paudel (2011), Wunder (2000) states that ecotourism plays an important role in in enhancing the environment quality and it can be seen in case of the region as the environment is not just sustaining but also recovering and enhancing.

*“...I would say previous generations of my father had less interest in nature than us. My generations have adapted to live in harmony with nature in this region. Unlike previous generations our community has evolved to sustainable practices of organic farming, renewable energy use and waste management to the next level.” (Respondent B)*

Respondent B further explains that turning the region into an ecotourism site has also further created awareness in the community about the importance of sustainability and has motivated the community to adapt different initiatives to create a sustainable environment. The Respondent B has added adaptation of organic farming, renewable energy use, waste management.

*“Whether it's by using compostable packaging or using locally produced ingredients for food making, we're always looking for ways to minimize our ecological footprint.” Respondent C*

*“We are also working to provide the tickets for the waterfall digitally soon to prevent paper use” (Respondent D)*

*“Whether it's by cycling to work or recycling more, using public transportation, or supporting businesses that prioritize sustainability,” (Respondent E)*

Furthermore, Respondent C, D and E more alternatives that has been adapted by the locals to obtain these sustainability goals like use of compostable packaging, local ingredients, digitalization to prevent paper wastage and using sustainable transportation alternatives. This shows that ecotourism and its awareness have encouraged the locals to adapt to different sustainable alternatives. Ecotourism has created a sense of environmental ethics in local population, as Holden (2003) lack of environment ethics in locals can lead to catastrophe. Buta et al. (2014) explains that locals with an attachment to the place play a major role in creating a sustainable environment.

Overall, based on the replies of the interviews it looks like ecotourism has positively impacted the local environment. Eco tourism has created a sense of awareness in local communities about the importance of environmental sustainability which has motivated the locals to adapt different initiatives like waste management, compostable packaging, digitalization etc. which in turn has



improved the environment condition inform resurgence of flora and fauna, better air and water quality etc.

#### 4.1.3. Ecotourism and Economic Sustainability

This part of the study analyzes different replies the respondent gave regarding different economic questions asked during the interview. Economic Sustainability plays a major role in sustainability of any community.

*“... Freiburg is a small town compared to rest of Germany, but ecotourism has brought meaningful employment to showcase the natural beauty of our region while supporting our families.”*

*(Respondent A)*

*“... with new job opportunities and especially in the fields of guiding, hospitality as well as our local artisanal craftsmanship.” (Respondent B)*

*“..With the establishment of the National Park, there has been an increase in visitors to the area, which has led to more foot traffic through our store. It's provided a boost to our sales, no doubt”*

*(Respondent E)*

*“The establishment of the Black Forest National Park has significantly boosted our local economy. With the increase in tourists, we've seen a rise in demand for locally made furniture and souvenirs. This has led to more job opportunities and higher income for many residents, including those working in my store. The park has really put our community on the map, attracting visitors who appreciate our craftsmanship. Ecotourism has shaped the structure of true potential of our region and also lives of locals.” (Respondent F)*

These replies from the respondent show that the local communities have had profound impact on the local community by providing job opportunities or business opportunities. Economic benefits can be mainly seen in the field of hospitality and craftsmanship as mentioned by the respondents. Despite this increase in tourism has also brought its own set of challenges to the local communities.

*“...which means more potential customers for us. But at the same time, it's also brought its relative number of challenges. With more competition arising up left and right, it's been tough trying to stand out in the crowd. And let's not even get started on the regulations and permits we have to deal with now.” (Respondent C)*

*“...With more tourists comes more strain on our resources and infrastructure.” (Respondent D)*

*“...It's provided a boost to our sales, no doubt, but it's also brought its own set of challenges, like keeping up with demand and ensuring we maintain quality while meeting the needs of a diverse customer base.” (Respondent E)*

These responses clearly indicate different challenges that locals face due to the sudden growth in tourism industry. On the basis of Respondent C sudden increase in tourist has also increased the number of competitors competing for these competitors which in some cases has decreased the sales of the Respondent as they are having a hard time to adapt to the competition. Respondent D stated that increase in the number of tourists have created a strain on local infrastructure and resources which might impact the sustainability of the local environment or culture for economic gains. Respondent E have further emphasized that increase in demand of the customers has led to decrease in the quality of products and services which in long run might not be sustainable.

Summing it up, the establishment of ecotourism has had both positive and negative impact on the economy of the area. It has greatly helped the local economy by providing various job and business

opportunities especially in the hospitality and craft industry. But it has brought its fair share of challenges as well. It has increased the competition among the locals sending some locals out of business whereas arrival of lot of tourists at the same period of time has strained the local resources cause harm to its culture and environment and finally it has led to increase in demand, which the locals have not been able to meet which has led to decrease in the quality good and services.

#### 4.1.4. Ecotourism and Cultural Sustainability

This part of the study analyzes different responses given by the different respondents regarding questions relating to cultural as well as social factors of Triberg and Feriburg. Triple Bottom Line Theory explains Cultural Sustainability as one of the three important pillars of sustainability.

*“...are very proud of our cultural traditions and we consider them as the heart of our community. This is also why we want our traditions to be preserved for future generations. While tourism brings us with great opportunities for sharing this natural heritage with our visitors.” (Respondent A)*

*“...ecotourism has brought us opportunities for sharing the heritage with our beloved visitors and we are very happy that until now tourists are respectful to our traditions and heritage which ensure they remain intact the way they are.” (Respondent B)*

*“We’ve seen a renewed interest in preserving our customs and heritage sites, partly due to the influx of tourists who are eager to learn about our history and traditions. This has ushered a sense of pride and a stronger community identity.” (Respondent F)*

The response of respondent A, B and F shows that the influx of tourists due to Ecotourism has created a sense of pride among the locals regarding their culture. The interest of the tourists in the local culture has allowed the locals to capitalize on their culture, which in return is helping them

to keep the culture intact and celebrated. It has also allowed and motivated the locals to pass their culture on to the next generation as it is the identity of their community, and it also helps the local economy. Despite the benefits it has also created some challenges for the local community regarding their cultural erosion and decay.

*“... with the influx of tourists in the prime occasions there is always chance of increase in immoral activities like prostitution and substance use which is not part of our culture but might end up representing it” (Respondent C)*

*“... peak tourists some time in a year where it causes the risks to our traditions and might overshadow our original true culture. I would like to add that I believe there is a delicate system of balance between preserving the culture and embracing the opportunities that comes through it” (Respondent D)*

But the influx of tourists has also become a cause of worry for locals as the respondent mentions that during peak season, they might not be able to show their culture appropriately to the tourist. The respondent further adds that to fulfill the tourist demands different immoral activities like prostitution and drug abuse are also increasing that which is not part of the culture.

Summing it all up ecotourism has created a space for cultural sustainability by allowing locals to capitalize their culture. The economic benefit received for culture has motivated the locals to further preserve and celebrate their culture while also giving them a sense of pride. Despite that there are a few challenges it has created for the locals like cultural misrepresentation due to activities conducted by a few people of the local community. The increased number of visitors can pose a risk to the integrity of local traditions, potentially overshadowing or diluting the true cultural

practices. Despite that the community is acutely aware of the need to maintain a delicate balance between embracing tourism and preserving their cultural heritage.

#### 4.1.5. Challenges of Ecotourism

This part of the study analyzes different challenges created by Ecotourism for the local communities. Despite Ecotourism being a means for tourism development it creates various restrictions and limitations for locals, especially if it is a ecotourism site like a National Park. These restrictions might create difficulties and barriers for local communities to obtain sustainability.

*“Some of barriers that I would like to point out would be lack of access to sufficient funding or technical support, regulatory hurdles and simply the lack of awareness about the benefits of sustainable eco-tourism.” (Respondent A)*

*“...the lack of awareness has greatly impacted the sustainable practices and other initiatives among tourism operators. In terms of adopting sustainable practices local communities have prioritized the economic aspect a lot rather than environmental or socio cultural. Also, from local authorities I have sensed the lack of funding, regulatory hurdles are another obstacle.” (Respondent B)*

*“...made law that we need to use eco-friendly materials for the business but there is cost to that and lack of infrastructure in some parts of the region it is hard to support things like recycling programs. I believe we need to improve on that. Also, majority of us rely on tourism for income thus off season pose a threat.” (Respondent C)*

Based on the responses the respondents have highlighted three major challenges they have been facing i.e. lack of awareness and funding, restriction and lack of infrastructure, and offseason.

#### 4.1.6. Covid 19 and its effects

According to WHO (2024) Covid 19 is a novel coronavirus that was first identified in Wuhan, China. The virus causes illness ranging from the common cold to more severe respiratory disease and is very infectious. In 2019, this virus created a global pandemic which forced the global economy to shut down and forced governments to enforce hard lockdowns. One of the industries that was majorly hit by this virus was the tourism industry. This part of the study investigates what kind of impact the virus had in Freiburg and Triberg region of the Black Forest National Park through the responses of the respondents.

*“... COVID-19 pandemic has serious repercussion for Eble Uren Park and the broader community in the Black Forest National Park. We had suffered drastic drop in sales of our cuckoo clocks in lockdown period. This effects the not only us but also the artist, suppliers and many other whom are reliant on steady flow of tourist for livelihood.” (Respondent E)*

*“..In the early stages, there was the huge drop in the tourism related activities because of travel restrictions and lockdown measures. This decrease in visitors had a ripple effect on the economy like ours where most people here are heavily reliant in tourism.” (Respondent D)*

The responses show that the covid had a great impact on the Tourism industry of the Black Forest Region. Covid lead to lockdown and travel restrictions which due to which tourism industry completely stopped. It had a ripple effect on the economy and impacted the local business, suppliers, and workers. But on the other had the locals learned a few lessons as well.

*“... there were some conservational gains such as reduced human activity that provided environment little break and wildlife habitats saw less human disturbance resulting in noticeable improvement in the condition of natural areas” (Respondent D)*

*“I would say that pandemic had taught us about how we need to have more than one income options and not to be heavily reliant on tourist.” (Respondent E)*

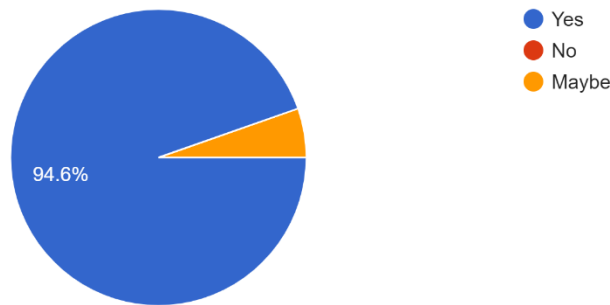
Despite Covid having a big impact in the tourism industry, Freiburg and Triberg also had some positive impacts on the local environment and nature. Due to the lack of tourist the local environment did not get disturbed and flourished during this period. Furthermore, it also taught locals to not only depend on tourism for their economic sustainability but also made them aware to diversify their source of income and also adapt to new technology like e commerce etc. that is not affected by pandemic like these and also helps during offseason.

#### 4.2. Quantitative Analysis

This study used survey as the means to collect quantitative data. Overall, 68 responses were collected and almost all the participants were from Freiburg and Triberg area of the Black Forest National Park. Amon the collected 68 responses 12 were discarded as the surveyed did not know about the concept of Sustainability and as the research is based on the sustainability it is very important for the surveyed to have some basic idea of sustainability and ecotourism. Hence, the first question of the survey is regarding the sustainability and eco-tourism which is to understand whether survey have knowledge about sustainability or not, followed by questions relating to demography followed by the questionnaires related to Black Forest National Park and its sustainability.

Do you know about the concept of sustainability and Ecotourism?

56 responses



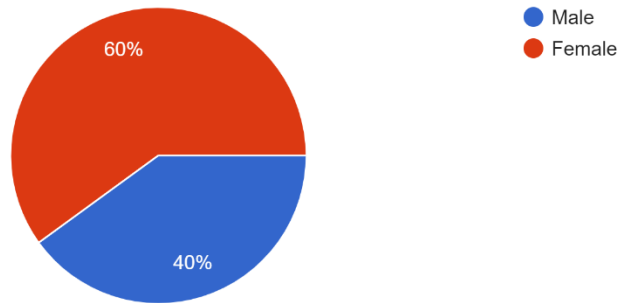
*Figure 2: Survey 1. Concept of Eco Tourism*

The first question of the survey was regarding whether the surveyed had some knowledge about the concept of Ecotourism and sustainability. It was done to make sure the surveyed were knowledgeable on the topic they were going to do the survey on. Bhat (2024) states that for a survey to be reliable it is very important that the surveyed population is knowledgeable about the topic. To make the survey more relatable the first question was used as a filtration question on whether the data would be used for analysis or not. Among the total 68 responses only 56 were used for the analysis part as some were not answered completely and some answered No in the first question which disqualified their further answers in the survey.

Based on the chart above the remaining 56 respondents have knowledge about sustainability or at least know the very basic idea. 94.6% of the 56 respondents have the knowledge about the concept of sustainability whereas the remaining 5.4% have some knowledge about the concept of sustainability.



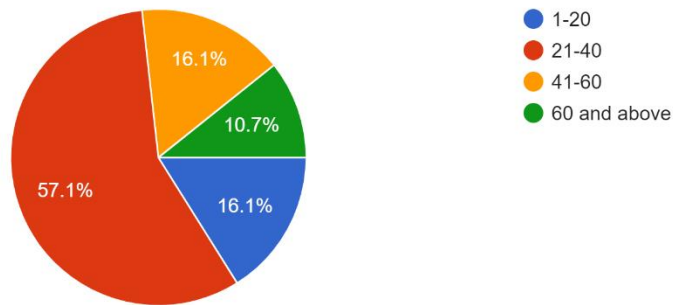
Gender?  
55 responses



*Figure 3: Survey. Gender*

The second question of the survey was regarding the demography of the participants. The chart above displays the gender of the respondents. According to the chart 60% of the respondents were female whereas the remaining 40% were male. This shows that there was a good representation from both the genders which helps to decrease the biasness towards a particular gender.

Which age group do you belong to?  
56 responses

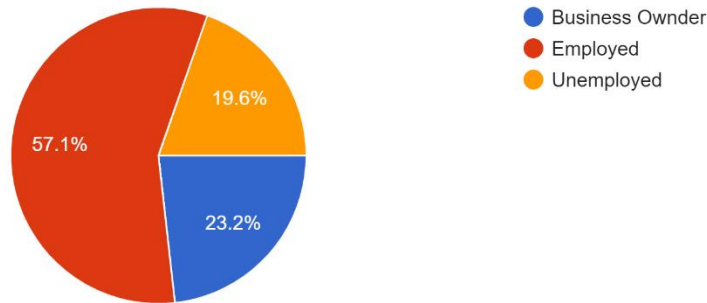


*Figure 4: Survey 3. Chart representing age group of the respondents.*

The third question of the survey was also regarding the demography of the respondents. This question inquired about the age of the respondents by dividing the ages into four different age groups i.e. 1-20, 21-40, 41-60 and 60 and above. On the basis of the chart above there is a good representation from all the age groups. The majority of the respondents belonged to the age group 21-40 (57.1%) followed by 1-20 and 41-60 (16.1%) each and lastly 60 and above with 10.7% representation.

This shows that the most of the respondents were from the age group 21-60 which according to Carlsson-Kanyama & Lindén(1999) is also the age group that travels the most and is also the most active population that contributes to the economy.

Occupation  
56 responses

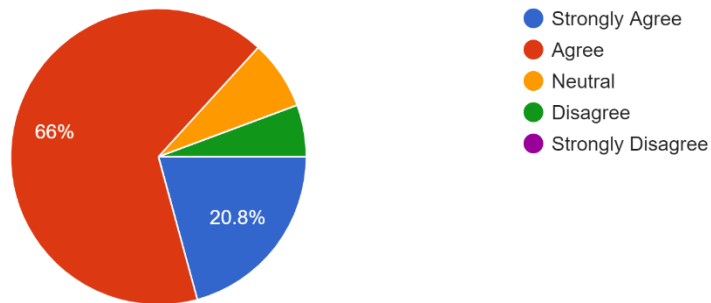


*Figure 5: Survey 4. Occupation of the Respondents*

The third chart represents the occupation of the respondents. The chart shows that most of the respondents about 57.1% of them are employed, followed by 23.2% who are Business Owners and last 19.6% who are either unemployed or students. As the study also dives into the economic sustainability an important part of the sustainability according to the Triple Bottom Line Theory.

Would you say that Black Forest National Park has positively impacted employment opportunities in your community?

53 responses

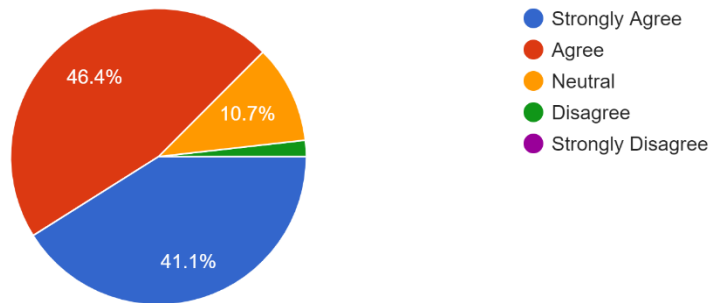


*Figure 6: Survey 5. Impact of Black Forest National Park on Employment Opportunities*

The chart above displays the impact the Black Forest National Park has had on the employment opportunities in the Black Forest National Park. Based on the chart more than 86% of the respondents agree that Black Forest National Park has provided the locals with different employment opportunities. Whereas 7.5% have stated neutrality whereas another 5.7% of the respondents have disagreed but not a single respondent strongly disagreed to the notion that Black Forest National Park has impacted the employment opportunity in the Freiburg and Triberg area. Based on the results, the study shows that Black Forest National Park and Ecotourism has impacted the availability of economic opportunity in the area.

Do you agree that ecotourism has contributed significantly to the economic sustainability of local business in the area?

56 responses

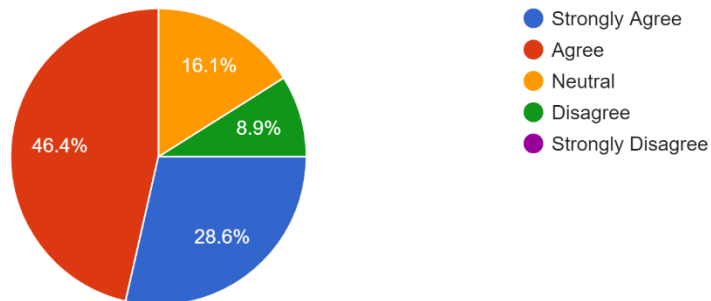


*Figure 7: Survey 6. Chart showing contribution of Ecotourism on economic sustainability of local businesses*

The chart above displays the opinion of the respondents on the contribution of eco tourism on the local businesses. According to the chart 87.6% of the respondent believe that eco tourism greatly contributes to the economic sustainability of the local businesses, whereas 10.7% has stated neutral but on the other hand 1.8% of the repsondent have disagreed with the notion that eco tourism have significantly contributed to the sustainability of local businesses. On the basis of the chart above majority of people believe that eco tourism greatly conributes to sustainability of the local businesses whereas a negligible minority disagrees and not a single respondent strongly disagrees that the eco tourism helps in the economic sustainability of the lcoal businesses.

Have you observed an improvement in environmental condition since the establishment of Black Forest National Park?

56 responses

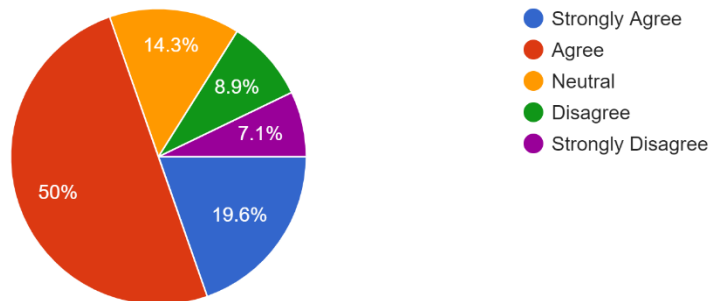


*Figure 8: Survey 7. Chart showing improvement of environmental condition since the establishment of Black Forest National Park*

The chart above displays the opinion of the respondents on whether the condition of environment which includes cleaner air quality, healthier forest, more stable ecosystems etc. On the basis of the results of the survey 75% of the respondents strongly agree to agree that establishment of the Black Forest National Park has contributed to the improvement of the environmental condition in the Triberg and Freiburg areas. Whereas 16.1% have stated neutrality which shows that they have not seen a significant improvement but also have not seen degradation in the environment conditions. Whereas 8.9% of the respondent have disagreed and state that they have seen a degradation in the environment condition since the establishment of the Black Forest National Park. But overall a significant majority of the respondents have agreed that there has been an improvement on the environment condition since the establishment of Black Forest National Park.

Do you feel that local culture, traditions and heritages sites are being adequately preserved despite the increase in tourism?

56 responses

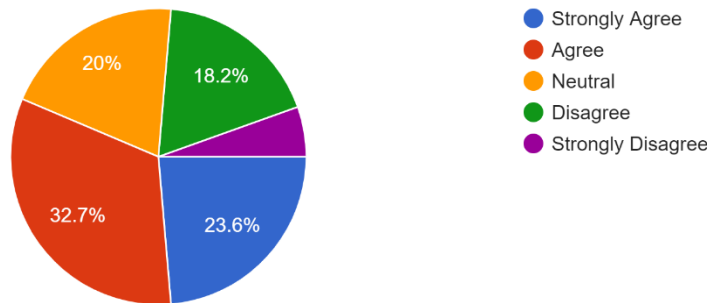


*Figure 9: Survey 8. Chart showing the preservation of culture, traditions and heritage*

The chart above displays the opinion of the respondents on whether the local culture, traditions and heritages have been preserved adequately despite the increase in tourism. On the basis of the chart 68% of the respondents believe that the sites have been preserved adequately whereas 14.4% of the respondents have stayed neutral followed by 8.9% and 7.1% of the respondents who have disagreed or strongly disagreed respectively. But overall on the basis of the respondents replies majority of the respondents have agreed that the local culture, tradition and heritages have been preserved adequately.

Do you believe that local businesses face significant challenges in maintaining economic viability due to the sustainability and conservation standards?

55 responses



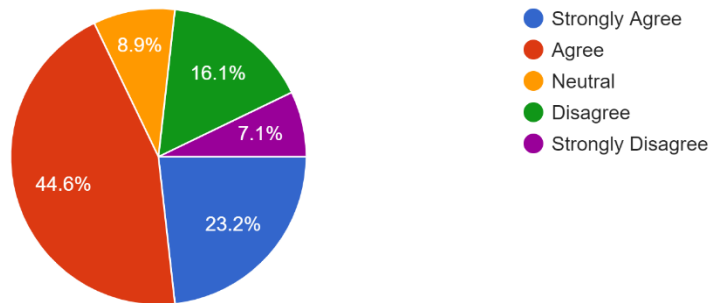
*Figure 10: Survey 9. Chart showing challenges faced by local businesses due to conservation standards.*

The chart above shows the opinions of the respondents on the challenges the local businesses face in maintaining economic viability due to the sustainability and conservation standards. On the basis of the chart above 56.3 of the respondents strongly agree that the businesses face significant challenges in maintaining economic viability. 20% of the respondents have neither agreed nor disagreed whereas 23.7% of the respondents have disagreed with the notion that local businesses face significant challenges in maintaining economic viability due to the sustainability and conservation standards. But overall, on the basis of the results of the survey significant number of respondents have agreed that it is difficult for businesses to maintain economic viability while maintaining the conservation standards.



Have you or local residents adapted their lifestyles to promote environmental sustainability within the Black Forest National Park?

56 responses

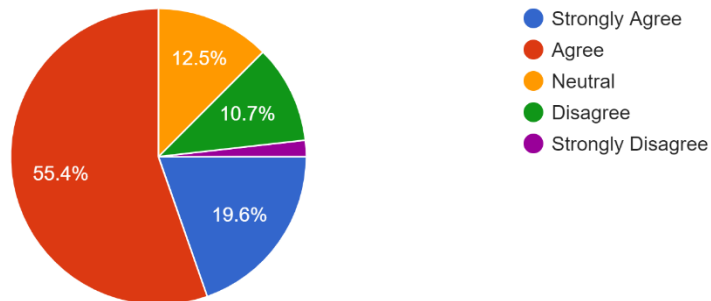


*Figure 11: Survey 10. Chart displaying adaptation of local residents to promote environmental sustainability.*

The chart above displays the respondent's opinion on whether the residents have adopted their lifestyle to promote environmental sustainability within the Black Forest National Park. Based on the chart 67.8% of the respondents strongly agree whereas 23.2% of the respondents have disagreed that the locals have adapted their lifestyle to promote the environmental sustainability and 8.9% have stayed neutral. Overall, the majority of the respondents have agreed that the local residents have adapted their lifestyle to promote environmental sustainability.

Do you think that ecotourism has effectively contributed to the conservation of natural resources and habitats in the Black Forest National Park?

56 responses

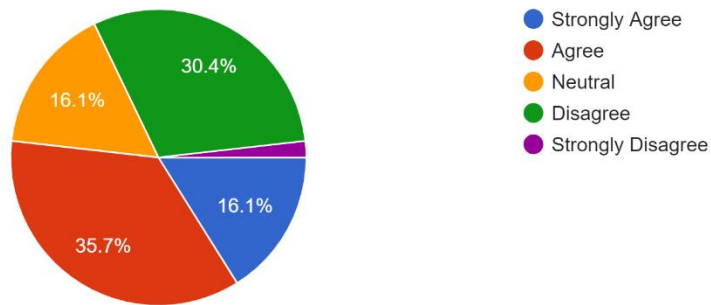


*Figure 12: Survey 11. Chart showing contribution of eco-tourism to the conservation of natural resources and habitats.*

The chart above illustrates the respondent's response effectiveness of ecotourism on the conservation of natural resources and habitats in the Black Forest National Park. On the basis of the chart about 75% of the respondents have strongly agreed to agreed that establishment of the Black Forest National Park i.e. an ecotourism site has effectively contributed to the conservation of the natural resources and habitats in the Black Forest National Park. But on the other hand, 12.5% of the respondents disagree with the statement that establishment of the Black Forest National Park has contributed to the conservation of resources and habitats whereas another 12.5% have stayed neutral. Overall, a super majority of the respondents have agreed that the establishment of ecotourism has helped in the conservation of natural habitat and resources.

Do you believe there are trade offs or conflicts between conservation and economic growth?

56 responses

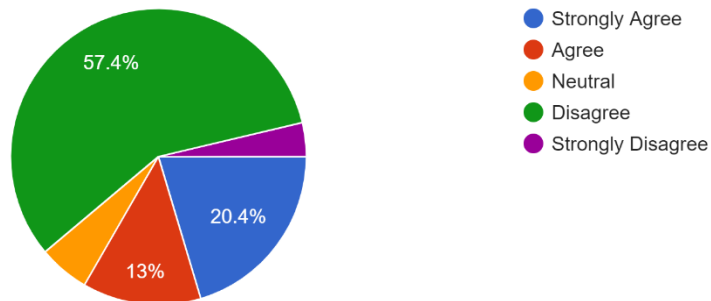


*Figure 13: Survey 12. Chart illustrating the trade off or conflict between conservation and economic growth.*

The chart above displays the opinion of the respondents between the conflict between tradeoffs between conservation and economic growth. On the basis of the chart above 16.1% of the respondents and strongly agree followed by 35.7% respondents who agree that there are tradeoffs or conflict between conservation and economic growth, whereas 30.4% and 1.8% have disagreed and strongly disagreed to the statement respectively. Overall, more than 51.1% have stated that there is a tradeoff between economic growth and conservation.

Are there sufficient initiatives or programs by local authorities or NGO's to support the economic sustainability of communities beyond tourism?

54 responses

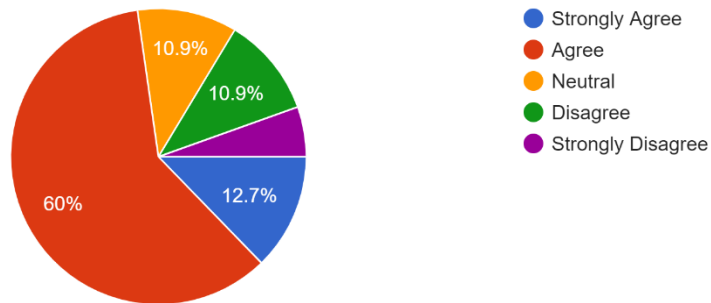


*Figure 14: Survey 13: Chart displaying the support of NGO's and local authorities on creating economic sustainability beyond tourism*

The figure above illustrates the opinion of the respondents on whether the local authorities or NGOs are supporting the local communities to move beyond tourism for their economic sustainability. Based on the chart above, most of the respondents 61.1% have strongly disagreed with the statement that the local authorities and NGOs are helping the local communities to achieve economic sustainability by moving beyond tourism-based economy. Whereas 33.4% of the respondents agreed with the statement. Summing up the figure most the respondents believe that NGOs and local authorities are not doing enough to move diversify the local economy from just tourism-based economy and based on the triple bottom line theory in order for any economy to be sustainable it is very much important for the diversification of the economy and not be dependent on a single aspect of the economy.

Do you think ecotourism has brought about positive social impacts such as improved community dynamics and cultural heritage?

55 responses

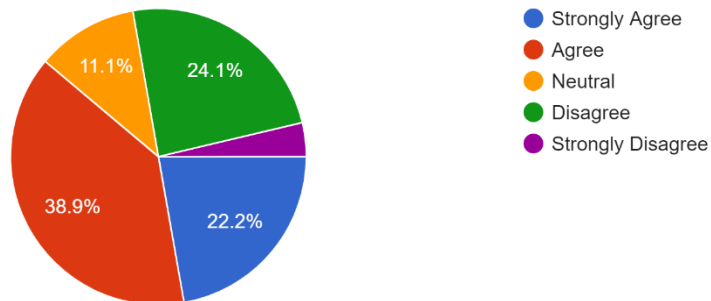


*Figure 15: Survey 14. Chart displaying the impact of ecotourism on social aspects.*

The chart above displays the respondent's opinion on whether eco-tourism has brought positive impacts such as improved community dynamics and protection of culture and heritage. Based on the chart 72.7% of the respondents have strongly agreed to agreed that eco-tourism has improved the socio-cultural aspect of the local communities in the area whereas a minority of 16.4% have disagreed with the notion and 10.9% have stayed neutral. Overall on the basis of the chart most of the respondents agree that ecotourism has brought about positive change and has improve the community dynamics and culture.

Do local tourism operators and businesses face significant barriers to adopting sustainable practices?

54 responses

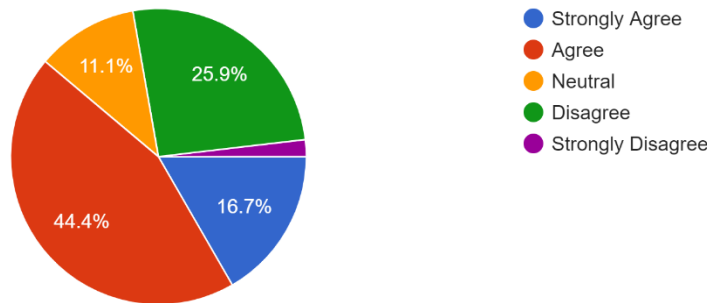


*Figure 16: Survey 15. Chart displaying the barrier faced by local tourism operator and businesses adopting sustainable practices.*

The pie diagram above displays the opinion of the respondents on whether the local tourism operators and businesses face significant barriers to adopting sustainable practices. Based on the diagram 61.1% of the respondents have agreed that the local tourism operators and businesses face significant barriers while adapting to the sustainability practices while 27.8% of the respondents disagree with the statement and believe that local tourism operators and businesses do not face significant barriers. Overall the majority of the respondent believe that businesses and tourism operator do face barriers while adapting to the sustainability standards.

Do you believe that government policies effectively balance economic development, environmental conservation and cultural preservation?

54 responses

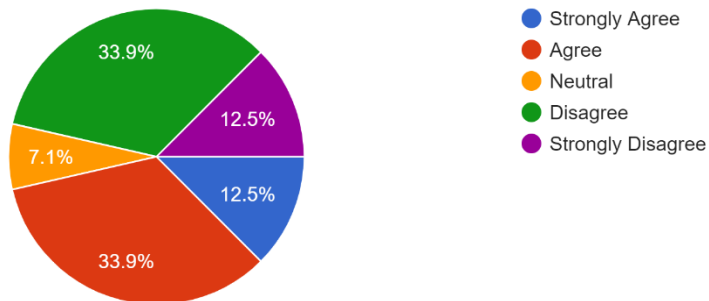


*Figure 17: Survey 16. Chart displaying the effectiveness of government policies to balance economic development, environmental conservation, and cultural preservation.*

The chart above displays the respondents opinion on whether the government policies have been effectively able to balance economic development environmental, conservation and cultural preservation. On the basis of the survey about 61.1% of the respondents strongly agree to agree that the government has been able to balance economic development, environmental conservation and cultural preservation. However, 27.8% of the respondents disagree with the rest whereas 11.1% have stayed neutral on the topic. Overall, the majority of the respondents do agree that the government has been able to balance the economic development, environmental conservation and cultural preservation.

Do tourists visiting the Black Forest National Park generally support sustainability practices and initiatives?

56 responses



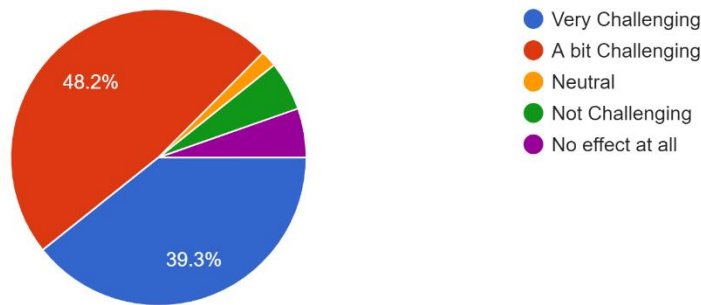
*Figure 18: Survey 17. Chart illustrating the support sustainability practices and initiative by tourist*

The chart above displays whether the tourist that visit the park generally support sustainability practices and initiatives. Based on the chart about 46.4% of the respondents agree as well as disagree that the tourist visiting the Park generally support the sustainability practices as well as initiatives whereas 7.1% have stayed neutral. The chart show the respondents have a conflicting view regarding this as half of the respondent have agreed to the statement whereas the other half have disagreed.



### How challenging are the offseason?

56 responses

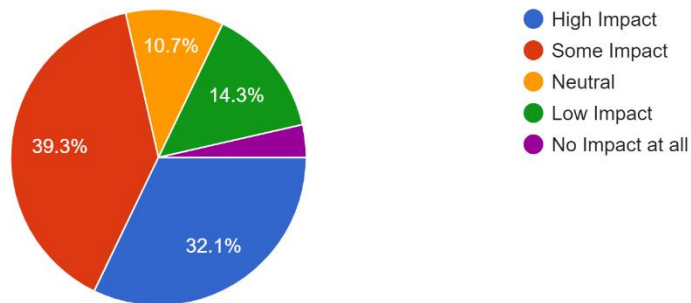


*Figure 19: Survey 18. Chart illustrating how challenging the offseason is.*

The chart above displays the respondents on how challenging the offseason is for the local community members that are involved in different tourism related businesses or tourism related occupations. Based on the chart 87.5% of the respondents have stated that the offseason is challenging for the locals among which 39.3% of the respondents have stated that some of the offseason are very challenging. Whereas 1.8% of the respondents have stayed neutral and Only 10.8% of the respondents have said they the offseason are not challenging or has no effect at all which seems to be the small minority who disagree how challenging the offseason is. Overall, on the basis of the respondents the offseason is very challenging for the local community members as it has some or great impact on their livelihood or business.

Did Covid have a big impact on the tourism industry of Black Forest Area?

56 responses



*Figure 20: Survey 19. Chart illustrating the impact of Covid 19 on tourism industry in Black Forest Area*

The chart above displays the respondent opinion on how seriously COVID 19 impacted the tourism industry in the Black Forest Area. Based on the chart 71.3% of the respondents have agreed that Covid had high to some impact on the tourism industry of the region. But about 17.9% of the respondent have disagrees and states that covid had low to no impact on the tourism industry in the area whereas 10.7% have stated neutral. Overall, on the basis of the results of the survey it seems like a high majority of the respondents agree that covid has some too high impact on the tourism industry despite having some opposing views.

## 5. Findings & Discussion

The research was conducted in order to find how Ecotourism can impact the sustainability of the local communities. The study used two methods for analysis, the qualitative and quantitative method. For the qualitative method interview was used to collect data from the locals of Freiburg and Triberg. The data was then structured, analyzed, and finally evaluated. The quantitative data

was collected using a survey which was then converted into different diagrams representing the results and then analyzed.

On the basis of the interviews, all the respondents agreed that the establishment of Black Forest National Park an ecotourism site has significantly improved the natural environment of the region and the local used indicators like resurgence of flora and fauna. Nyaupane & Paudel (2011) and Wunder (2000) on their study also concluded that ecotourism plays a major role in enhancing environment quality, which is evident in the region as the environment did not only recover but also recovered and improved. Respondent B states that older generation had no idea about the concept of environmental sustainability and therefore didn't care about it, but the concept of ecotourism has created awareness about ecotourism which have made locals aware about creating a sustainable environment and as Holden (2003) states lack awareness often leads to catastrophe. On the economic side, based on the interview's ecotourism has provided various economic opportunities for the locals specially by providing various job and business opportunities specially in the field of hospitality and craftsmanship. But despite that it has also had some negative impacts in the community. Increased tourism has led to an increase in the number of businesses to fulfill the demand but has in turn created a lot of competition among the local business owners and the ones who are late to adapt are going out of business. Similarly, the increase in the influx of tourists has put pressure on local infrastructure and resources which in turn has negatively affected the sustainability of the environment and culture. Furthermore, to meet the growing demand of local goods and products the quality of goods and services are being compromised which in long run can negatively impact the economic sustainability of the place. On the cultural side, based on the interview's ecotourism has brought a sense of pride in the local community regarding their culture as the tourists visiting the destination are very much interested in learning and seeing their culture.

This has allowed the locals to capitalize their culture which in turn has motivated them to further celebrate their culture thereby, preserving it and passing it on to future generations. Despite the benefits there are also a few negative impacts ecotourism has had on the local culture. Influx of large number of tourists and over capitalization of culture can lead to culture erosion. Respondents also add that the increase in tourism has led to an increase in immoral activities like prostitution and substance abuse which is not a part of the local culture but might end up representing it. But overall, ecotourism has helped the local culture to flourish as mentioned in the interviews most of the respondents have a sense of pride towards their culture and having a sense of pride in one's culture helps the culture to flourish. Adapting to ecotourism has also brought in a lot of challenges to the local community and its sustainability. Based on the interviews some of the main challenges faced by the local communities are lack of funding and awareness of ecotourism, restrictions and lack of infrastructure and offseason.

On the basis of the survey, 86% of the respondents agreed that Black Forest National Park have had an impact on the employment opportunities in the Black Forest National Park, Similarly, 87.6% of the respondents have agreed that eco-tourism has significantly contributed to the local business this shows that ecotourism has greatly contributed to provide economic sustainability to local community of Freiburg and Triberg by creating various employment opportunities and significantly contributing to the local businesses. But it is not without any challenges, 56.3% of respondents state that businesses face lot of challenges in maintaining economic viability due to sustainability and conservation standards. Similarly, 51.1% of the respondent's state that there is a tradeoff between economic growth and conservation. In the case of the environment, 75% of the respondents have agreed that ecotourism has helped in the improvement of environmental conditions. Similarly, despite 23% disagreeing with the majority of respondents, i.e. 67.8% agreed

that local residents have adapted their lifestyle to promote environmental sustainability. Furthermore, 75% of the respondents have agreed that Ecotourism has been very effective in conservation of natural resources and habitats in the Black Forest National Park. In the case of Culture 68% of the respondents have agreed that despite the increase in tourism, ecotourism standards have been able to preserve the local culture, traditions, and heritage. Similarly, 72.7% of the respondents have agreed that establishment of Black Forest national park has brought about positive change in local community by improving community dynamics and protection of culture and heritage. Despite all the benefits there are still some limitations to ecotourism, 87.5% of the respondent have stated that the off seasons are very challenging for the locals, similarly 71.3% of the respondent agreed that COVID had severely impacted the tourism industry of the area and finally 61.1% of the locals have stated that NGO's and local authorities are not doing much to diversify the local economy from tourism making the locals only reliant on tourism and when there is great reliance on tourism off seasons can really hurt the local economy.

When comparing these research findings with prior researcher's findings, our results support the findings of Nyuapane & Paudel (2011) which states that ecotourism can provide economic support local communities and in return the local community actively participate in the preservation of the environment. Schevvens(2000) and Rome (1999) states that in rural communities ecotourism can play a key role of economic rescuer by facilitating jobs, business ideas and skill development opportunities. As in case of this study as mentioned by Schevvens (2000) ecotourism has been a rescuer for the local community members of Triberg. Bin et al. (2000) concludes that ecotourism enhances, social stability, harmony and traditional culture and reduce conflict. On the otherside Zambora et al. (2010) stated that tourism in some cases can lead to alcoholism, drug addiction and prostitution which was also reported by Respondent C.

## 6. Conclusion & Recommendations

### 6.1. Summary and Conclusion

The research sets to study the role of Ecotourism in the sustainability of the local communities of the Black Forest National Park. Since the establishment of Black Forest National Park, Freiburg and Triberg have seen a growth in the number of tourists visiting the place every year. As Black Forest National Park was established in 2014 there is very few research done on its impact on these towns' sustainability. Therefore, this study attempts to shed light on the impact ecotourism has on the sustainability of the local communities and the challenges trying to counterbalance environmental, economic, and cultural sustainability.

Regarding the impact of ecotourism on the sustainability of the local communities the overall research finding shows that ecotourism has impacted the overall sustainability of the places in a positive way despite having some shortcomings. Triple Bottom Line Theory states that there are three main pillars of sustainability i.e. environment, economy and culture. The findings show that all three aspects of sustainability were mainly positively impacted by Ecotourism In case of Environmental Sustainability, Ecotourism site like a National Park helped in the conservation of the local environment through different restrictions, which lead to improvement in the natural environment of the place like air & water quality, resurgence of flora and fauna etc. It also created awareness among the locals about the importance of sustainability and how it can be capitalized with further motivated the locals the preserve the environment through adaptation of different sustainable way of life like use of sustainable energy, organic farming wastage management etc. On the economic side Ecotourism created different job opportunities and business opportunities for the local through tourism which uplifted their local economy, but it did also bring minor challenges like competition, overtourism etc. but overall provided the locals with income to sustain

themselves. Similarly on the cultural side, ecotourism has helped the local cultures to flourish as the people who visit the site also tend to learn and explore the local cultures. As seen on the respondents' answers this has created a sense of pride in the local community which has further motivated them to celebrate and share their culture with the younger generation which helps the culture to sustain longer.

Based on the analysis local communities of Triberg and Freiburg face several challenges in balancing environmental, economic and cultural sustainability as the balance between these three pillars tend to very fragile. Environmentally, the influx of tourists has put pressure on local infrastructures and natural resources. The increase in demand brings risks of overuse and degradation creating a tradeoff between economic growth and conservation. Economically, the surge in tourism has led to an increase in competition among businesses and some businesses are risking closure. Reliance on tourism makes the local economy vulnerable during off seasons and pandemics like COVID as indicated by the survey respondents and Respondent D. Furthermore, lack of help from local government and NGOs has left the local community overly dependent on tourism, further increasing the challenges. Culturally, the overcapitalization of cultural practices for tourism can lead to cultural erosion and dilute the authenticity of the culture.

Summing it all up, while ecotourism brings numerous benefits to Triberg and Freiburg it also brings some challenges with it. According to Dodds & Butler(2019) comprehensive plan and policy making is needed to implement to prevent overtourism. Gosling(2018) states tourist taxation can be implied during high tourist season to prevent overtourism which will relieve the pressure from local environment and resources. Similarly, Bogner and Barr(2000) suggest diversification of local investment into different industries with the local government can help reduce the impact of offseasons or pandemics like COVID 19 on the local economy. MacCannel(1976) states that

the locals should celebrate their culture disregarding the negative reviews from the tourists as it is part of the local peoples identity and doing so can prevent culture from getting eroded. These are some the measures that can be used by the locals face the challenges created by ecotourism while counter balancing economy, environment and culture.

## 6.2. Limitations & Recommendations

Despite the research being conducted through mixed methods, it still had some limitations. Due to the researcher lack of knowledge about German language the researchers were not able to communicate with most of the locals as the locations were small towns who only spoke German. The data we collected through survey and interviews is mainly representative of local community members of Triberg as a lot of people from Freiburg did not agree to give the interviews which might cause the data to skew towards Triberg. Furthermore, limited surveys were collected for the study due to which it might not represent



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## 8. Appendix

### Respondents Information

Elma Schmidt (Waitress) Les Hermann

How did the establishment of the Black Forest National Park have impacted the economic sustainability of local communities, in relation to employment opportunities and income generation through ecotourism?

Well, Black Forest National Park is a source of inspiration to our community. I consider the national park as the medium of new job opportunities, especially in the field of ecotourism such as the fields of guiding, hospitality and artisanal crafts. These opportunities are important for our daily lives. Especially for our newer generation that have been moving away to bigger cities in search of job. Yeah, Freiburg is a small town compared to rest of Germany, but ecotourism has brought meaningful employment to showcase the natural beauty of our region while supporting our families.

What might be the indicators of environmental sustainability within the Black Forest National Park?



Since childhood I have always liked to live in the nature and belonging to this place is surely a central part of our life. The maintenance of this very environment is integral to us. With the sense of increased conservational ideas and efforts we have seen great improvements in the biodiversity, air and water quality of the ecosystem. I always wonder if these gifts from nature can be preserved to our future generation and one day they will surely inherit this natural heritage.

How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions, heritage sites in the face of increasing tourism pressures?

Our local communities are very proud of the our cultural traditions and we consider them as the heart of our community. This is also why we want our traditions to be preserved for our future generations. While tourism brings us with great opportunities for sharing these natural heritage with our visitors. We are also thoughtful about how the balance between the respecting of our heritage and visitors will be maintained. The indigenous knowledge of our community is the source of pride and we are eager to share it with the rest of the world however we will be safeguarding its integrity.

What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Well this question is tough to answer as on the rising economic viability and conservational effort, sustainability is a key balance to master. What I mean is we are constantly working for the innovative ideas that helps to boost our economy while minimizing the balance between the

environmental footprint and also maintaining the unique characteristics of our region (Schwarzwald). I have worked on the challenges in the projects for my university where we are boosting economy for this region. It is still a challenge for us on long term for our community as it evolves overtime.

How did the local residents have adapted to their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

One of the primary reasons for us to be able to sustain over the time is living our lives in harmony with nature. We respect the natural practices and also gets help from our local community in the practices like organic farming, renewable energy use and waste reduction and disposal to reduce the ecological footprints. We had also implemented some rules that prevents the minimal use of precious natural resources and recycling helps us to preserve this environment.

What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats and what are the potential trade-offs or conflicts that arise in this context?

I must say that ecotourism has become one of the most useful tools to conserve our region and raising the awareness for the importance of preserving the natural resources and habitats. It is true that ecotourism helps to bring the much-needed revenue to our community, but we are mindful of

the potential trade-offs and conflicts such as the increased foot traffic in the sensitive or protected areas. To my knowledge it is also important to find the balance that benefits both side of conservation and community needs while preserving what we have for future.

What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

The local authorities and NGOs have been planning to support the economic sustainability efforts while preserving the nature in many ways. Some of the examples can be diversifying the income sources beyond tourism by providing training, passes and resources for small businesses, agriculture and artisanal crafts. These initiatives helps use to create a more resilient system of economy that are not dependent upon the seasonal tourism fluctuations in this region.

How do local communities perceive and respond to the social impacts of ecotourism such as changes in community dynamic, cultural erosion and conflicts over land use and resource allocation?

I think ecotourism creates both opportunities as well as challenges to our community and we are keenly aware of its social impacts. I believe there is always a risk for cultural erosion when ecotourism fosters cultural exchange and economic growth. But we are very proud of our culture and hence are always engaged in dialogue and collaborations to address any conflicts or tensions

which may arise. Of course, people are tend to look more economic side but we try ecotourism maintain that balance.

What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Oh!!! there are plenty of those challenges and obstacles that are preventing us to practice sustainably. Some of barriers that I would like to point out would be lack of access to sufficient funding or technical support, regulatory hurdles and simply the lack of awareness about the benefits of sustainable eco-tourism. I am not sure how exactly these problems will be dealt but I believe collaboration, education and support from the stakeholders at all levels is imperative.

How does governmental structures and polices governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

I believe that governmental structures and policies plays a key role in shaping the balance between the economic development, environmental conservation and cultural preservation in our region. Governmental bodies should provide the framework for the decision-making, and we recognize these with our need for flexibility and adaptability to address evolving challenges and priorities.

The key help we can provide is by participating in decision making process while ensuring our voices are heard and our interests are represented.

What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

I think tourists who are visiting the Black Forest National Park are increasingly aware of the sustainable practices and their impact on the environment and local communities. Many are eager to support initiatives that promote environmental and cultural preservation, such as eco-friendly accommodations, locally sourced products, and guided tours that highlight conservation efforts. Their willingness to engage in sustainable tourism practices helps reinforce our commitment to preserving our natural and cultural heritage.

How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies and academic to address sustainability challenges and enhance resilience in the face of environmental and socio- economic changes?

In my opinion Collaboration is key to addressing sustainability challenges and enhancing resilience in our community. We work closely with conservation organizations, government agencies, and academia to share knowledge, resources, and best practices. Together, we tackle issues like habitat restoration, climate change adaptation, and sustainable development, ensuring a brighter future for our community and the Black Forest National Park.

Georg Wiengarn (Owner) Adler's Café

1. How did the establishment of the Black Forest National Park have impacted the economic sustainability of local communities, in relation to employment opportunities and income generation through ecotourism?

Ans: The establishment of Black Forest National Park has been turning into a benefit for the community. It has brought us with great wealth with new job opportunities and especially in the fields of guiding, hospitality as well as our local artisanal craftsmanship. The introduction of the Black Forest cake to the tourist has turned us more renowned to the field of tourism. I would say that many of us have found meaningful employment that allows us to showcase the natural beauty of our region while supporting our families.

2. What might be the indicators of environmental sustainability with in the Black Forest National Park?

Ans: People here have taken great pride in the health of our environment which is why we always like to live in harmony with nature and it is the central way of our life here into the park. The ongoing conservation efforts to the national park has promised us with improvements into the

biodiversity and air, water quality and over all ecosystem health. This step has reassured us to know that our future generations will inherit and thanks us for the thriving natural heritage.

3. How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions, heritage sites in the face of increasing tourism pressures?

Ans: I would say that we are very serious when it comes to cultural traditions and we consider them as the heart and soul of our community and we are very much committed to preserve them. It has been observed that ecotourism has brought us opportunities for sharing the heritage with our beloved visitors and we are very happy that until now tourists are respectful to our traditions and heritage which ensure they remain intact the way they are. The indigenous knowledge is also one of the key source of our pride and we are very eager to demonstrate this with the rest of the world. For example people know Germany mostly with Oktoberfest but I would say that we also hold a key natural landscapes.

4. What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Ans: For me there are some challenges that are important to maintain the balance between the economic growth with conservation and sustainability that we are looking to balance. First and foremost, we are always looking to bring our new innovative ways to welcome new business ideas while reducing the environmental residue and also preserving the uniqueness of our land. I am not

very much aware about the other challenges, but I think maintaining the balance between environmental aspects with community interest is crucial for our community to prosper.

5. How did the local residents have adapted to their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

Ans: I would say previous generations of my father had less interest in nature than us. My generations have adapted to live in harmony with nature in this region. Unlike previous generations our community has evolved to sustainable practices of organic farming, renewable energy use and waste management to the next level. We have developed new ways to recycle our guests' waste here in our café and our local university is constantly trying to innovate new ideas.

6. What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats and what are the potential trade-offs or conflicts that arise in this context?

Ans: Before some years ago I have no idea what is ecotourism thing about but since local communities have learned about it I now know that it is powerful force for conservation in our region. The key point is to increase the awareness of the importance of preserving the natural resources and habitats of the wildlife. Ecotourism also makes us aware about the income of the community should be in balance between the number of people who visit us to avoid overtourism. In peak seasons we can see lots of tourists and to preserve it we are looking to find the balance between the conservation and community.



7. What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

Ans: Various local authorities such as our local university and National Park Schwarzwald have been supporting us to maintain the delicate balance between the economic sustainability efforts. These authorities has been providing us with training, developing programs and facilitating necessary resources for our small business and agriculture. The focus of these authorities is to balance the seasonal tourist influx and help us to generate new ideas to help in that regard.

8. How do local communities perceive and respond to the social impacts of ecotourism such as changes in community dynamic, cultural erosion and conflicts over land use and resource allocation?

Ans: In this question I would like to point out that since the introduction of ecotourism in the region there are some positive changes however negative impacts have also been observed. The culture exchange and economic growth has been observed in good scale while mass tourism in the peak seasons has exerted our use of land and resources. Before the implementation of national park concept there was there were fewer cafes in the areas and handful of hotels but now it's a competition. As a community we are always striving to find the midpoint between our traditions and values while embracing the opportunities that ecotourism has brought to us.

9. What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Ans: It is needless to say that being a businessman I have sensed the lack of awareness has greatly impacted the sustainable practices and other initiatives among tourism operators. In terms of adopting the sustainable practices local communities has prioritized the economic aspect a lot rather than environmental or socio cultural. Also, from local authorities I have sensed the lack of funding, regulatory hurdles are another obstacles. It has been raised in the communal meetings about ways to overcome these obstacles but even now the problems keep evolving but we are committed to the sustainable future of Black Forest.

10. How does governmental structures and policies governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

Ans: I believe that government should plan every action from conservational efforts to national park restoration by setting up the framework provided by the local authorities and research institutions involved in the conservation process. I strongly believe that even though governmental bodies are entitled to pass the laws and regulations but it is the duty of every citizen and tourist to understand that everyone's interest is to enjoy the natural beauty and protect it. Of course, the proposal to balance the economic development, environmental conservation and cultural heritage should come from the local community but overall we should be committed to get what is right for the long term health of our community and the good future of the Black Forest National Park.

11. What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

Ans: From my experience I have seen that many tourists that come to visit the Black Forest National Park seems to understand the importance of sustainability practices and are well understood about impacts of mass tourism. Some of them even donated to the local authorities to boost the preservation process. Either by buying the artisans or by voluntary donation tourists help the cause. Also in hotels I have heard that they are encouraged to use the towels to fullest before changing to save water. To sum up I would say that it is very heartfelt joy to see visitors who are sharing our vision to protect our home.

12. How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies and academic to address sustainability challenges and enhance resilience in the face of environmental and socio- economic changes?

Ans: In my opinion people need to come together and put their best thoughts in the table to find the collaborating vibe to enhance resilience in our community. We are always working closely with our external partners like NGOs and governmental agencies and researchers to share thoughts, vision and waste management. If all the thoughtful ideas are put in one place issues such as wild animal habitat, climate change issues and other sustainable development issues can be solved that will prolong the Black Forest National Park community.

Andrea Meinhardt (Owner) Food truck (Sahle Metger)

1. How did the establishment of the Black Forest National Park impact the economic sustainability of local communities, particularly in relation to employment opportunities and income generation through ecotourism?

Ans: Well, let me tell you, it's been a bit of a mixed scenario for us small business people like food truck owners. Sure, there's been an uprise in tourists coming through in these years, which means more potential customers for us. But at the same time, it's also brought its relative amount of challenges. With more competition arising up left and right, it's been tough trying to stand out in the crowd. And let's not even get started on the regulations and permits we have to deal with now. The business is going down slowly but we are trying to adapt.

2. What might be the indicators of environmental sustainability within the Black Forest National Park?

Ans: Oh, you can probably see the signs of environmental sustainability all around the park. Well, it is lush greenery to the clean air and water, it's clear that the natural environment is thriving here. But you should have seen it before it used to be darker and greener. And let me tell you, as someone who's been cooking up delicious meals in this area for years, I proudly appreciate the importance of protecting this pristine environment for our sons and daughters.

3. How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions, heritage sites in the face of increasing tourism pressures?

Ans: I am very proud of our cultural traditions and heritage sites are what make this place special, you know? And as locals, we say our heritage is our glory. But with the influx of tourists in the prime occasions, there's always chance of increase in immoral activities like prostitution and substance use which is not our culture but might end up represent it. I think there is interconnection when preserving our culture while still embracing the opportunities that tourism brings. But hey, we're determined to keep our traditions alive and kicking, no matter what.

4. What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Ans: Ah, where do I even begin with? Balancing economic development with conservation and sustainability standards is not an easy task, let me tell you. From using eco-friendly ingredients to dealing with waste management and not to say price changes, it's a constant juggling act. And then there's the whole issue of keeping up with the competition while still keeping up to our values. It's enough to make your head spin sometimes. That's why my son keeps telling me to change my business sometimes.

5. How did the local residents have adapted to their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

Ans: Well, we've definitely had to get creative when it comes to promoting environmental sustainability. Whether it's by using compostable packaging or using locally produced ingredients for food making, we're always looking for ways to minimize our ecological footprint. And let me tell you, as someone who has spent their childhood in this area, it was unknown before about the necessity of environment protection but now it's important to me personally to do my part in preserving the natural beauty of the Black Forest.

6. What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats, and what are the potential trade-offs or conflicts that arise in this context?

Ans: Ecotourism has definitely played a role in conserving our natural resources and habitats here in the Black Forest. But there are also challenges to deal with. With more tourists comes more pressure on the environment, whether it's from increased foot traffic or waste generation. We mostly use our bicycles to travel in the area but with the seasonal tourist influx it feels troublesome to bike around. And let's not forget about the potential conflicts that can arise between conservation efforts and tourism development. Last year some governmental agencies came to inform us about the use of plates made from leaves that helps reduce the waste.

7. What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

Ans: There have been a few initiatives aimed at supporting the economic sustainability of our communities beyond just tourism. For small businesses like mine we did receive discount on the grants and some incentives for local agriculture, this feels like there's definitely been some support from the local authorities and governmental agencies. But at the end of the day, it's up to us as business owners to find creative ways to manage our income sources and the ups and downs of the tourist season. Like I said we are now encouraged to use the paper cups and plates from leaves to minimize waste.

8. How do local communities perceive and respond to the social impacts of ecotourism such as changes in community dynamic, cultural erosion and conflicts over land use and resource allocation?

Ans: Here I must point out that social impacts is much more than any other aspects of our community. It is true that it has brought our community together in some ways, making feel a sense of pride in our natural heritage. But on the other hand, it's also led to conflicts over things like use of land and resource distribution. And with tourist I feel like there is huge chance of conflict as we are pretty introvert and do not like to open up to outsiders.

9. What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Ans: It is true that there are some of barriers when it comes to adopting sustainable practices in our line of work. It is now made law that we need to use eco-friendly materials for the

business but there is cost to that and lack of infrastructure in some parts of the region it is hard to support things like recycling programs. I believe we need to improve on that. Also, majority of us rely on tourism for income thus off season pose a threat. Well, there will always be some new problems and new solutions on the way but it is all about finding ways to overcome these obstacles and keeping up the balance of the environment.

10. How does governmental structures and policies governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

Ans: Governmental structures and policies definitely play a role in shaping the balance between economic development, environmental conservation, and cultural preservation here in the Black Forest. The zoning regulations implemented by local authorities is being helpful in keeping the sustainable practices. Also the number of food trucks in some markets is monitored to reduce food loving tourists. But at the end of the day, it's up to us as locals to make sure that all three objectives are given equal importance in decision-making processes.

11. What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

Ans: Well, from what I've seen, tourists are trying to know about how their action is helping to create examples for sustainable practices and impact of environment. Whether it's through choosing eco-friendly accommodations or supporting local businesses that prioritize



sustainability, there's definitely a growing trend towards responsible tourism. And hey, that's something we are definitely looking after in the future. I have also seen people keep buying our famous cuckoo clock which promotes our local business in the region this practices are helping us to preserve cultural preservation.

12. How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies and academic to address sustainability challenges and enhance resilience in the face of environmental and socio- economic changes?

Ans: In these scenarios where external stakeholders are involved, we always try to welcome their ideas and suggestions but even though they are trying hard to address the challenges there is still flaw in ecotourism. I mean people can try to partner with conservationists and restoration projects for overall preservation it is costing locals our time and effort to maintain it. But let's hope the change is one the way and with strength in numbers from partnering agencies innovative solutions are on the way to tackle the problems.

Anetta Braun (Ticket Counter) Triberg Waterfall

1. How did the establishment of the Black Forest National Park impact the economic sustainability of local communities, particularly in relation to employment opportunities and income generation through ecotourism?

Ans: Oh, it's been quite the journey, you know? On one hand, there's been a surge in visitors flocking to see the waterfall, which has definitely boosted our ticket sales. But on the other

hand, it's also brought along some obstacles. With more tourists comes more strain on our resources and infrastructure. And not to mention, the competition from other attractions in the area is no joke. It's more like a twin edged sword for us here at the ticket counter.

2. What might be the indicators of environmental sustainability within the Black Forest National Park?

Ans: As we can see this lush green crisp mountain air and dark forest tells that environment is sustainable around the park. Mother nature has thrived here in these past few years and I am very lucky to work in this wonderful place. Flora and fauna have increased in numbers as well as the animals in the forests are also increased in comparison to what we had 10 years prior. Use of sustainable produces from our local resources had reduced the reliability and encouraged locals to maintain this state. Overall I will say the awareness is spreading for environmental protection campaigns.

3. How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions and heritage sites in the face of increasing tourism pressures?

Ans: Our cultural traditions and heritage sites are what make this area so special, you know? As locals, we hold them near and dear to our hearts But as there are peak tourists some time in a year where it causes the risks to our traditions and might overshadow our original true culture. I would like to add that I believe there is a delicate system of balance between

preserving the culture and embracing the opportunities that comes through it. But hey, we're determined to keep our traditions alive and kicking, no matter what.

4. What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Ans: I think this question is hard to answer as the solution might itself contradict. As balancing economic development with conservational approach is viable to our sustainable development but standards set up by sustainable goals is hard to keep par. There are many complex regulations that require strong determination to deal with and with increased waste it has become a bit of struggle to communities. As being a relatively small place in peak seasons we did feel pressure to maintain standards. Also the competition from other sites has kept us competitive which entices us to break up some regulations sometimes.

5. How did the local residents adapt their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

Ans: Well, we've had to make some adjustments to our way of life to promote environmental sustainability. We are also working to provide the tickets for the waterfall digitally soon to prevent paper use. Whether it's by embracing recycling or supporting local businesses that prioritize sustainability, we're doing our part to minimize our ecological waste. And I have

spent almost all my life here and that why, it's important to me personally to protect the natural beauty of the Black Forest for our children to see.

6. What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats, and what are the potential trade-offs or conflicts that arise in this context?

Ans: I would say that ecotourism has definitely added some glow to our beautiful park. Some of the challenges that are risen from the Ecotourism might be centralization of the prime attraction points as Triberg waterfall is famous all around the place but there are other gems that are worth looking for in this area. Since being famous makes our destination much population all time year round. This leads to maximum foot traffic and waste management. The hotels around here is much more busier than that of other sites this sometimes creates conflicts among some locals.

7. What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

Ans: There have been a few initiatives aimed at supporting the economic sustainability of our communities beyond just tourism. The amounts collected from this sites is transferred to provides incentives to agriculture and small industries. Other NGOs and governmental agencies has been trying to market the environmental sites further to support us economically.

One of another income sources for locals is timber which is driven by government lead companies those companies sometimes donated local agencies to preserve the region.

8. How do local communities perceive and respond to the social impacts of ecotourism, such as changes in community dynamics, cultural erosion, and conflicts over land use and resource allocation?

Ans: Well talking about the locals they sometimes act like they only care for economic advantages rather than social or cultural gems. Peoples majorly try to compete in themselves to generate more income and totally disregard environmental aspects. There is conflict in respect to resource allocation and land use recently that reminds us that we are selfish. And let's not forget about the cultural changes that come with an influx of outsiders. I totally hate the part where tourists do not respect the laws and regulation of this community. It's like trying to navigate choppy waters sometimes.

9. What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Ans: Yes, there are some hindrances of towards adopting sustainable practices in our line of work. Whether it's the cost of eco-friendly materials or the lack of infrastructure to support recycling programs, there's definitely room for improvement. But at the end of the day, it's about finding ways to overcome these barriers and do right by the environment.

10. How does governmental structures and policies governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

Ans: I strongly believe that governmental structures and policies that are looking after the Black Forest National Park is failing. As the balance between the economic development, environmental conservation and cultural preservation here is Black Forest is not in the scale as it should have been. Of course, there has been some changes in regulations such as zoning of environmental sites or use of eco friendly resources but the damage is much more. Tourists come for some time and leave this place but it is us locals who has to deal with the consequences. We are already doing our best to keep par with three objectives.

11. What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

Ans: I would say that tourists do not care about the concept of sustainability too much they are just here to click some photographs and contribute to environmental degradation. Tourists do live in eco-friendly hotel rooms and donate here but their behavior with us is sometimes unpleasant. Some tourists are responsible for their actions but mostly just come and bring their ill-mannered concepts. It disgusts me sometimes, but it is true that tourism is not all bad.

12. How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies, and academia, to address sustainability challenges and enhance resilience in the face of environmental and socio-economic changes?

Ans: I think local communities should participate in more marketing campaigns and conservation approaches to address the sustainability challenges. However, stricter rules for tourists still might help to bring balance between environmental and socio-economic factors. Governmental agencies should partner with researching universities to support and bring innovative solutions to the problems. Also as being locals, we should keep our personal interests in bay to bring solutions to problems in the society.

13. How did the climate change impact ecological balance and biodiversity in the Black Forest National Park and what adaptive strategies are being employed to mitigate these effects?

Ans: Well, the major impact climate change has brought upon the Black Forest National Park is obviously the changes in weather patterns which causes frequent and sudden storms, irregular rains and shifts in seasonal temperatures. Also, the changes has impacted the plants and animal species inhabited in this national park. For example, one specific tree species that used to thrive in cooler climate is now struggling with the rise in temperature.

To counter the challenges some of the adaptive strategies that the park has employed is active monitoring of the health and biodiversity of the forest via various scientific programs. Introducing various types of trees to include more resilient species that can withstand climate change. Also, there is focus upon the natural resilience of ecosystems by promoting greater biodiversity that can

help buffer against the impacts of climate change. Park has also employed important study group to educate and engage with visitors to aware

14. What were the impacts of COVID-19 pandemic on the Black Forest National Park, regarding ecotourism, and what lessons were learned to prevent the future crisis of similar type?

Ans: There were some significant impacts on the Black Forest National Park during the times of COVID-19 pandemic. In the early stages, there was the huge drop in the tourism related activities because of travel restrictions and lockdown measures. This decrease in visitors had a ripple effect on the economy like ours where most people here are heavily reliant in tourism. Many local businesses such as hotels, restaurants and shops had to suffer substantial financial loss, while some even closed permanently.

On the other hand, there were some conservational gains such as reduced human activity that provided environment little break and wildlife habitats saw less human disturbance resulting in noticeable improvement in the condition of natural areas. However, the long-term economic closure has threatened funding for the conservation projects and park maintenance.

One of the major lessons that I learned during pandemic is importance of diversifying the local economy to reduce over-reliance in tourism. Also, the need of digital engagement to subtract human physical engagement has been realized.

Petra (Eble Uhren Park) Store manager



1. How did the establishment of the Black Forest National Park impact the economic sustainability of local communities, particularly in relation to employment opportunities and income generation through ecotourism?

Ans: Well, from my perspective as the store manager for the Cuckoo clock tower, I've seen a bit of a shift in the economic landscape. With the establishment of the National Park, there has been an increase in visitors to the area, which has led to more foot traffic through our store. It's provided a boost to our sales, no doubt, but it's also brought its own set of challenges, like keeping up with demand and ensuring we maintain quality while meeting the needs of a diverse customer base.

2. What might be the indicators of environmental sustainability within the Black Forest National Park?

Ans: As someone who's been living and working in this area for years, I've noticed a few signs of environmental sustainability within the National Park. The air feels cleaner, the forests seem healthier, and there's a general sense of harmony with nature which you can also see. While I am not sure about the specifics of environmental indicators, these observations that I see points that efforts to preserve the natural beauty of the Black Forest are definitely paying off.

3. How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions and heritage sites in the face of increasing tourism pressures?

Ans: Our local communities take great pride in our cultural traditions and heritage sites, and rightly so. These are the things that make our region unique, and they're an important part of our identity. I believe that culture is only true identity for community that why at this shop we try to sell the cuckoo clock because that is our culture. In the face of increasing tourism pressures, there's a sense of concern about preserving these traditions and sites for future generations. But there's also recognition of the opportunities that tourism brings, both in terms of economic benefits and cultural exchange.

4. What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Ans: It's a delicate balance, for sure. As a store manager, I can see local communities are dedicated constantly trying to maintain economic significance while also keeping in mind to conservation and sustainability charts. This means finding ways to minimize our environmental impact, whether it's through responsible travel behavior or selling items made from sustainable products. But it also means that we remain competitive in a crowded market and continue to provide value to our customers.

5. How did the local residents adapt their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

Ans: From what I've seen, residents here are increasingly conscious of their environmental impact and are taking steps to minimize their carbon emission. Whether it's by cycling to

work or recycling more, using public transportation, or supporting businesses that prioritize sustainability, there's a growing awareness of the importance of protecting our natural resources. And as someone who's deeply rooted in this community, I'm proud to see these efforts taking hold. Also, in terms of helping hands to the government our community part takes in rallies as well as training programs to minimize ecological footprint.

6. What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats, and what are the potential trade-offs or conflicts that arise in this context?

Ans: If I have to talk about ecotourism honestly, I would say Ecotourism has that potential to contribute to the conservation of natural resources and habitats in the Black Forest National Park, but sure they do have limitations. There are limits to how much tourism the area can sustain without causing harm to the environment, and finding the right balance is key. There may also be conflicts between conservation efforts and the economic interests of local businesses, which can create tension within the community. Although we are benefitted a lot from ecotourism in terms of locally produced cuckoo clock which is also sustainable. In the end it's a complex issue that requires careful consideration and collaboration among stakeholders.

7. What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

Ans: There have been various initiatives and programs targeted at supporting the economic sustainability of communities surrounding the Black Forest National Park. These include efforts to promote local industries such as forestry and agriculture, as well as initiatives to support small industry and entrepreneurs. Additionally, there are programs focused on workforce development and skills training to ensure that local residents have access to opportunities beyond just tourism. I would say that people do find something and NGOs are still able to encourage people to contribute to the society.

8. How do local communities perceive and respond to the social impacts of ecotourism, such as changes in community dynamics, cultural erosion, and conflicts over land use and resource allocation?

Ans: Local communities are normally very supportive of ecotourism and recognize the economic benefits it brings to our area. However, there are concerns about the potential social impacts, such as changes in community dynamics and cultural dilution. Sometimes there arise dispute over what kind of business to open, particularly in areas where tourism development encroaches on traditional livelihoods. Overall, I have seen people having a desire to strike a balance between economic development and preserving the uniqueness of the region.

9. What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Ans: One of the major barriers to adopting sustainable practices among tourism operators and businesses in the Black Forest National Park is the perception that such practices are too costly or impractical. Locals often believe that there are price to pay for change in sustainable practices. There may also be a lack of awareness or understanding of the importance of sustainability and how it can benefit businesses in the long run. Additionally, there are some regulatory barriers or infrastructure limitations that make it difficult to implement sustainable practices effectively. But it is the duty of the authorities to make locals understand that in the long run it would make the life easier and proud.

10. How does governmental structures and policies governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

Ans: As far as I know there are some governmental agencies that hold meetings for the locals every now and then to inform them about the changes in the Black Forest National Park over the time. They partner with local universities and form a group to encourage people to understand that there is acute balance between economic development, environmental conservation and cultural preservation. Although the zoning regulations and other rules for sustainable development practices are difficult to some extent. But in the long term it is locals who are the going to enjoy the resources so decision making process are all on us. Sometime I do hear the stories of government providing subsidies and incentives to help the region.

11. What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

Ans: From what I've observed, tourists visiting the Black Forest National Park are normally supportive of sustainability practices and other initiatives that promote environmental and cultural preservation. Many tourists also are interested in learning about the region's natural and cultural heritage by participating in cultural fairs and are willing to support businesses and attractions that prioritize sustainability. I have heard from my friend in hotel where over 70% of visitor try to use less towels and only change when necessary to reduce use of unnecessary water for laundry. However, there may be differences in awareness and attitudes among different segments of the tourist population, and efforts to educate and engage visitors on these issues may be needed.

12. How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies, and academia, to address sustainability challenges and enhance resilience in the face of environmental and socio-economic changes?

Ans: First and foremost, I believe cooperating with each other is the key to problems of sustainability challenges. Working together with NGOs and governmental bodies does bring change to the conservation efforts. Another way I would like to point out would be local communities leveraging collective experts over the resources to discover innovative solutions to complex obstacles. This may involve initiatives such as joint research projects, community-based conservation efforts, and advocacy campaigns to raise awareness and mobilize support for sustainable development. Ultimately, by building strong partnerships

and fostering a culture of collaboration, local communities can better adapt to environmental and socio-economic changes and ensure a more sustainable future for the Black Forest National Park and its surrounding areas.

13. How did the climate change impact ecological balance and biodiversity in the Black Forest National Park and what adaptive strategies are being employed to mitigate these effects?

Ans: I would say that climate change has indeed impacted the Black Forest National Park influencing natural ecosystems as well as traditional industries that relies on forest for raw materials. As being the store manager of this park there is noticeably changes in availability and quality of the raw materials, we used to make cuckoo clocks in traditional way and types of wood sources from the forest. Also, the warmer temperatures and altered precipitation patters has affected tree growth which has resulted more frequent pest infestation and disease that compromise the time quality.

To adapt the changes some strategies were employed such as collaboration with sustainable forest programs that ensure wood can survive climate change. We have also invested in more resilient materials and innovative ways to maintain traditional craftsmanship of our cuckoo clocks while adapting to environmental challenges.

14. What were the impacts of COVID-19 pandemic on the Black Forest National Park, regarding ecotourism, and what lessons were learned to prevent the future crisis of similar type?

Ans: Well, I would say COVID-19 pandemic has serious repercussion for Eble Uren Park and the broader community in the Black Forest National Park. We had suffered drastic drop in sales of our cuckoo clocks in lockdown period. This effects the not only us but also the artist, suppliers and many other whom are reliant on steady flow of tourist for livelihood.

In spite of suffering we did learned one of two things such as we get to rethink and innovate during pandemic. We had accelerated our efforts to expand our online presence, launching an e-commerce platform to purchase our clocks online. This has helped us to mitigate financial impacts of the pandemic but also other business model markets.

Overall, I would say that pandemic had taught us about how we need to have more than one income options and not to be heavily reliant on tourist. I am sure this learning was for most of the stakeholders in Black Forest National Park.

Lukas Muller (Furniture Store Manager)

1. How did the establishment of the Black Forest National Park impact the economic sustainability of local communities, in relation to employment opportunities and income generation through ecotourism?

Ans: The establishment of the Black Forest National Park has significantly boosted our local economy. With the increase in tourists, we've seen a rise in demand for locally made furniture and souvenirs. This has led to more job opportunities and higher income for many residents, including those working in my store. The park has really put our community on the map, attracting visitors



who appreciate our craftsmanship. Ecotourism has shaped the structure of true potential of our region and also lives of locals.

2. What might be the indicators of environmental sustainability with in the Black Forest National Park?

Ans: From what I can see some of the key indicators of environmental sustainability in the park include the resurgence of local wildlife, improved air and water quality, and the overall health of the forest ecosystem. The efforts to preserve and protect the environment have been very effective, and it's something we, as a community, take great pride in. to maintain this local communities are dedicated to sustain environmental sustainability.

3. How do local communities in the Black Forest National Park area perceive and value the cultural sustainability of their traditions, heritage sites in the face of increasing tourism pressures?

Ans: Well I believe that The local communities highly value their cultural heritage and traditions. We've seen a renewed interest in preserving our customs and heritage sites, partly due to the influx of tourists who are eager to learn about our history and traditions. This has ushered a sense of pride and a stronger community identity. Also there are various fairs and festivals that shows the way of life in this region which explains our way of living.

4. What are the primary challenges faced by local businesses in the Black Forest National Park related to maintaining economic viability while adhering to conservation and sustainability standards?

Ans: From what I can see one of the primary challenges is balancing economic growth with sustainability standards. While there's a higher demand for our products, we must ensure our practices are environmentally friendly. Because of the taxes implied upon the timber we are forced to use imported wood. This sometimes means higher costs and it breaks my heart to do it. But more efforts are made to follow to these standards, but it's a necessary trade-off for long-term sustainability.

5. How did the local residents have adapted to their lifestyles and livelihood strategies to promote environmental sustainability and minimize their ecological footprint within the Black Forest National Park?

Ans: Local residents have adapted by integrating more sustainable practices into their daily lives. For instance, in my furniture store, we normally use locally sourced, sustainable wood and employ eco-friendly manufacturing processes. Also the waste from my workshop is used to make smaller handicrafts. This helps to minimize resource use. Many households have also adopted recycling and energy-saving measures like solar panels and smart sensors, contributing to the overall environmental health of the area.

6. What might be the boundaries of ecotourism in the Black Forest National Park that has contributed to the conservation of natural resources and habitats and what are the potential trade-offs or conflicts that arise in this context?

Ans: Ecotourism has played a crucial role in conserving natural resources and habitats. The revenue generated from tourism helps fund conservation projects and environmental education programs. Also, NGOs and other agencies occasionally hold seminars to make people aware of conservation benefits. However, the increased tourist in peak times can sometimes strain resources, necessitating careful management to avoid negative impacts.

7. What initiatives or programs have been implemented by local authorities or NGOs to support the economic sustainability of communities surrounding the Black Forest National Park, particularly in relation to varying income sources beyond tourism?

Ans: Well there are various initiatives that have been implemented to support economic sustainability. Local authorities and NGOs have introduced programs to diversify income sources, such as promoting local arts and crafts, organic farming, and other non-tourism related businesses. Also to maintain the overuse of the resources some tariffs are implied upon the resources like woods of various kinds that are not much. These efforts help ensure that the community isn't solely dependent on tourism.

8. How do local communities perceive and respond to the social impacts of ecotourism such as changes in community dynamics, cultural erosion and conflicts over land use and resource allocation?

Ans: Many people find hard to agree on but I do believe that social impacts are just positive from the ecotourism. The influx of tourists has brought about cultural exchange and greater community cohesion. Sometimes tourists do not understand our values and behave unknowingly to cause a

scene. However, there are concerns about cultural erosion and land use conflicts, but these are being addressed through community engagement and planning.

9. What are the major barriers or obstacles preventing the adoption of sustainable practices and initiatives among tourism operators and businesses operating within the Black Forest National Park?

Ans: I would say that the main barriers include the initial costs of adopting sustainable practices and the lack of awareness among some business owners. Some locals really don't seem to understand the concept of these sustainable practices and keep doing as they please. Also, I feel government agencies are trying their best but the region is massive and these practices cannot be done from our side alone. However, with increasing education and support from local authorities, more businesses are beginning to see the long-term benefits of sustainability.

10. How does governmental structures and policies governing the Black Forest National Park influence the balance between economic development, environmental conservation, and cultural preservation objectives?

Ans: Well governmental agencies and policies are keeping up with their job and they have a significant role in balancing the economic, environmental and cultural goals. A lot of rules and regulations have been passed to ensure that business is following sustainability standards and also promote economic growth. And the locals also try to not violate these to maintain the balance. Some government funded organizations are also working to innovate new strategies to deal with future issues that may arise.

11. What are the perceptions of tourists visiting the Black Forest National Park regarding sustainability practices and their willingness to support initiatives that promote environmental and cultural preservation?

Ans: I do feel tourists who generally visit here have a positive perception of sustainability practices in the park. Normally they are amazed about how we came to manage all these efforts for initiatives that promote environmental and cultural preservation. Many are willing voluntarily to support initiatives that promote our sustainability by buying the locally produced products and participating in eco-friendly activities. I feel like without tourists and their support it would be hard for us to conserve environment and culture.

12. How can local communities collaborate with external stakeholders, such as conservation organizations, government agencies and academics to address sustainability challenges and enhance resilience in the face of environmental and socio- economic changes?

Ans: I think to collaborate with external stakeholder's people need to talk and come together while keeping in mind the bigger goals. If governmental agencies and academic bodies work closely with conservation organizations, then they would be able to develop innovative results. Promoting sustainable practices is also crucial during cooperation. I have heard about many NGOs that are covering part of the park and help saving animals with locals. This kind of activities surely brings change in the local peoples efforts. Cooperation is crucial to ensure this effort are effective in the long run.

Picture of Researchers in Triberg and Freiburg















