



Past, Present and Future of Ecotourism, A Systematic Literature Review from Last Decade

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ABSTRACT

The environmental appreciation calls for broader concern to people and organizations around the world toward environmental sustainability while travelling. The contribution of this study is to review the literature of the last five years, from 2011 to 2020, from the Scopus database, which relates to the topic of ecotourism. The PRISMA statement concept is used to explain the process of selection and rejections of articles for the literature review. Finally, 47 articles are reviewed, selected, and analyzed to fill the existing theoretical gap of ecotourism. The outcomes of the literature are classified according to three main sections include the authors, variables used or tested, and the core findings. Inevitably, this literature review concludes that ecotourism leads to tourism which aims to protect the environment while progressing the economic growth without the need to scarify the nature and the habitats of flora and faunas. It is also a growing trend, which ecotourism can be widely publicist through social media forums with the key aim to preserve nature and attain environmental sustainability.

Keywords: Ecotourism, Sustainable Tourism, Tourism, Environmental Sustainability

JEL Classification: Z

Recibido: 9 de Enero de 2021

Aceptado: 16 de Marzo de 2021

1. Introduction

The environmental appreciation calls for broader concern to people and organizations around the world toward environmental sustainability while travelling. In the 1980s, the concept of ecotourism is simply perceived as tourists visiting nature for enjoyment and expose itself to the education about treasuring the environment [1]. However, the concept of ecotourism is comprehensively built in the 21st century which blending in the critical elements of environmental conservation, fostering economic development, and engaging in social inclusion for cultural preservation, human rights, and relevant ethical issues [2]. In general, the tourism industry contributes a considerable amount to the economic growth of the host nation such as new jobs or new business venture creations, generate income for the hotel industry, food and beverage industry, transportation, and guiding services. However, the consequences of an unsustainable tourism lead environment pay the price. Most of the critics believe that tourism is destructive. From the news, many cases are reported which show the consequences of massive in-flow of tourists visiting an area that leaves nature in lousy shape [3]. Noise pollutions, declining air quality from transportation, accommodation-related activities which cause water pollution, and waste generated that rendered biodiversity loss are vivid [4]. Therefore, the concept of ecotourism not only educates the tourists about their responsibility in conserving nature but also helps the host community growth in an economic generation [5].

The International Union for Conservation of Nature in 1992 agrees that there is a threat to nature associate with tourism. The authority urges that tourism has to be developed in a sustainable manner [6 - 8]. The sustainable ecotourism development needs to implement appropriate planning, integrated and inclusive management with three main principles: culturally appropriate, economically viable, and ecologically sensitive [9, 10] . On the other hand, [11] emphasizes that ecotourism should interconnect within three issues: protect the environment, not exploit the local people, and respect the social-cultural traditions of the host community. The sustainable ecotourism development needs to implement the appropriate planning and integrated and inclusive management, the sustainable ecotourism needs to implement three main principles, it must be culturally appropriate, economically viable and ecologically sensitive [9]. [10] In the same way, [11] present that the ecotourism is must be interconnecting with three interconnecting issues, it must protect environment, not exploit local people and it must be respect the social-cultural traditions of the host community and must ensure benefits flow to local communities. Sustainability of world of tourism is based on community-based ecotourism that focuses on environmental, social and cultural sustainability plays a crucial role in meeting challenges [12]. The local community is the protector of the natural environment and resources, areas, and they are also experts in cultural activities, environmental and livelihood.

For environmental sustainability is not possible without the individual [13], for that need to make awareness and environmental awareness. The multi-institutional support is vital for gaining success for the development of ecotourism. The world has mixed results and opinions about the ecotourism from evidence and outcomes [14]. Researchers believe that ecotourism is not possible to develop without the local community empowerment, generating opportunities for the residence and educate them about tourism [15]. The increase in population and limited area of natural resources is decreasing down with period, that is another problem for the ecotourism. The policy implementation and principles of ecotourism are very much failing in a situation like that (HORTON,2009). Development of ecotourism also creates many opportunities for growth, like creating new jobs, new business ventures for hoteling industries and transportation and guiding services. Some cultural benefits in terms of diversification and monetary also rise with ecotourism[16], [17,18]. Tourists get aware of the local cultural souvenirs and local foods; this is directly beneficial for local people. In the case of marine communities and islands, marine tourism is creating more economic growth.in the mountain areas, porter and guides jobs are usually more for local communities [19]. In some cases, the development of ecotourism also reason for the growth in the production system, like local handicrafts, agriculture products, and services, steaming from many consumptions by the tourists. The people who are related to the livelihood, positive word of mouth create opportunities for the livelihood sector gradually. That

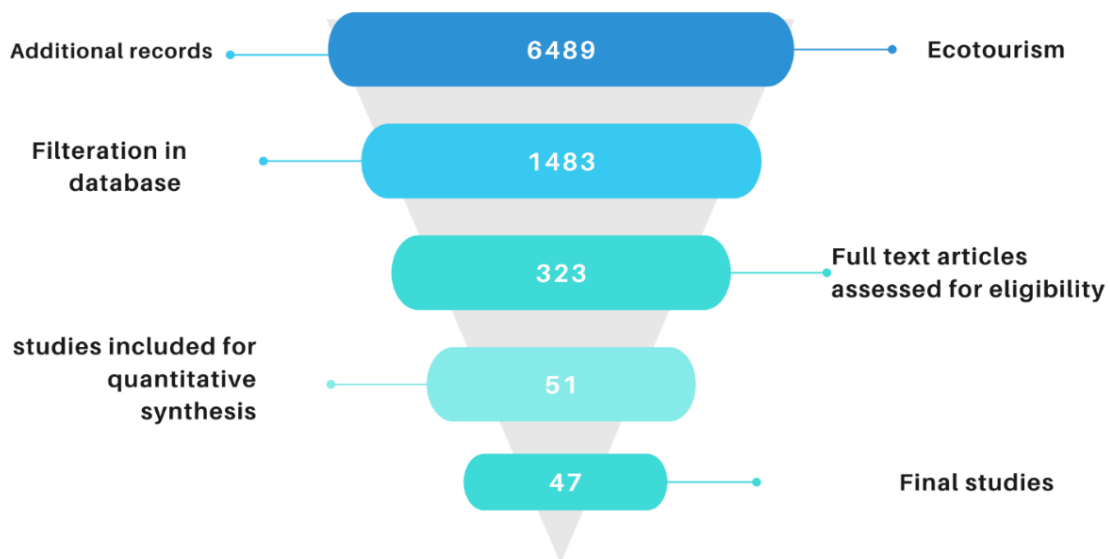
is a positive sign for people are involved in timber smuggling and fishing turn to ecotourism activities, the reason is tourism is a higher income-generating sector[20]. The proper and conceptual interpretation of ecotourism explains that all problems situated with the tourism solved by the ecotourism., like economic development, environmental conversation, poverty reduction, and cultural preservation with the aim to educate the tourists about all problems [2].

This study has reviewed the literature of the last five years from 2011 to 2020, Scopus database, which relates to the topic of ecotourism. All highly cited research papers are included in this study (with the minimum citation of 10) to ensure the quality of this study. Microsoft excel sheets are used to record these research papers. The main objective of the study is to find out the research gap in ecotourism. In the last section, the researchers suggested the relevant policymakers improve ecotourism.

2. Methodology

The most recent attention to environmental sustainability which pays more value towards ecotourism has attracted the researchers to explore the implications of ecotourism from different dimensions. The study analyzed the past literature through a systematic literature review (REYES, 2015). The PRISMA statement is used to guide the process of selection, acceptance, and rejections of articles. Through literature research, the Scopus database is used to find literature with the keyword of ecotourism. The total number of articles from the database is 6489. When the research limited the year range from 2011 to 2020, the new number is 2376. The process is needed to filter more quality of the review, language and subject are selected for assessment, and numbers are reached to 1791. English language published literature is selected for the review. The PRISMA diagram 2009 shows that the subjects of Social Sciences, business administration, and Environmental Sciences are the subject's areas to include the literature articles for the review. The 1483 Articles include after the subject's selection and in the eligibility section of the PRISMA diagram only open access Articles of Scopus database are used for review and record are limited to 323 papers that were available in open access in the Scopus database. The data is imported to excel sheets for further assessment of the literature. The excel sheets are extended into more sheets to find out the highest citations Articles and analyzing the year-wise publications. after the selection of a minimum of 10 times cited paper only 51 Articles remain on the eligibility criteria. The four studies are also excluded after the detailed studies of the article's due irrelevancy with the subject. The final 47 articles for the review are selected to analyze the literature to find the gap and direction of ecotourism.

Figure1: PRISMA diagram (2009)



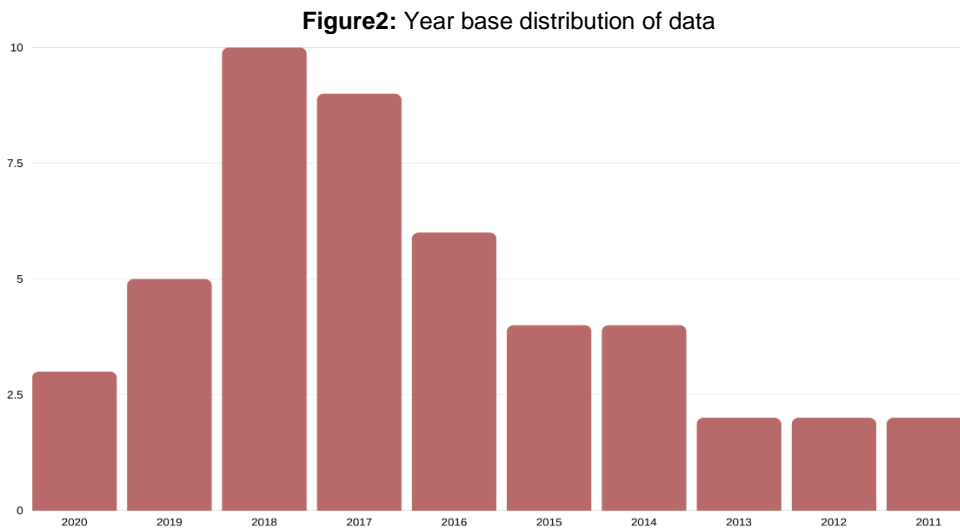
3. Eligibility and Inclusion Criteria

The checking and eligibility criteria of research articles are moved through highly critical and accurately observed ways to enhance the best possible articles for the process. For the language selection, only English language articles are included for the review, and the database ignores other language articles. The research article from the database is selected from three significant subjects, Business administration, social sciences, and environmental sciences. But also make sure the papers from all journals of the database must be considered for more better and quality results. The open-access articles are considered for the review.

4. Studies Included in Qualitative Synthesis

The final 47 studies are used for the final process, find direction and research done by the researcher in the year 2011 to 2020. The year base analysis is done to find out the annual publications and most cited papers are also be explained through the graph. The subject wise research is also explained in the graph to show the number of papers is include and exclude for the review. The journal base and most cited papers are also discussed.

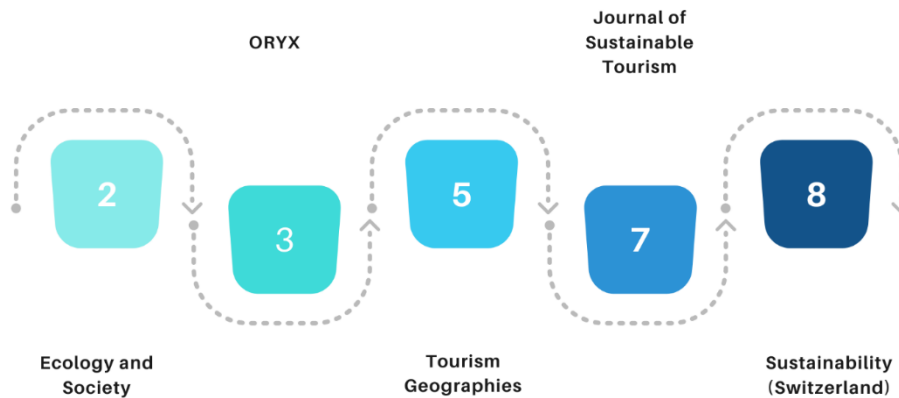
The year-wise publications, according to the most cited papers, are shown in the diagram. The year 2018 is highest number of studies contributing for the current study and number is ten. The year 2017 is contributing nine articles with second in the list. Year base selection is showing the number of articles from each year selecting for the current literature review. Figure two is showing the details of each year article included for current study.



The journal base selection of articles is complete and the number of journals in the Scopus database selected for the review. The sustainability Switzerland has the maximum number of the articles.

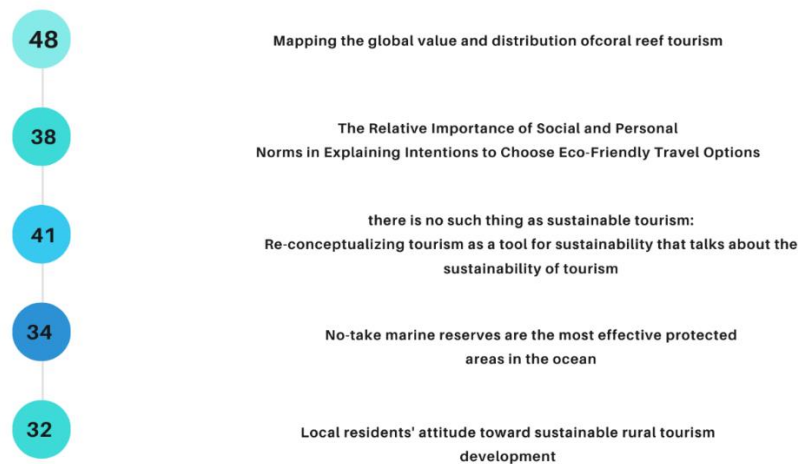
Contributing to the study. From the journal eight articles are included for current review. The selection criteria were set for every journal that was equally the same, and more than ten cited paper is selected for the review due to find the research gap and allocate the future research direction in ecotourism. The second journal with the high number of articles in the journal of sustainability tourism with seven articles fulfils the criteria for the review. The five articles from the journals are tourism geography and journal ORYX contributed three paper for current study. Figure three is showing the number of articles from each journal that are included for current study.

Figure 3: distribution of data from journal base criteria.



The review on ecotourism selection criteria is formed based on most numbers of time cited a paper, and earlier we discussed that the minimum criteria are an Article is cited by ten times. In the process of selecting the paper, which is the highest time cited is Mapping the global value and distribution of coral reef tourism. The article is cited 48 times and shown in the graph also. The paper is talking about the distribution of coral reef and figure 4 is showing the details of most cited papers. The second study is cited by 38 times, The Relative Importance of Social and Personal Norms in Explaining Intentions to Choose Eco-Friendly Travel Options. The third most cited study is, there is no such thing as sustainable tourism: Re-conceptualizing tourism as a tool for sustainability that talks about the sustainability of tourism. The other selected theories are also cited most of the time and shown in the graph. The selection process of the articles done on the excel sheets and minimum cited papers is ten times, and the maximum in the study is 48 times.

Figure 4: distribution of articles on basis of most citations



5. Classification

the literature selected from the past research is processed on Microsoft excel sheet and analyze every study very profoundly, and classification is arranged according to the nature of the literature. The literature is classified according to the variables used in past research and categorized all the variables are further distributed into the three main sections in which the author, variables and core findings are discussed in detail and also shown in the table 1.

Table 1: Classification of data on author, variables and findings

Authors	Variables	Findings
Wang, S.-H., c. Jeuring, J.H.G, Aall, C. Muresan, I.C.,	Sustainable tourism	Findings indicate that residents see tourism as a development factor. The natural, economic, and social-cultural environment as well as infrastructure, age, gender.
Maciejewski, K., Yusof, N., Gezon, L.L., Madliger, C.L.,	Ecotourism	The findings of community equity acknowledge the need for balanced evaluations of tourism's effects.
Han, J.H., Santos-Lacueva, R.,	Climate change	Results showed that perceptions toward climate change and tourist experiences affect Korean tourists' environmentally responsible behaviour intentions, whereas tourists.
Villanueva-álvaro, J.-J., Garau, C.,	Rural Tourism	analyze the rural establishments from a global point of view and, depending on their category, explain the factors which determine the sustainable behaviour.
Spalding, M., Shutt, K., Cohen, S.A.,	Tourism, Wildlife, Value, Transport	Distance rule by observers and with medical intervention but not with other measures of social pressure. Our findings provide critical information for the management
Man, H., Meo, I. D	Forest reserves for ecotourism	The results show that people prefer the open mixed forests with an irregular structure and some visitor facilities such as paths and refreshment points.
Sala, E., Symons, J.,	Marine ecotourism	The population under study is currently listed as critically endangered. Understanding whether these predicted energetic impacts affect an individual's vital rates will provide
Penz, E.,	Carbon emissions	individuals' ideas of their perfect holidays were captured to allow a better understanding of their motivation.
Boys, K.A.,	Agriculture Tourism	These results were varied significantly across demographic segments of the sampled population, respondent tastes and preferences, the health status of their family, and the extent to which they were early adopters of new products.

6. Sustainable Tourism

[21] pointed out that tourism is a factor of development for social-cultural environments, natural and economical for the development of the infrastructure. The development of sustainable tourism is new human requirements and future tourism industries to develop the quality lifestyle of the human. On the other hand, unsustainable tourism is a bit problematic according to the [22], in terms of water quality, living standards, air pollution, wildlife habitat disruption, and natural environment disturbance. That also changes the characteristics of community social values and culture.

The [23] also empowering the concept of sustainable tourism, sustainable tourism development is coming from educational factors and moves the community toward economic growth and infrastructural development of the environment. Tourism-related to all the factors for the sustainability of the environment and ecotourism. Some of the other views are in different ways in the literature; they argued that sustainable tourism not achieved due to the lack of effective environmental policies. The economic conditions, political influences, and institutional barriers are a reason not to implement sustainable tourism. The economic growth and prosperity are the main phenomena to achieve in modern time and for sustainability that is very difficult to adapt without the growth [24]. There are three founding principles of sustainable tourism according to [24] environment, economic and socio-cultural.

7. Ecotourism

The way environmental sustainability is raising the agenda of nations and organizations about the protection and conservation of natural environment and resources, ecotourism is a vital role in the achievement [25]. [26] found that ecotourism is potentially best when conserving the natural environment and well-being of local and rural communities and educate the tourists about the culture and traditions. To understand ecotourism, we need to update the relevant resources and potential of different locations. The first step is to develop tourism and after that concept of ecotourism implement in the field. The conversation of natural environment is discussed by author in the literature. The ecotourism is till now ignoring the local community and does not adequately long term effect for the given area [27]. The old dilemma of preservation is the tension between ecology and tourism. Then some researcher in past literature think that ecotourism is the process of change and in some conditions, its sustainable activity but for the sustainability need management, compromises and balancing of interest will be required [28].

8. Climate Change

Climate change is the priority of the world and has many threats to civilizations. The tourists are more focused and determine the climatic changes that occur in the environment. Socioeconomic drivers are usually behind climate change, and the result is global warming. The other reasons for climate change intensify the secondary effects of climate change that are due to global warming. Literature is concerning about climate change for the tourist's destinations that affect the flow and perception of tourism. Climate change is one of the scorching issues for researchers in modern times due to rapid changes in the environment of the world. The third world countries are more affected by climate changes like weather changes are unpredictable.

9. Tourism

Tourism is an activity to generate the right amount of revenues for nations, which is also a multi-cultural activity. The literature discusses the values and services need to develop sustainable tourism in the host countries. The researchers are focusing on dimensions of tourism to promote sustainable tourism and ecotourism among the tourists. Tourist destinations are having a problem with over tourists that cause more issues in the future. Natural environment conservation is possible to achieve by educating the tourists and the local community about the process of managing environmental issues [29]. Some studies in the past contribute literature on wildlife tourism, and Wildlife tourism is one of fast-growing tourism in the international market in recent years. It has been advocated a viable tool to the conservation of species and habitats for conservation of wildlife to achieve economic growth [30]. Tourists are desire close, personal and wildlife encounters with species. Literature also focusses on transportation tourism that is immerging in the sector in the tourism industry, and the transport sector is one of the prime sources of CO₂ emissions and approximately 23% of the tourism sector [31].

Tourism value, according to literature, is relatively significant and thorough. Tourism adding values are mostly described critically in adventure tourism. Young, educated, and thrill-seeker tourists are spending massive money on adventure tourism. Adventure travellers are usually travelling to rural and remote areas and sometimes extreme environments for emotional hoghs, risks, challenges, excitement, and novelty [32]. Tourism value, wildlife tourism and transport tourism are points of discussion in the literature during the years 2014 to 2018.

10. Rural Tourism Sustainability

Rural tourism in recent times assumed a new phenomenon significance, which is sliding hikes of practices in the tourism industry. Changing countrysides, globalization and tightening up the competition between the old and traditional visiting sites and newly discover destinations open more

options and expectations for the tourists to visit less explored and minimum visitors. For new destinations, cultural and traditional activities, tourists are looking for rural tourist spots. Managing and maintaining a sustainable environment is challenging [32]. Rural tourism can bespeak when there were strong links between productive and economic activities. The three main ingredients of rural tourism are integration, sustainability, and endogeneity. Some researchers mention in the literature that rural tourism is beneficial for regional development [33]. The rural tourism is nature-related, and the sustainability of rural tourism is keenly based on community development.

Technology involvement for rural tourism development allowed to form a more diverse and dynamic relationship between tourists and its rural area cultural heritage and regional development. Technology open directions for tourists to travel for away areas according to desire time and days. The rural areas weather forecast, hotel bookings and travelling time can easily estimate before the selection of rural areas is visit [34]. For rural tourism achievement, social fabric and local business community are keys to achieving the sustainability of rural tourism. That must be centralized control that can be communicated and interact with all the segments and regions and some time mediate them [35]. For the globalization purpose, rural areas develop the structure that is providing the infrastructure for the tourists travel to the region. The rural tourism can be concluded in a way that for sustainable rural tourism policymakers need to make the centralized formation of information to communicate tourists. Rural tourism can not be achieved at a sustainable level without the involvement of the local community.

11. Forest Ecotourism

Biodiversity crisis will emerge more strongly in the coming years due to the heave economic development and population growth of the planet. Forests have escalating threats, and new societies are constructed over the years to adjust population. That will not be limited here; the agricultural activities and production unit will also take place in the future to full fill the needs [8]. The process will create more critical issues for climate change, and CO₂ emissions will also get rise over the years due to growing economic activities. That is also a question for the survival of forest habitual, wildlife and species around the corner in the forest. The timber demand also rises due to massive construction for infrastructure development. There is a large population that is living inside the forests; they are using forest resources as per the natural process. The using strategies to use resources and conservation of the environment is called ecotourism, due to acquiring economic growth and conservation. Ecotourism is for educating the community and business lot about the utilization of forest resources appropriate manner is essential for sustainable execution [36]. In developed societies, Non-governmental organizations are playing a vital role in education about forest ecotourism and sustainability. Literature is also creating awareness among researchers about forest development and preservation [37]. Third world countries have less awareness about the conservation of the environment, and forests are escalating rapidly. Ecotourism could lead and control forest loss because it contributes to the economic development and related processes that drive deforestation [38]. Tourism inherently leads to market integration; the second factor that is related to deforestation. Researchers discuss the regrowth of a forest, and sustainable tourism is not possible without the forests.

12. Marine Ecotourism

The marine system considers the biological diversity in reef environments, with the impact of ecological, social and economic importance. They are complete hub fo resources, protect wave actions and creating new jobs through tourism and marine recreation. Not only limited to certain benefits, but humans also taking advantage of medicinal substances sources [39]. Marine protected areas intend to protect all or some part of the marine ecosystem. Marine reserves are primarily protected by not allowing extractive activities. And other areas partially allow the extractive activities in different degrees [40].

Some researchers are consistently in literature in the years 2010-2010 consider marine protection a precious initiative. Marine reserves are the most effective kind of Marine Protection Areas. Marine protection areas restore the biomass and structure of fish assemblages. Marine reserves are not problematic for oceans, but the supply significant ecological and economic development outside the boundaries [41]. Biodiversity is locally controlled marine reserves a handy tool, with economic advantages, enhancing the fisheries sector, developing the tourism and maintenance of ecosystem services. Marine tourism is gradually increasing and tourists from different areas of the world like to visit and enjoy marine areas. But the disturbance of the ecosystem is a problem for marine life. Protecting marine life, the development of ecotourism is essential due to the protection of marine reserves [42]. Literature supporting many studies about the protection of marine reserves for economic development and visitors' arrival.

13. Carbon Emissions

Tourism is the most acceptable contributor in the economies and every country promoting the tourism industry to create new opportunities. These opportunities are brought some threats and problems with them, economic prosperity and job-generating process cause of carbon emissions (CO₂) from the energy using process [43]. carbon emissions are the very critical phenomenon of modern times, discuss by literature. The tourism industry is a significant contributor to carbon emissions; visitor's transportation is most producing carbon emissions. The researchers are driving to promote ecotourism to control carbon emissions for environmental sustainability [44]. Sustainability is one of the prime discussions of researchers in the current literature; tourism development toward ecotourism is a step to control carbon emissions due to damages and threats to human civilization. International forums are also keenly observed activities related to the control of carbon emissions and monitor the tourism sector everywhere in the world to escalate carbon emission issues. Achieving economic indicators, the expansion of tourism is necessary, but education for the sustainability of the environment is also essential for the survival of next generations [45]. Literature from 2010-2020 is very much limited to carbon emission from the eco-tourism point of view. That is an important direction for the researcher to enhance research and literature in the coming years. The growth of the tourism sector and promotion of ecotourism is having a close relation with carbon emissions. Minimization of environmental harm activities is increasing in literature and social level. Researchers need to identify the areas and destinations in literature.

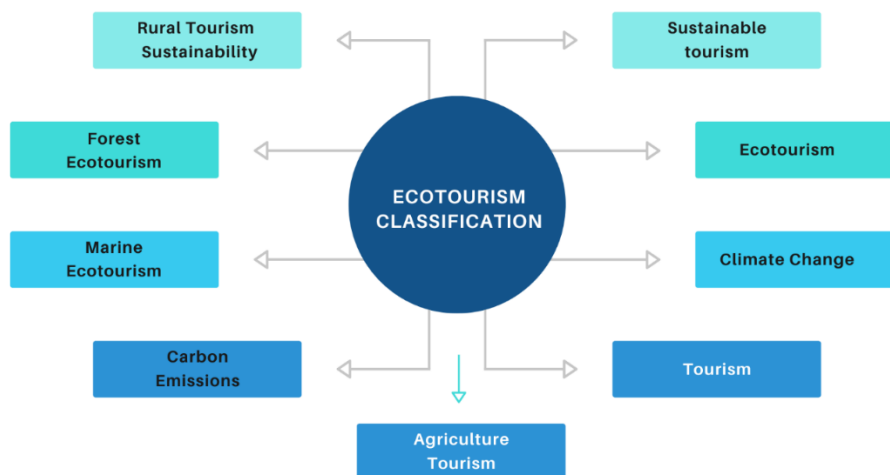
14. Agriculture Tourism

Farm-nature and agricultural tourism is created by the businessmen and farmers to make visits for educational purpose or visiting enjoyment purpose. The purpose of agricultural tourism to generate revenues from agriculture and nature. Maximum people don't have interaction and contact with agriculture; agricultural tourism creates an opportunity for the non-farmers to understand the mechanism of farming and suggest and contribute to the field [46]. The process is entirely made for agricultural revenues to increase and support the sector. Economies depending on agricultural tourism are a need to format agro-tourism for rising in production demand. Developed and prosper economies are a technological advancement in the sector and enhancing the ability to produce with the time, but underdeveloped and developing parts still have the potential for agro-tourism [35]. Researchers' contribution to agro-tourism is limited in the study due to meagre literature available from the years 2010-2020. Potential for agro-tourism is growing due to more needs and demands for the agricultural products in the coming years. Population growth is emerging very rapidly, and visitors will feel the importance of agriculture more and researchers needed to enhance the research for agro-tourism promotion to fulfil the gap. Future directions are more important, especially for the economic growth and sustainability of the environment.

15. Conclusion

The literature demonstrates that ecotourism leads to tourism and facilitates an environment to achieve sustainability and economic growth. Most literature is concerning sustainability and economic growth of the tourism sector. Our point is that expansion sector creates many threats towards the environment and the preservation of the natural environment. Ecotourism is a central variable toward the sustainability of tourism and the environment. Literature explored the maximum directions of tourism and ecotourism during the years 2010-2020. Researchers are much focused and concern about the challenges that occur due to tourism expansion, but still economies need more revenues from the tourism sector. Rural tourism is needed to promote, more for new destinations are overcoming the pressure of tourists from urban tourism. Tourists are usually like to search for and visit new destinations, and they do not like to visit the same destination many times. Rural tourism also opens gates for mountain and adventure tourism options for visitors and literature discussed that youngster likes to involve in adventure and mountain tourism areas. Forest tourism also needs to expand, but the element of ecology is very doubtful. The literature explains that natural resources and habitual of the forest must be protected from large carbon emissions of tourism and industrial sector.

Figure 5: Classification of data derived from literature



The researchers believed that forest is an excellent source of economic development and natural resources for community living around the forests. Some studies are focusing the marine resources and marine protected areas; marine tourism is also an excellent contributor to revenues generated from the tourism sector. Indeed, ecotourism needs to penetrate more in the tourism sector, the common understanding cited by the researchers and tourism sustainability is achieved through ecotourism education in all factors involved in the tourism industry. Education is essential for tourists and the community both for protection and conservation of the natural environment around the tourist's destinations. Conservation of cultural values of tourist destinations is more compulsory according to the literature. Tourism sustainability is complete without technology is harder in modern ages. Technology-based tourism is more powerful as compare to conventional mediums used for marketing. This literature discussion is very much limited to the technology orientation in the tourism industry and figure five is showing the outcome results of data from literature. Future researchers can use the direction of technology and digitalization of mediums that are involved in tourism promotion. Digital mediums and social media power are one of the premium tools for marketing and awareness for ecotourism activities.

16. Future Research

Future research for researchers makes more directions from this study. Therefore, ecotourism can be achieved by using digital mediums and social media forums. That can also help in the development of tourist options for selection of destinations, hotel bookings, weather and distance to travel the

areas. Social media forums have also united the locals and tourists on the forum, and that is helpful for the promotion of the cultural heritage of destinations.

References

1. F. Brey, S. Guggenbichler, and J. Wollmann, "Ecoturismo Mexicano.," *Vasa*, 2010.
2. H. M. Donohoe and R. D. Needham, "Ecotourism: The evolving contemporary definition," *J. Ecotourism*, vol. 5, no. 3, pp. 192–210, Dec. 2006, doi: 10.2167/joe152.0.
3. M. I. Qureshi, N. Khan, S. M. Ahmad Hassan Gillani, and H. Raza, "A systematic review of past decade of mobile learning: What we learned and where to go," *Int. J. Interact. Mob. Technol.*, vol. 14, no. 6, pp. 67–81, Apr. 2020, doi: 10.3991/IJIM.V14I06.13479.
4. A. Balmford and W. Bond, "Trends in the state of nature and their implications for human well-being," *Ecology Letters*, vol. 8, no. 11, pp. 1218–1234, Nov. 2005, doi: 10.1111/j.1461-0248.2005.00814.x.
5. S. Sriarkarin and C. H. Lee, "Integrating multiple attributes for sustainable development in a national park," *Tour. Manag. Perspect.*, vol. 28, pp. 113–125, 2018, doi: 10.1016/j.tmp.2018.08.007.
6. C. Betz, D. Mihalic, M. E. Pinto, and R. B. Raffa, "Could a common biochemical mechanism underlie addictions?," *Journal of Clinical Pharmacy and Therapeutics*, vol. 25, no. 1, pp. 11–20, 2000, doi: 10.1046/j.1365-2710.2000.00260.x.
7. R. Sharpley, "Tourism and sustainable development: Exploring the theoretical divide," *J. Sustain. Tour.*, vol. 8, no. 1, pp. 1–19, Feb. 2000, doi: 10.1080/09669580008667346.
8. A. Riasi and S. Pourmiri, "Examples of Unsustainable Tourism in Middle East," *Environ. Manag. Sustain. Dev.*, vol. 5, no. 1, p. 69, 2016, doi: 10.5296/emsd.v5i1.8705.
9. E. Cater, "Ecotourism in the third world: problems for sustainable tourism development," *Tourism Management*, vol. 14, no. 2, Pergamon, pp. 85–90, Apr. 1993, doi: 10.1016/0261-5177(93)90040-R.
10. D. J. Cosgrove, "ASSEMBLY AND ENLARGEMENT OF THE PRIMARY CELL WALL IN PLANTS," *Annu. Rev. Cell Dev. Biol.*, vol. 13, no. 1, pp. 171–201, Nov. 1997, doi: 10.1146/annurev.cellbio.13.1.171.
11. S. Chalker, "Pedagogical grammar: Principles and problems," 1994.
12. U. Epa, O. of International, and T. Affairs, "Memorandum of Understanding between United Nations Environment Programme and EPA," *fusion4freedom.us*. 2011.
13. F. Higgins-Desbiolles, "Indigenous ecotourism's role in transforming ecological consciousness," *J. Ecotourism*, vol. 8, no. 2, pp. 144–160, Jun. 2009, doi: 10.1080/14724040802696031.
14. N. Khan and M. I. Qureshi, "A systematic literature review on online medical services in Malaysia," *Int. J. online Biomed. Eng.*, vol. 16, no. 6, pp. 107–118, 2020, doi: 10.3991/ijoe.v16i06.13573.
15. M. N. Bhatti, M. I. Qureshi, and K. Zaman, "FUTURE OF AIR TRAVEL INDUSTRY: RELATION OF GROWTH AND CONSUMER SATISFACTION."
16. C. Scarpaci and E. C. M. Parsons, "Recent Advances in Whale-Watching Research: 2012–2013," *Tour. Mar. Environ.*, vol. 10, no. 1, pp. 121–140, Sep. 2014, doi: 10.3727/154427314X14056884441941.
17. J. K. K. Reimer and P. Walter, "How do you know it when you see it? Community-based ecotourism in the Cardamom Mountains of southwestern Cambodia," *Tour. Manag.*, vol. 34, pp. 122–132, 2013, doi: 10.1016/j.tourman.2012.04.002.
18. N. Khan and M. I. Qureshi, "A systematic literature review on online medical services in Malaysia," *Int. J. online Biomed. Eng.*, vol. 16, no. 6, pp. 107–118, 2020, doi: 10.3991/ijoe.v16i06.13573.
19. N. Khan, M. I. Qureshi, I. Mustapha, S. Irum, and R. N. Arshad, "A systematic literature review paper on online medical mobile applications in Malaysia," *Int. J. online Biomed. Eng.*, vol. 16, no. 1, pp. 63–82, 2020, doi: 10.3991/ijoe.v16i01.12263.
20. H. B. Jalani, V. Sudarsanam, and K. K. Vasu, "A diversified assembly of 1,2,4-oxadiazol-3-amines: Metallic thiophile catalyzed chemoselective one-pot reaction of aryl isothiocyanates, amidines/guanidines, and hydroxylamine," *Synth.*, vol. 44, no. 21, pp. 3378–3386, Oct. 2012, doi: 10.1055/s-0032-1317504.

21. S. Wang *et al.*, "Broadband achromatic optical metasurface devices," *Nat. Commun.*, vol. 8, no. 1, 2017, doi: 10.1038/s41467-017-00166-7.
22. S. H. Wang, M. T. Lee, P. A. Château, and Y. C. Chang, "Performance indicator framework for evaluation of sustainable tourism in the Taiwan coastal zone," *Sustain.*, vol. 8, no. 7, p. 652, Jul. 2016, doi: 10.3390/su8070652.
23. I. C. Muresan *et al.*, "Local residents' attitude toward sustainable rural tourism development," *Sustain.*, vol. 8, no. 1, pp. 1–14, Jan. 2016, doi: 10.3390/su8010100.
24. C. Aall, "Sustainable tourism in practice: Promoting or perverting the quest for a sustainable development?," *Sustain.*, vol. 6, no. 5, pp. 2562–2583, Apr. 2014, doi: 10.3390/su6052562.
25. N. Yusof, F. A. Rahman, M. F. C. Jamil, and M. Iranmanesh, "measuring the quality of ecotourism services: Case study–based model validation," *SAGE Open*, vol. 4, no. 2, p. 215824401453827, Jun. 2014, doi: 10.1177/2158244014538270.
26. K. Maciejewski and G. I. H. Kerley, "Elevated elephant density does not improve ecotourism opportunities: Convergence in social and ecological objectives," *Ecol. Appl.*, vol. 24, no. 5, pp. 920–926, Jul. 2014, doi: 10.1890/13-0935.1.
27. L. L. Gezon, "Who wins and who loses? Unpacking the 'local people' concept in ecotourism: A longitudinal study of community equity in Ankarana, Madagascar," *J. Sustain. Tour.*, vol. 22, no. 5, pp. 821–838, 2014, doi: 10.1080/09669582.2013.847942.
28. C. L. Madliger and O. P. Love, "The need for a predictive, context-dependent approach to the application of stress hormones in conservation," *Conserv. Biol.*, vol. 28, no. 1, pp. 283–287, Feb. 2014, doi: 10.1111/cobi.12185.
29. A. Vega-Muñoz, J. M. Arjona-Fuentes, A. Ariza-Montes, H. Han, and R. Law, "In search of 'a research front' in cruise tourism studies," *Int. J. Hosp. Manag.*, p. 102353, Aug. 2019, doi: 10.1016/j.ijhm.2019.102353.
30. K. Shutt *et al.*, "Effects of habituation, research and ecotourism on faecal glucocorticoid metabolites in wild western lowland gorillas: Implications for conservation management," *Biol. Conserv.*, vol. 172, pp. 72–79, Apr. 2014, doi: 10.1016/j.biocon.2014.02.014.
31. S. A. Cohen, J. Higham, S. Gössling, P. Peeters, and E. Eijgelaar, "Finding effective pathways to sustainable mobility: bridging the science–policy gap," *J. Sustain. Tour.*, vol. 24, no. 3, pp. 317–334, Mar. 2016, doi: 10.1080/09669582.2015.1136637.
32. P. Williams and G. N. Soutar, "VALUE, SATISFACTION AND BEHAVIORAL INTENTIONS IN AN ADVENTURE TOURISM CONTEXT," *Ann. Tour. Res.*, vol. 36, no. 3, pp. 413–438, Jul. 2009, doi: 10.1016/j.annals.2009.02.002.
33. P. Hillmen *et al.*, "The complement inhibitor eculizumab in paroxysmal nocturnal hemoglobinuria," *N. Engl. J. Med.*, vol. 355, no. 12, pp. 1233–1243, Sep. 2006, doi: 10.1056/NEJMoa061648.
34. C. Garau, "From Territory to Smartphone: Smart Fruition of Cultural Heritage for Dynamic Tourism Development," *Plan. Pract. Res.*, vol. 29, no. 3, pp. 238–255, May 2014, doi: 10.1080/02697459.2014.929837.
35. R. Mcareavey and J. Mcdonagh, "Sustainable Rural Tourism: Lessons for Rural Development," *Sociol. Ruralis*, vol. 51, no. 2, pp. 175–194, Apr. 2011, doi: 10.1111/j.1467-9523.2010.00529.x.
36. I. Dhami, J. Deng, R. C. Burns, and C. Pierskalla, "Identifying and mapping forest-based ecotourism areas in West Virginia - Incorporating visitors' preferences," *Tour. Manag.*, vol. 42, pp. 165–176, Jun. 2014, doi: 10.1016/j.tourman.2013.11.007.
37. M. I. Qureshi, N. U. Khan, A. M. Rasli, and K. Zaman, "The battle of health with environmental evils of Asian countries: promises to keep," *Environ. Sci. Pollut. Res.*, vol. 22, no. 15, pp. 11708–11715, Aug. 2015, doi: 10.1007/s11356-015-4440-8.
38. J. S. Brandt and R. C. Buckley, "A global systematic review of empirical evidence of ecotourism impacts on forests in biodiversity hotspots," *Current Opinion in Environmental Sustainability*, vol. 32, pp. 112–118, Jun. 2018, doi: 10.1016/j.cosust.2018.04.004.
39. J. Symons, E. Pirodda, and D. Lusseau, "Sex differences in risk perception in deep-diving bottlenose dolphins leads to decreased foraging efficiency when exposed to human disturbance," *J. Appl. Ecol.*, vol. 51, no. 6, pp. 1584–1592, Dec. 2014, doi: 10.1111/1365-2664.12337.

- 40.E. Sala and S. Giakoumi, "No-take marine reserves are the most effective protected areas in the ocean," *ICES J. Mar. Sci.*, vol. 75, no. 3, pp. 1166–1168, May 2018, doi: 10.1093/icesjms/fsx059.
- 41.E. Sala *et al.*, "A General Business Model for Marine Reserves," *PLoS One*, vol. 8, no. 4, p. e58799, Apr. 2013, doi: 10.1371/journal.pone.0058799.
- 42.C. C. Vaughn and T. J. Hoellein, "Bivalve Impacts in Freshwater and Marine Ecosystems," *Annu. Rev. Ecol. Evol. Syst.*, vol. 49, no. 1, pp. 183–208, Nov. 2018, doi: 10.1146/annurev-ecolsys-110617-062703.
- 43.C. Tang, L. Zhong, and P. Ng, "Factors that Influence the Tourism Industry's Carbon Emissions: a Tourism Area Life Cycle Model Perspective," *Energy Policy*, vol. 109, pp. 704–718, Oct. 2017, doi: 10.1016/j.enpol.2017.07.050.
- 44.J. Zha, L. He, Y. Liu, and Y. Shao, "Evaluation on development efficiency of low-carbon tourism economy: A case study of Hubei Province, China," *Socioecon. Plann. Sci.*, vol. 66, pp. 47–57, Jun. 2019, doi: 10.1016/j.seps.2018.07.003.
- 45.M. Robaina-Alves, V. Moutinho, and R. Costa, "Change in energy-related CO₂ (carbon dioxide) emissions in Portuguese tourism: A decomposition analysis from 2000 to 2008," *J. Clean. Prod.*, vol. 111, pp. 520–528, Jan. 2016, doi: 10.1016/j.jclepro.2015.03.023.
- 46.A. M. Hjalager, "Agricultural diversification into tourism: Evidence of a European Community development programme," *Tour. Manag.*, vol. 17, no. 2, pp. 103–111, Mar. 1996, doi: 10.1016/0261-5177(95)00113-1.