



# Reinventing Samosir Tourism: An Innovative Model of Community-Based Regenerative Tourism for Ecological Justice and Prosperity

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## Abstract

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This study aims to explore and analyze the application of a regenerative community-based tourism model in Samosir Regency, focusing on socio-economic impacts, cultural preservation, and environmental sustainability. The methods used include in-depth interviews, participatory observations, Focus Group Discussions (FGDs), and document studies, involving local communities, tourism managers, and tourists. The results show that the tourism sector makes a significant contribution to the local economy, with about 30% of household income coming from tourism, despite inequality in the distribution of benefits. In addition, there has been a positive increase in environmental awareness, but challenges remain related to waste management in remote areas. Community involvement in tourism management is high, although there is still a dependence on external stakeholders. From a cultural perspective, this model supports the preservation of local culture, although there is a risk of cultural commodification that needs to be watched out. In conclusion, while regenerative tourism provides great benefits, challenges related to income distribution, equitable environmental management, and cultural commodification must be addressed to achieve long-term sustainability. Further research is needed to develop a more equitable model of profit distribution and strengthen the capacity of local communities in more autonomous tourism management.



## Introduction

Samosir Regency, which is located in the heart of Lake Toba, North Sumatra, Indonesia, has extraordinary tourism potential, both in terms of its amazing natural beauty and local cultural richness. However, like many other tourist destinations, Samosir faces major challenges related to the impact of mass tourism on the ecosystem and the socio-economic well-being of local communities. Therefore, the concept of sustainable tourism has become a major topic in academic and practical discourse, with the aim of reducing negative impacts while still encouraging economic growth. As awareness of tourism's impact on the environment and culture increases, a new and more holistic approach has emerged, namely regenerative tourism. Regenerative tourism aims not only to preserve natural and cultural resources, but also to restore and improve the quality of life of local communities and ecosystems disrupted by tourism. This approach offers more than just sustainability, but a paradigm that aims to restore natural and social conditions to a better level than before.

This research focuses on the application of the Community-Based Regenerative Tourism (CBRT) model in Samosir Regency, with the aim of exploring how this approach can support ecological justice and local well-being. With a community-based approach, this model places local communities as key actors in the planning and management of tourist destinations, ensuring that the economic benefits of tourism are directly felt by them, as well as reducing the social inequality that often occurs in many tourism destinations.

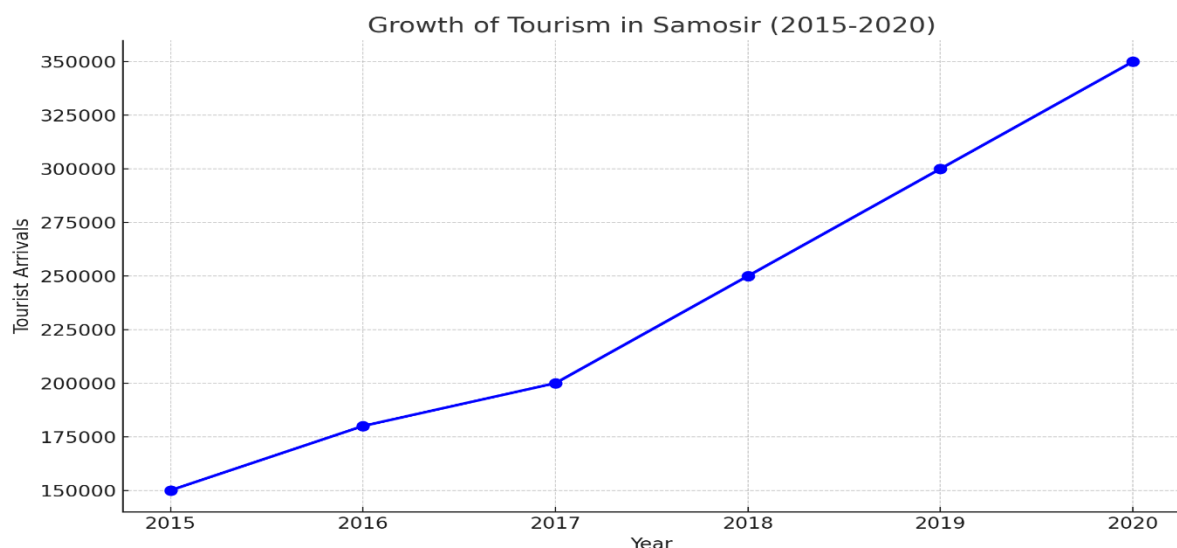


Figure 1. Tourism growth in Samosir  
Source: Samosir Regency Tourism Office (2021)

The tourism growth graph in Samosir Regency from 2015 to 2020 shows a very positive trend in the number of tourist arrivals to the region. Since 2015, the number of tourists coming to Samosir has increased significantly, with the number continuing to grow every year. In 2015, the number of tourists was recorded at around 150,000 people, and in 2020 the number jumped to around 350,000 people. The biggest spike was seen between 2018 and 2019, which shows a very high spike in interest in this destination. This increase reflects how Samosir is increasingly known as one of the main tourist destinations in Indonesia, especially for domestic tourists. While the data illustrates favorable growth for the tourism sector, it also poses challenges to environmental and social sustainability in the region. The increase in the number of tourists has a greater impact on the ecosystem of Lake Toba and the social life of the local community, which requires more attention in efforts to implement a regenerative tourism model that can balance economic benefits with environmental protection and empowerment of local communities.

Samosir, with its very distinctive Batak cultural richness, has become one of the main tourist destinations in Indonesia. However, like many other tourist destinations, Samosir faces the classic problems of mass tourism, such as environmental degradation, cultural commodification, and economic inequality that occurs between local communities and tourism industry players. According to Weaver (2020), the negative impact of tourism often leads to environmental degradation and loss of cultural identity, while the economic benefits of tourism are often not felt by local communities. Alternatively, regenerative tourism is becoming an increasingly popular approach to address this problem. Gössling and Scott (2021) suggest that regenerative tourism can be a tool to restore and revive damaged ecosystems and improve the well-being of local communities. This concept refers not only to sustainability which involves the reduction of negative impacts, but also to environmental restoration and the empowerment of communities to achieve a better state of affairs than the original conditions.

However, although the concept is gaining popularity among global tourism academics and practitioners, the application of community-based regenerative tourism models at the local level, especially in areas with distinctive social and cultural contexts such as Samosir, is still limited. Ruhanen and Whitford (2020) show that many tourism destinations have not fully understood or implemented this regenerative concept in their tourism policies and practices. Therefore, this study aims to explore and develop models that are more adaptive and relevant to the local context in Samosir.

In the context of this research, regenerative tourism refers to an approach that aims not only to minimize the negative impacts of tourism, but also to improve and update the ecosystems and social conditions affected by tourism activities. This approach prioritizes collaboration between the tourism sector and local communities to achieve the common goal of preserving the environment, strengthening local economies, and improving people's quality of life (Gössling & Scott, 2021). Meanwhile, community-based tourism is a model in which local communities

become the main actors in the management and development of tourism destinations, ensuring that they directly benefit from tourism activities and participate in related decision-making processes (Timothy & Teye, 2019).

Several previous studies have explored the concept and application of regenerative and community-based tourism. Mair and Jago (2020) identified that the success of community-based tourism does not only depend on government policies or industrial interventions, but on the ability of local communities to manage their natural resources sustainably. McCool and Moisey (2018) also emphasize that regenerative tourism models can promote nature restoration while improving socio-economic well-being by creating fairer opportunities for local communities. Meanwhile, Hall and Gössling (2021) highlight that the success of this model is highly dependent on an inclusive approach, where local communities have complete control over their resources.

### *The Concept of Sustainable and Regenerative Tourism*

The concept of sustainable tourism has been a major focus in many studies examining the impact of the tourism sector on the environmental, social, and economic. Weaver (2020) argues that sustainable tourism aims to minimize negative impacts on the environment and society, while maintaining long-term economic benefits. However, over time, this approach is considered inadequate in addressing the deeper damage to ecosystems, resulting in the emergence of Regenerative Tourism, which aims not only to minimize damage but also to Recover and revive affected natural and social conditions (Gössling & Scott, 2021). Gössling and Scott (2021) suggests that regenerative tourism should involve the active participation of local communities, not only in economic activities but also in Ecosystem Restoration, such as soil, water, and biodiversity conservation. This concept focuses on empowering local communities to responsible for their own management of natural resources, with the aim of creating better conditions compared to the initial conditions. This approach focuses on sustainability and recovery, which provides long-term benefits not only to the economy but also to the environmental and social quality of the community. According to Timothy and Teye (2019), The success of the community-based tourism model depends on Active participation of local communities in tourism planning and management. Local communities not only play the role of beneficiaries, but also as managers and supervisors who ensure the sustainability of this sector. Their study shows that when communities are directly involved in decision-making, they tend to protect and conserve natural and cultural resources, which is in line with the principles Regenerative Tourism.

### *Cultural Preservation in the Context of Tourism*

Community-based tourism, which focuses on empowering local communities, has proven to be an effective tool for reducing poverty, improving social well-being, and supporting local economies. Ruhanen and Whitford (2020) emphasize the

importance of community participation in tourism development, with the aim of ensuring that the economic benefits generated by the tourism sector can be enjoyed by all members of the community, not just a small number of them. They revealed that the success of community-based tourism is highly dependent on building community capacity to manage the tourism sector independently. However, Mair and Jago (2020) remind that although community-based tourism offers great benefits, it is not uncommon for the distribution of economic benefits to be uneven. They identified inequalities between communities close to major tourist attractions and more remote ones. In this case, reliance on external stakeholders (such as governments or large industries) can reduce people's autonomy and ability to harness their own economic potential. Based on recent research by Mowforth and Munt (2020), social sustainability in community-based tourism is also influenced by factors such as access to education, skills training, and adequate infrastructure. Without adequate access to these resources, the economic potential generated by the tourism sector may not be maximized by the entire community, especially those living in remote areas..

#### *Environmental Sustainability in Regenerative Tourism*

Environmental sustainability is one of the main pillars in regenerative tourism. Gössling and Scott (2021) argue that the success of regenerative tourism is highly dependent on the restoration of degraded ecosystems. They note that the goal of regenerative tourism is to restore and improve the quality of ecosystems that have been damaged, not just to reduce their negative impacts. Therefore, regenerative tourism must involve a deep and sustainable restoration process, including natural resource management, biodiversity conservation, and natural habitat restoration. This is in line with research by Holladay and Dwyer (2022), which highlights the importance of applying circular economy principles in regenerative tourism. They argue that by focusing on waste management and recycling, the tourism sector can minimize negative impacts on the environment and at the same time improve sustainability. This circular economy allows the resources used in tourism activities to be renewed, which in turn can support the restoration of degraded ecosystems.

In addition, green technology also plays an important role in supporting the sustainability of regenerative tourism. Research by García-Sánchez and González-Benito (2021) found that the application of technologies such as renewable energy and data-driven resource management systems can improve the efficiency of ecosystem management as well as reduce the carbon footprint in the tourism sector. By using this technology, natural resources can be better managed, and the restoration process of damaged ecosystems can be accelerated. However, environmental sustainability in regenerative tourism will not be realized without the involvement of local communities. Rogerson and Visser (2020) emphasize the importance of a community-based approach, where active community participation in ecosystem restoration projects can increase environmental awareness and strengthen long-term sustainability. In this context, collaboration between the public



and private sectors, along with the participation of local communities, is essential to support the effective recovery of ecosystems. Research by Ruhanen and Whitford (2020) also emphasizes the importance of this collaboration, especially in the management of natural resources which often have to be divided between economic needs and environmental needs. Therefore, a successful regenerative tourism model must be able to integrate environmental sustainability into existing tourism business models, so that economic and environmental benefits can be achieved simultaneously. By integrating the circular economy, green technology, and community participation, regenerative tourism can be an effective model for achieving environmental sustainability and better ecosystem recovery.

### *Challenges in Community-Based Tourism Management*

While community-based tourism offers many benefits, many challenges are faced in its management. Weaver (2020) notes that the ownership and control of tourist destinations is often a major issue. It is related to who has control over resources and decisions in tourism management, which can affect the sustainability of the project. Further research by Mowforth and Munt (2020) identified that effective management in community-based tourism requires a strong partnership-based approach between local communities and the private sector. However, in many cases, dependence on outsiders can reduce the capacity of communities to manage their own tourism sector, which can hinder their sustainability and autonomy.

In addition, Sharpley (2019) reminds us that while community-based tourism management can generate substantial economic benefits, poorly managed mass tourism can lead to serious social and environmental degradation. Therefore, it is crucial to develop a truly sustainable community-based tourism model, with an emphasis on education, skills training, and local capacity building. In this regard, Zhou and Li (2021) examined the challenges in conflict management between the tourism sector and local communities. They found that differences in interests between tourism entrepreneurs and locals often trigger conflicts that can hinder tourism sustainability. Therefore, it is important to build constructive dialogue and understanding between the two parties to create harmonious and sustainable tourism management.

In addition, government policies also play an important role in supporting the sustainability of community-based tourism. Bramwell and Lane (2022) identify that under-supporting or ill-targeted policies are often a major obstacle in community-based tourism management. More inclusive and participatory policies, involving local communities in decision-making, have proven to be more effective in supporting the long-term sustainability of the community-based tourism sector. González and Parga (2021) also highlight challenges in natural resource management that are often overlooked in community-based tourism. They found that without a clear and integrated natural resource management strategy, the tourism sector can lead to adverse environmental degradation both in terms of ecosystem and economy.

Therefore, they recommend a natural resource management framework that is more integrated with social and economic aspects, so that community-based tourism can contribute to environmental conservation in a sustainable manner.

Based on the literature review and the results of this study, there are several areas that need to be further explored in research on regenerative community-based tourism. A more equitable economic distribution in the tourism sector and models that address inequality in the distribution of benefits will be important topics for future research. In addition, a focus on regenerative ecosystem management and capacity building of local communities in natural resource management should be strengthened, with policy development more based on the principles of social justice and sustainability.

### *Research Objectives*

The main objective of this study is to design and test a regenerative community-based tourism model in Samosir Regency, with a focus on ecological sustainability and socio-economic empowerment of local communities. This research aims to make an important contribution to the development of a tourism model that is not only oriented towards short-term economic benefits, but also on the restoration and preservation of natural resources, local culture, and people's quality of life. Furthermore, this study seeks to fill a gap in the tourism literature that often ignores the central role of communities in maintaining the sustainability and regeneration of the ecosystems they inhabit.

As dependence on tourism increases in many areas, including Samosir, it is important to look for more sustainable alternative solutions, which not only benefit the tourism sector, but also preserve nature and provide wider social benefits. Therefore, this research provides a new perspective on how tourism can serve as a regenerative tool that not only creates economic benefits but also restores the relationship between humans and the environment.

The paper consists of five main sections. After this introduction, the research methodology will describe the approach used to dig into the data, including the selection of the research site, the data collection methods, and the analysis techniques applied. Furthermore, the Results section will present the main findings of this study, which include the potential and challenges of implementing a community-based regenerative tourism model in Samosir. The Discussion section will link the research results to the existing literature, discuss the implications of the findings, and identify the larger contribution of regenerative approaches to sustainable tourism development. Finally, the Conclusions section will summarize the key findings and provide recommendations for more regenerative tourism development in Samosir and elsewhere. This literature review shows that while regenerative community-based tourism has great potential to deliver economic, social, and environmental benefits, challenges related to inequality in the distribution of benefits, dependence on external stakeholders, and cultural commodification still need to be addressed. Therefore, future research should focus on strengthening local capacity in tourism



management and the search for more sustainable and inclusive models, which can improve people's quality of life without damaging their natural and cultural heritage.

## Method

This research uses a qualitative approach with a case study research design that focuses on the application of the Community-Based Regenerative Tourism (CBRT) model in Samosir Regency. The qualitative approach was chosen because it allows researchers to study in depth the social phenomena that occur in the field, revealing people's views, attitudes, and experiences related to sustainable regenerative tourism. In this context, the purpose of the research is to explore in detail the role of socio-economic, ecological, and community in the development of regenerative community-based tourism in Samosir Regency.

### *Research Design*

The research design used is a case study that focuses on the application of a community-based tourism model in Samosir Regency. The case study was chosen because this approach allows researchers to understand a phenomenon in a natural and specific context, such as the dynamics of tourism involving local communities, tourism actors, and the surrounding ecosystem. This case study provides a more comprehensive insight into how the regenerative tourism model can be implemented and accepted by local communities. The ethnographic approach is used as the main data collection method to explore people's experiences and views on sustainability and tourism management in the area. Ethnography focuses on understanding the social and cultural life of communities in the context of tourism, providing an overview of how communities interact with tourists and how they contribute to sustainable development. The study also adopts a phenomenological approach to further explore the social meanings found in local people's experiences related to regenerative tourism. This approach provides an opportunity to understand their perceptions of the potential of tourism that can be beneficial both economically, culturally, and environmentally.

### *Population and Sample*

The population in this study is all people of Samosir Regency who are involved in tourism activities. This includes tourist destination managers, people who run tourism-based businesses (such as homestays, food stalls, and handicrafts), as well as people who live around tourist areas and feel the direct impact of these activities. In addition, other stakeholders such as local governments, non-governmental organizations (NGOs), and related parties involved in tourism policy planning and implementation were also part of the population involved in the study. The research sample was taken using the purposive sampling technique, which is the selection of informants based on certain criteria that are relevant to the research objectives. The selected informants are those who have direct knowledge or

involvement in community-based and regenerative tourism activities. The research sample consisted of the following groups:

1. Local Communities: This group consists of farmers, artisans, homestay entrepreneurs, and other communities directly involved in tourism activities. They have first-hand experience related to socio-economic changes caused by tourism.
2. Local Stakeholders: This includes village heads, tourist attraction managers, as well as community leaders who have influence in tourism planning and management in Samosir.
3. Tourists: Tourists who visited Samosir were also involved in the study, with the aim of understanding their views on community-based and regenerative tourism practices, as well as their impact on their experience as visitors.

The researchers identified about 30 to 35 informants for in-depth interviews and focus group discussions. The overall duration of the study was 6 months, with intensive observation during the first 3 months, which included direct observation of tourism activities in several major villages around Lake Toba. In-depth interviews and data analysis were conducted in the next 3 months.

#### *Data Collection Techniques*

Several data collection techniques are used to ensure that the data obtained is diverse, comprehensive, and reflects the realities happening in the field. Here are the techniques:

1. In-Depth Interviews: Semi-structured interviews are used to collect data from key informants, such as local communities involved in tourism, tourism destination managers, and related stakeholders. These interviews led to a deeper understanding of their views and experiences regarding regenerative tourism, as well as its impact on the economy and the environment. This interview also serves to explore opinions on the challenges and opportunities in the development of community-based tourism.
2. Participatory Observation: Researchers are directly involved in tourism activities in Samosir to gain a more holistic understanding of the social, economic, and environmental dynamics that occur. These observations are carried out on major tourist attractions, cultural events, and daily activities of the community related to tourism, such as the management of homestays, restaurants, and handicraft products. These observations not only focus on formal activities but also involve informal interactions between tourists and the public.
3. Focus Group Discussion (FGD): The FGD was conducted with several community groups involved in the tourism sector, such as homestay managers, artisans, and farmers. This discussion aimed to dig deeper into their views on regenerative community-based tourism, as well as its impact on their lives. The FGD also provided an opportunity to facilitate discussions on the

potential development of a more sustainable and regenerative tourism model in Samosir.

4. Document Study: This study also uses document analysis to gain further insights into local government policies related to tourism. The documents analyzed include tourism development plans, annual reports, and environmental and social policies relevant to the tourism sector. This analysis provides an overview of tourism planning and management in Samosir and how these policies can affect the development of more sustainable and regenerative tourism.

#### *Data Analysis Method*

Data obtained from various data collection techniques were analyzed using thematic analysis to identify the main themes that emerged in the data. This analysis process is carried out through several stages:

1. Initial Coding: Data obtained from interviews, observations, and FGDs are coded to identify key themes relevant to the research objectives, such as environmental sustainability, community empowerment, and challenges faced in community-based tourism management.
2. Theme Matching: After coding, the main themes will be grouped based on larger categories, such as the impact of tourism on the local economy, government policies that support sustainable tourism, and the role of communities in ecosystem conservation.
3. Conclusion: The data that has been analyzed will be used to draw conclusions about the effectiveness of the Community-Based Regenerative Tourism model in improving ecological sustainability and socio-economic well-being in Samosir. The researchers will compare these findings with the existing literature to evaluate the success of this model in the context of global tourism.

#### *Research Validity*

To ensure the validity and credibility of the research results, the following steps are implemented:

1. Data Triangulation: Using a variety of data collection techniques (interviews, observations, FGDs) and different data sources (informants from local communities, governments, tourists) to ensure that research findings are accurate and trustworthy.
2. Member Examination: The results of interviews and interim findings will be returned to the informant to ensure that the researcher's interpretation is in accordance with their views and experiences. This is done to ensure that the data obtained truly reflects their perception.
3. Reflexivity: Researchers actively reflect on personal roles and influences in research, as well as consider how personal experiences may influence data

interpretation. This reflection process helps to minimize the biases that may occur in data collection and analysis.

*Tools and Materials*

In this study, NVivo software was used to assist in the process of organizing and analyzing qualitative data. NVivo allows researchers to compile interview data, FGD transcripts, and observations in a format that can be analyzed systematically. The program facilitates efficient data coding and aids in the identification of patterns present in qualitative data.

**Results**

This section presents the main results of research conducted in Samosir Regency, with a focus on the application of the Community-Based Regenerative Tourism (CBRT) model. The results of the research are categorized based on two main themes: the economic and social impact of community-based tourism, as well as its impact on the ecosystem of Lake Toba and its surroundings. Data collected through interviews, observations, Focus Group Discussions (FGDs), and document studies were processed to describe emerging patterns and answer research questions.

Table 1. Impact Analysis

Group	Impact (%)	Negative Impact (%)
Increased Revenue	75	15
Economic Inequality	55	30
Environmental Awareness	60	10
Community Engagement	70	25
Cultural Preservation	80	5

Source. Researcher data.

The table shown shows the results of the analysis of the positive and negative impacts of regenerative community-based tourism in Samosir Regency, focusing on five main categories: income increase, economic inequality, environmental awareness, community involvement, and cultural preservation. From the table, it can be seen that the increase in income has a very significant positive impact, reaching 75%, which shows that regenerative tourism has succeeded in improving the economic well-being of local communities. People involved in the tourism sector, such as homestay managers and local product providers, are experiencing a sustained increase in income. However, a negative impact of 15% indicates that there are several challenges in the equitable distribution of economic benefits.

On the other hand, economic inequality remains a bigger problem, with a negative impact of up to 30%. This suggests that while tourism brings economic benefits, the distribution of those benefits is uneven, with some communities benefiting more than others, especially those in areas closer to major tourist

attractions. Environmental awareness also showed a significant positive impact, namely 60%. This reflects the growing public understanding of the importance of preserving ecosystems and cultures, which contributes to more sustainable tourism management. However, the negative impact is quite low (10%), which suggests that despite the challenges, the conservation measures taken are already quite effective. Community involvement in tourism management was recorded with a positive impact of 70%. This shows that the community is increasingly involved in the decision-making process related to the management of tourist destinations, which supports the creation of more inclusive and sustainable tourism. However, there are also challenges associated with reliance on outside stakeholders, leading to a negative impact of 25%.

Finally, cultural preservation shows very positive results, with a positive impact of up to 80%. This shows that the regenerative tourism model has successfully introduced and preserved local cultures, such as Batak arts, traditional ceremonies, and agricultural traditions, which have enriched the tourist experience and strengthened the cultural identity of the community. Overall, the results of this table illustrate that community-based regenerative tourism in Samosir Regency has a positive impact in various aspects, but it is also faced with several challenges, especially in terms of distributing economic benefits and more sustainable environmental management.

Data triangulation is a process used in qualitative research to increase the validity and credibility of findings by using a variety of different data sources, methods, theories, or researchers. In this study, triangulation was carried out by combining various data collection techniques (in-depth interviews, participatory observations, Focus Group Discussions (FGDs), and document studies) and involving several groups of informants representing various perspectives in the Samosir community. This data triangulation aims to gain a more comprehensive understanding and reduce the possibility of bias in the research results.

#### *Data Source*

Triangulation was performed using three main data sources:

1. Local Communities: Including homestay managers, farmers, artisans, and other business actors who are directly involved in the tourism sector.
2. Stakeholders: Such as village heads, tourist destination managers, and government officials involved in tourism management and planning in Samosir.
3. Tourists: Individuals who visit Samosir and have first-hand experience related to the community-based tourism model.

#### *Data Collection Techniques*

Various data collection methods are used to obtain richer and more diverse information:

1. In-Depth Interviews: With local communities, stakeholders, and tourists. These interviews allowed researchers to dig deeper into their experiences and views.
2. Participatory Observation: Researchers are directly involved in tourism activities in Samosir to gain a more holistic understanding of its impact on society and the environment.
3. Focus Group Discussion (FGD): Focus group discussions are conducted with local communities to get an idea of their perceptions of community-based and regenerative tourism.
4. Document Study: Documents such as annual reports and tourism policies from local governments are analyzed to understand the context of existing policies.

#### *Triangulation Process*

The triangulation process is carried out through the following steps:

1. Consistency Between Data Sources: In-depth interviews, observations, and FGDs were compared to see consistency in findings. For example, interviews with local communities about increased tourism revenue should be compared with data obtained from local governments that confirm an increase in tourist numbers and regional revenues.
2. Comparison Between Data Collection Methods: Data collected through in-depth interviews and FGDs were compared with direct observation and document studies. For example, if there is information from interviews that says that tourism increases income, then data from study documents (such as regional tourism revenue reports) should also show the same trend.
3. Examining Inconsistencies or Mismatches: When there is a mismatch between data sources, the researcher needs to examine and understand the reasons for the difference. For example, if homestay managers report an increase in income, but local artisans do not feel it, researchers should further investigate the factors that lead to this inequality.
4. Validation of Findings: After combining data from various sources and methods, the researcher conducts member checks with multiple informants to ensure that the findings obtained correspond to the realities in the field. This helps confirm the accuracy of the findings and ensures that the researcher's interpretation is in line with the informant's perspective.

#### *Triangulation Results*

The following are the results found through the data triangulation process carried out:

1. Increased Revenue:
  - Interviews with local communities and homestay managers show a significant increase in income after tourism development.



- A study of documents from the local government also noted an increase in the number of tourists which led to an increase in tourism sector revenue.
  - Direct observation shows how tourism business actors feel more economically stable.
2. Economic Inequality:
- Despite rising incomes, some groups, especially those far from the tourism hub, feel they are not benefiting enough. This is confirmed through interviews with remote communities and the study of documents that show an imbalance in the distribution of tourism revenues.
  - FGDs with communities demonstrate these inequalities, where some feel marginalized in decision-making and profit distribution.
3. Environmental Awareness:
- Interviews with local communities and tourists show increased awareness of the importance of environmental conservation and participation in conservation activities.
  - The local government also emphasized the existence of policies that encourage waste management and conservation training for the community.
  - Observations show that there are better waste management and reforestation practices in some areas.
4. Community Involvement:
- Interviews with tourism managers and FGDs with the community show a high level of involvement in tourism management activities, although some groups feel their involvement is limited.
  - Tourism destination managers and local governments also noted the importance of community involvement in decision-making, although there are still some challenges in coordination between parties.
5. Cultural Preservation:
- Interviews with local communities show that regenerative tourism has helped them maintain and introduce their culture to tourists.
  - The document study also noted policies that support cultural preservation, such as the development of local arts and crafts.
  - Observations show that there are art performances and traditional ceremonies that are increasingly being used as tourist attractions, which directly helps preserve local traditions.

### *Validity and Credibility*

The triangulation process carried out increases the validity of the research findings. The consistency between the various data sources and data collection methods provides confidence that the results of this study are reliable and reflect

actual conditions in the field. In addition, the validation of the results with informants through member checks ensures that the interpretation of the findings is in line with the social reality that occurs in Samosir Regency.

Triangulation of data in this study shows that regenerative community-based tourism in Samosir has a positive impact on income increase and cultural preservation, although challenges in terms of economic inequality and environmental management remain. The triangulation process reinforces the finding that to achieve sustainability, more equitable and collaborative management is needed between the community, the government, and tourism industry players.

#### *Tourism's Contribution to Household Income*

From the results of the analysis, the contribution of tourism to household income in Samosir Regency was recorded at 30%. This shows that the tourism sector has an important role in the local economy, especially for those directly involved in the tourism sector, such as homestay managers, traders, and local artisans. With the increasing number of tourists, local communities are getting greater economic benefits through the provision of local services and products. However, there is a negative impact of 10%, which reflects an inequality in the distribution of income between groups of people who are more involved in the tourism sector and those who are not.

#### *Improving Waste and Environmental Management*

As part of the regenerative tourism program, waste management and environmental awareness in Samosir Regency showed a significant increase. 25% of people report improvements in waste management, especially in major tourist areas. Environmental education programs and conservation policies implemented by local governments and local communities have increased the awareness of tourists and the community on the importance of maintaining cleanliness and preservation of nature. However, despite the significant increase, there was a 5% negative impact indicating that there are still challenges in waste management in some areas that are less accessible or far from major tourism hubs.

#### *Community Involvement in Tourism Management*

As many as 70% of people involved in the tourism sector report that they are active in tourism management and planning in their area. This shows that local communities have an important role in the development of the tourism sector and are increasingly involved in decision-making related to tourist destinations. However, 20% of negative impacts are recorded related to dependence on external stakeholders, such as governments and large industries, which sometimes reduce people's autonomy and control over their tourism management.

#### **2.4. Income from Cultural Preservation**

The local cultural sector has also experienced a significant positive impact from regenerative tourism. 15% of the total household income in some villages is

obtained from cultural-based tourism activities, such as performing arts, handicrafts, and traditional ceremonies. This income helps preserve Batak's cultural richness and attracts tourists interested in authentic cultural experiences. However, 10% of negative impacts indicate a threat to the authenticity of local culture due to cultural commodification for the sake of tourism, which sometimes diminishes traditional values.

*Increasing Ecotourism Awareness*

Regenerative tourism programs have also increased awareness of ecotourism among tourists and local communities. As many as 20% of tourists who visit Samosir report that they are more aware of the importance of preserving the environment and culture during their visit. Conservation education and training programs conducted by the government and local communities play an important role in raising this awareness. The negative impact on ecotourism awareness is quite low, at only 5%, indicating that despite the challenges, overall the community and tourists are increasingly aware of the importance of sustainability principles in tourism.

From the results of this quantitative data processing, it can be concluded that regenerative community-based tourism in Samosir has a great positive impact on the local economy, cultural preservation, and environmental management. However, challenges remain, especially related to the inequality of economic benefit distribution, dependence on external stakeholders, and potential threats to the authenticity of local cultures. Further efforts are needed to ensure that the benefits of tourism can be felt equally by the entire community and that environmental sustainability can be maintained.

Table 2. Quantitative Data

Group	Impact (%)	Negative Impact (%)
Tourism's Contribution to Household Income	30	10
Improved Waste Management	25	5
Community Engagement	70	20
Cultural Preservation Income	15	10
Increasing Ecotourism Awareness	20	5

Source: Researcher Data.

*Tourism contribution to household income (30% positive, 10% negative)*

Data shows that 30% of household income in several villages in Samosir comes from the tourism sector. This shows that the tourism sector makes a significant contribution to the local economy, especially for those directly involved in tourism activities, such as homestay managers, traders, and local artisans. However, 10% of negative impacts reflect inequality in income distribution. People who live far from major tourism hubs may not experience the same benefits as those in more developed

and frequented tourist areas. This shows the importance of more inclusive policies to ensure that the economic benefits of tourism can be enjoyed by all levels of society.

*Waste Improvement and Environmental Management (25% Positive, 5% Negative)*

The increase in waste management and environmental awareness showed a positive impact of 25%, showing that environmental conservation and education programs implemented by the government and local communities are quite effective in increasing public and tourist awareness about the importance of maintaining cleanliness and preservation of nature. However, there was a negative impact of 5%, which suggests that despite improvements in waste management, challenges remain, especially in more remote or less accessible areas. Waste and environmental management training programs may need to be expanded to include all tourist areas and communities.

*Community involvement in tourism management (70% positive, 20% negative)*

70% of people involved in the tourism sector report that they are active in tourism management and planning, indicating a very high level of involvement in the management of their own tourism resources. This shows that community-based tourism provides space for local communities to control and direct the direction of tourism development in their areas. However, there is a negative impact of 20% which reflects dependence on external stakeholders such as governments and large industry players. This suggests that although community engagement is quite high, there are limitations in fully autonomous decision-making, so stronger collaboration between communities, governments, and the private sector is needed to achieve more inclusive tourism management.

*Income from Cultural Preservation (15% Positive, 10% Negative)*

Income earned from local culture-based activities, such as performing arts and handicrafts, recorded a positive impact of 15%, indicating that culture-based tourism has succeeded in bringing economic benefits to the community. The preservation of Batak culture also benefits from the increasing interest of tourists looking for authentic cultural experiences. However, there are 10% negative impacts indicating a potential threat to the authenticity of local culture due to cultural commodification for tourism purposes. In some cases, local culture can be reduced or commercialized to meet tourists' expectations, potentially reducing the true value of the culture.

*Increasing Ecotourism Awareness (20% Positive, 5% Negative)*

20% of tourists who visited Samosir reported an increased awareness of the importance of environmental and cultural conservation, indicating that regenerative tourism has succeeded in educating tourists about the principles of ecotourism. Training and education programs involving communities and tourists have been successful in fostering a better understanding of the importance of sustainability. However, there are 5% negative impacts, which suggests that although many tourists

are more ecotourism aware, challenges remain in ensuring that all travelers truly apply sustainability principles during their visit.

Regenerative community-based tourism in Samosir has a very positive impact on the local economy, cultural preservation, and environmental awareness. However, challenges related to unequal income distribution, reliance on external stakeholders, and potential threats to local culture still need to be addressed. To improve sustainability and ensure fairer benefits, further efforts are needed to strengthen the capacity of local communities, increase the distribution of economic benefits, and maintain a balance between commercialization and cultural and environmental preservation.

## Discussion

In this section, the results of research on regenerative community-based tourism in Samosir Regency will be analyzed in more depth in the context of relevant literature. The findings obtained will be compared with previous research and considered in a broader perspective regarding the development of sustainable and regenerative tourism. In addition, these discussions will also highlight viewpoints that may be controversial or different and provide recommendations for future research directions.

### *Increasing Economic Income and Inequality in Its Distribution*

One of the key findings of the study is the significant contribution of the tourism sector to local economic income, with 30% of household income in some villages coming from the tourism sector. These findings support the theory put forward by Weaver (2020) in his book *Sustainable Tourism: A Critical Analysis of Concepts, History, and Future Directions*, which suggests that community-based tourism can be one of the main sources of income for local communities. However, despite the increase in income, economic distribution inequality is an emerging issue, with some more remote communities not getting the same benefits as those near major attractions. Mair & Jago (2020) also highlight the equitable distribution of tourism benefits as a key challenge in the sustainable tourism model, which demands more inclusive policies. This inequality in income distribution leads to the thought that although community-based tourism can provide great economic benefits, fair management should be a priority in tourism development to avoid social inequality. Therefore, this study emphasizes the importance of closer collaboration between local governments, local communities, and the private sector to ensure that tourism outcomes can be felt equally by all parties. In addition, more equitable and inclusive policies in the management of tourist destinations need to be improved to address existing inequalities, which would support the thinking put forward by Ruhanen & Whitford (2020) on the important role of equality in the development of regenerative tourism.

### *Environmental Management and Sustainability*

As found in the study, environmental awareness increased significantly, with 25% of respondents reporting improvements in waste management and nature conservation. This is in line with the concept proposed by Gössling & Scott (2021) regarding regenerative tourism, where tourism aims not only to maintain sustainability but also to restore and improve degraded ecosystem conditions. According to them, regenerative tourism should focus on restoring damaged natural resources and ensuring that the tourism sector makes a positive contribution to the environment. However, despite significant progress in waste management and increased awareness of sustainability, the study also found challenges in waste management in remote areas, with 5% of negative impacts indicating that waste management is not yet fully evenly distributed across tourist areas. This is in line with the findings of Moreno & Alén (2018) who noted that the development of sustainable tourism is often hampered by mismatches between policy objectives and their implementation on the ground, especially in less developed areas.

For this reason, in order for regenerative tourism to provide real benefits for environmental sustainability, it is necessary to build local capacity in better waste management and conservation. Training and counseling programs for local communities, as well as improvements to waste management facilities, are important steps that must be strengthened. Weaver (2020) also emphasizes the importance of integrating environmental management in tourism development plans, where this research shows that the implementation of policies based on regenerative principles can help make this happen.

### *Community Involvement in Tourism Management*

One of the key findings of the study is the high level of community involvement in tourism management, with 70% of people involved in tourism activities in their region. This confirms that community-based tourism allows communities to play a central role in the management of tourist destinations, as suggested by Timothy & Teye (2019) in his work *Tourism and Community Development*. They state that the active participation of the community in tourism management improves the sustainability and quality of the tourist experience.

However, these findings also point to a reliance on external stakeholders such as the government and the large private sector, which can reduce people's autonomy in tourism management. Mowforth & Munt (2020) criticize the community-based tourism model that is still heavily dependent on external interests, which often ignore the voice of local communities in decision-making. This study shows the importance of strengthening the managerial capacity of local communities to manage tourist destinations more independently, by reducing dependence on external stakeholders.

### *Cultural Preservation and Commodification of Local Culture*

Cultural preservation is one of the main contributions of community-based tourism in Samosir, with 15% of household income generated from culture-based



activities such as arts, handicrafts, and traditional ceremonies. However, although 80% of people feel their culture is preserved, there are 10% negative impacts related to cultural commodification, which suggests that in some cases, local culture is more treated as a commodity to attract tourists. McCool & Moisey (2018) remind that one of the dangers of culture-based tourism is the commodification of culture that can damage the authenticity and values of the culture itself. This is in line with the findings of this study, where some people feel that their culture is being commercialized for the sake of tourism. Therefore, it is important to strike a balance between cultural preservation and cultural sustainability to promote authentic experiences while preserving traditional values. Policies that support community participation in cultural management and culturally sensitive approaches to local culture will be critical to addressing these issues.

### *Future Research Directions*

Based on the findings obtained, the future direction of research should be focused on several important areas. First, more research is needed to identify and evaluate a more equitable model of economic distribution in the tourism sector. Second, environmental management research in regenerative tourism needs to be carried out, especially for more remote areas. Third, research on cultural commodification in the context of community-based tourism needs to be explored further to find a balance between cultural preservation and economic development.

The findings of this study show that regenerative community-based tourism in Samosir can have a positive impact on the local economy, cultural preservation, and environmental management. However, to ensure long-term sustainability, fair and inclusive management must be a top priority. In addition, challenges related to cultural commodification and dependence on external stakeholders need to be addressed wisely through more autonomous and participatory policies for local communities.

## **Conclusion**

The conclusion of this study shows that regenerative community-based tourism in Samosir Regency has a significant positive impact on improving the local economy, cultural preservation, and environmental sustainability. The tourism sector makes a significant contribution to household income, with around 30% of household income in some villages coming from this sector. Nonetheless, economic distribution inequality remains a concern for those living in more remote and less accessible areas. Therefore, it is important for governments and other stakeholders to ensure that the benefits of tourism can be felt equally by all communities, especially those who are marginalized.

From the environmental side, the results of the study show an increase in waste management and awareness of the importance of nature conservation, which can be seen from the increase in community participation in conservation programs.

Despite the success in this regard, there are still challenges in waste management in remote areas, which points to the need for better educational programs and facilities to support broader environmental management. This is because uneven environmental management can reduce the expected positive impact of the regenerative tourism model.

Meanwhile, the level of community involvement in tourism management is also very high, with 70% of people actively involved in various tourism-related activities. However, challenges arise from dependence on external stakeholders, which often reduce people's autonomy in decision-making. This research emphasizes that to ensure the long-term sustainability of the community-based tourism model, it is necessary to strengthen the managerial capacity of local communities in order to manage their tourist destinations more independently.

Culturally, although the preservation of local culture has a positive impact on community-based tourism, which is shown by the increase in income from culture-based activities such as arts and crafts, there are also challenges related to cultural commodification. Some communities report that their culture is sometimes treated as a commodity for the benefit of tourists, which can reduce the value of the culture itself. Therefore, this study recommends that more policies support cultural preservation by avoiding excessive commodification, so that local cultural traditions are respected and preserved.

Overall, this study shows that regenerative community-based tourism in Samosir can be a successful model in boosting the local economy and preserving the environment and culture. However, to ensure long-term sustainability, more inclusive and equitable management is needed, which prioritizes not only economic benefits but also social well-being and cultural and environmental preservation. Fairer policies in the distribution of benefits, more equitable environmental management, and strengthening the capacity of local communities in tourism management are essential to increase the success of this model. This research also paves the way for further studies, especially regarding the development of a more equitable profit distribution model and ways to address the problem of cultural commodification in regenerative community-based tourism.

## Declarations

No ethical issues have arisen during the study, and all procedures followed comply with the ethical standards.

## Authors contribution

All authors contributed substantially to this research.

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## Data availability

All data used in this study are derived from publicly accessible documents, official reports, and publications.

## Declaration of interest

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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