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A REVIEW OF POSSIBLE IMPACTS ON TOURISM BY CLIMATE CHANGE

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ABSTRACT: Present review various issues related to current and future climatic change and its impacts on tourism. Tourism is married to good climate conditions, any attempt to divorce them could lead to danger. It is obvious that in late 20th century and now in 21st century also Climate change is global emerging issue and also at the same time Tourism is considered as one of the fast-growing industrial sectors for economy of any country. The issue of combating climate change should be more paramount than ever before and its proven by hockey stick graph that rate of changing climate due to anthropogenic activities plays a significant role. Now-a-days Tourism industry is considered as one of the most vulnerable highly growing industry. It is obvious that tourism cannot be at its best amidst adverse climatic change resulting in hash climatic conditions, flood, irregular rainfall pattern, drought leading to poverty etc. Tourism activities are pleasurable activities which can improve physical and mental health of the participants. tourism's expanding engagement with climate change, as it is currently unfolding, is not necessarily conducive to the interests of tourism sustainability. Inherent unpredictability, long-term timeframes, lack of directly tangible consequences or clearly identifiable villains, issues with credibility and vested interests and cost implications in an era of chronic economic uncertainty all combine to increase the likelihood of unsuccessful climate change policies and strategies. Additional complications arise within the tourism sector from the rudimentary state of knowledge about the relationships between the tourism and climate change, an apathetic and fickle travelling public and a reciprocally uncommitted tourism industry. Since last decade of 19th century impacts of climate change on tourism research and debates was started. And as its result many issues are found out.

KEYWORDS: Climate change, Tourism, Impacts.

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1.INTRODUCTION

Tourism is said to be one of the biggest and most dynamically growing sector of the world as it generates 11% of gross domestic product [GDP] and employs 200 million people. That tourism is a thriving industry worldwide is no more anew because it is either the backbone or one of the top three fastest growing industries. [2-4]. [5] pointed out that climate is a resource exploited by tourist. This resource at various times and locations are classified either as favorable or unfavorable. This is why climate should be treated as an economic asset for tourism development. Engaging in tourism activities without taking climate conditions into consideration is not unthinkable issue, because a tourism activity has a strong relationship with the climatic or weather conditions. Tourism is a component of various activities that depend on Meteorology [...weather] and climatology [long term climate change]. Unfavorable climate or change in weather can to a large extent affect the planner's decision [activities of the tourist], operations comforts, planning of tourist decisions and flow of tourist [6]. Adverse weather conditions has been known to cause flight delays, cancellations and re-routing which have a ways of affecting tourist movement. In recent times, it has been observed that the climate is changing Adversely. Climate change has become an issue of great concern to nations globally. As far back as in 1992 in Rio de Janerio about 35,000 people attended the biggest conference ever held called "The Earth summit" Representative from 178 countries were there to talk about the environment. The conference produced a report called "agenda 21" which presented 115 proposals about sustainable living from then to 21st century. It was proposed that to be able to tackle the challenge of climate change effectively by the year 2000, emissions of carbon-dioxide and other greenhouse gases must be reduced to the 1990 levels [7]. Recently, another summit on climate change was convened at Copenhagen by the United Nations secretary General, Ban ki moon; nearly 100 world leaders were represented. In his closing remarks, Mr. Ban said "there is urgent need to check climate change globally because the little time left for the opportunity and responsibility to avoid catastrophic climate change is in our hands" [8]. Climate information is vital for planning the daily activities of tourists who will always want to make best use of their holiday. Since climatic factors play significant roles in influencing tourists' behavior and the Nigerian government has recently chosen tourist development in her guest for economic diversification. Therefore, there is no doubt that the tourism industry may be affected greatly if current climate change continues without combating it globally. [8].

Climate change and Tourism

Tourism is married to good climate conditions, any attempt to divorce them could lead to danger. The issue of combating climate change should be more paramount than ever before. It is obvious that tourism cannot be at its best amidst adverse climatic change resulting in harsh climatic conditions, flood, irregular rainfall pattern, drought leading to poverty etc. Efforts of all stakeholders in the tourism sectors should be geared towards a safer cleaner environment in world [8]. Global observations suggest that climate change is well under way. At continental, regional, and ocean basin scales, numerous long-term changes in climate have been observed, including widespread changes in precipitation amounts; ocean salinity; wind patterns; and aspects of extreme weather including droughts, heavy precipitation, heat waves, and the intensity of tropical cyclones. Studies of the tropical Indo-Pacific region show unusual warmth in the 20th century, and many isotope records show a trend toward warmer conditions in the tropical Indian Ocean. In most multi-centennial coral series, the late 20th century is shown to be warmer than any time in the past 100 to 300 years. There is also scientific evidence as shown in the fourth assessment report of the intergovernmental panel on climate change [IPCC] that if emissions continue to rise at these current paces and are allowed to double from their preindustrial level, the world will face an average temperature rise of around 3°C this century. This is pointing to the fact that there will be sea level rise, drought, floods, and shift in growing seasons and so on.

- Global observations of melting glaciers suggest that climate change is well under way in the region, with glaciers receding at an average rate of 10–15 meters per year. If the rate increases, flooding is likely in river valleys fed by these glaciers, followed by diminished flows, resulting in water scarcity for drinking and irrigation.
- Increased precipitation including monsoonal rains is likely to come in the form of fewer rainy days but more days of extreme rainfall events, with increasing amounts of rain in each event, leading to significant flooding. Drizzle-type precipitation that replenishes soil moisture is likely to decrease. Most global models suggest that the summer monsoons will intensify. The timing may also shift, causing a drying during the late summer growing season. Climate models also predict an earlier snowmelt, which could have a significant adverse effect on agricultural production. Growing emissions of aerosols from energy production and other sources may suppress rainfall, leading to drier conditions with more dust and smoke from the burning of drier vegetation, affecting both regional and global hydrological cycles and agricultural production.
- Global observations of melting glaciers suggest that climate change is well under way in the region, with glaciers receding at an average rate of 10–15 meters per year.
- If the rate of glacial melt increases, flooding is likely in the river valleys fed by these glaciers, followed by a diminished flow, resulting in a scarcity of water for drinking and agricultural irrigation.

Climate has a strong influence on the tourism and recreation sector. For example, climate influences the environmental resources that are the foundation for tourism/recreation, the length and quality of tourism and recreation seasons, the health of tourists, and even the quality of tourism experiences. Even though most tourism demand studies focus on economic variables [10-12]. Climate has been identified as a key driver for tourism and an important destination attribute [12-13]. Climate is either the main tourism resource, for example, in the case of beach destinations [14], or it acts as a facilitator that makes tourism activities possible and enjoyable [15-17]. Research on the inter-relationship between climate and tourism started around the 1950s [18-21]. By the year 2007, climate change media coverage increased substantially and the tourism sector received increasing attention, in part due to the meeting organized by the UNWTO in Davos, Switzerland. This meeting highlighted the importance of climate as a tourism resource and the sensitivity of tourism activities to weather conditions and climate change sensitivity, which is manifesting itself already [18,22]. [23] stated that tourism has, today, emerged as one of the fast growing industries in the World and shows its importance in developing social and cultural linkages at the national and international level. On account of its multifarious and far-reaching benefits in terms of employment generation, foreign exchange earnings, improvement in living standard, modernization of infrastructure and contribution towards protection, preservation and conservation of our natural and cultural heritage, obviously becomes vitally significant for the developing economies as an agent to the holistic development. [24,25] stated in his study wherever a proper disposal system is not installed there may be pollution of ground water from the sewage of places like hotels, resorts and tourist's lodges. He also remarked that if the sewage of places has not being adequately treated before its outfall in a nearby river or lake, it would pollute the water of the area. "The Deterioration of Mountain," clearly point out the main cause of negative impact on tourism. He stated that the negative impacts arise out of unplanned and uncontrolled tourist flow in the destination. [26] noted that the performance of religious or historical ceremonies on demand, out of context and for monetary reward leads to cheapening of artistic values or commercialization of traditions and customs. [27-28] highlighted impacts perceived by the host community which included increased vandalism, increased price of goods and services, drug abuse, increased alcoholism, increased cost of land and housing and he again emphasized that the entrepreneurs were more positive towards tourism than other groups. [29] reported that unless specific steps are taken, tourist destination areas and resources will inevitable become over used, unattractive and eventually experience decline. [30] mentioned that in developing countries governments need to take an active role in fostering the tourism industry and be involved to some extent in its operations. They strongly supported that the more important tourism is in a developing economy, the greater is the role for active government involvement. [31], in his study titled "Tourism Carrying Capacity", he emphasizes the significance of carrying capacity of a destination. He pointed out that the measurement of the carrying impacts

of a destination is effectively considered as a point from where the negative factors starts to operate. The most important criteria in this respect is the physical one, since if an overcrowding is done by the large number of visitor of a limited place available in the destination, it would cause damage to the environment. [32] reported that tourism helps in conserving important natural areas through development of national park, reserves, and sanctuaries because they become the attraction of tourist. Without tourism these areas could not be developed and could remained ignored and hence could ecologically deteriorate. [33] wrote that if a tourist finds that the people are very charming and hospitable; he develops a close contact and even mutual understanding. Further this enhances the image as well as the intensity of attractiveness. So to satisfy tourists, the strongest means of publicity about any destination is the cordial and hospitable attitude of the people. He further stated that a tourist develops the image of the whole destination after coming contact with a very limited number of people. If fortunately, he happens to meet a good person, he will develop a fine image about that destination and it unfortunately he comes in to the clutches of an anti- social element or cheaters, then the whole edifies built earlier in his mind will be ruined all of a sudden. So, the single misbehavior with a tourist can prove fatal to the 100's of good behaviors, which ultimately exerts a negative influence upon the whole industry. [34] reported that residents of places with a longer history of tourism development are more aware of both positive and negative impact. [35] stated that there is close interlinking between tourism and environment. Tourism and environment exists together in harmony, the environment benefit from tourism, and vice versa. [36] point out that environmental consideration were ignored in architectural designs of hotels and dining which had lead to the consequences which are economically unpleasant and unprofitable. [37] stated the role of economies in the study of tourism demand and its forecasting, and to tourism and industrial organization as well as impact analysis [37] stated that suitable measures may be taken to tackle the items that are causing inconvenience to the tourists visiting Kerala. As a part of this, more information centers may be set up at places where tourist's presence is felt, and those centres have to be made capable of imparting accurate and up to date information. Regarding accommodation, the services rendered by government sector hotels must be improved. Facilities like toilets, drinking water and cloak rooms may be provided sufficiently for the tourists. [38] mentioned that as a result of increasing tourism activity, overcrowding is observed at most of the tourist's destination, which has resulted into loss of amenities for residents. The local residents sometimes face an awful position when they go to search residential accommodation on rental basis. [39] reported that many features of a tourist's area with its built-in environment attract the visitor but the continuous use of such are by the tourist generate environmental impacts and exacerbate the environment. [40] reported the possible trends in the structure of the international hotel industry. He identified that, as a result of the fact that the bulk of international travel takes place in the developed areas of the World; more than 80% of the World's hotel rooms are located in Europe and North America. Globally, the issue

of climate change and tourism has been gaining significant ground. In this context similar kind of research is a requisite in our country, particularly when the fourth assessment report of the IPCC depicts Hindukush-Himalaya including Nepal as a “white spot”, a region about which scientific information on climate change is limited or lacking altogether [41-43]. Climate and Tourism have a very close relationship, and this relationship is even more pronounced for coastal tourism, mountain tourism and nature-based tourism [44]. “Tourism is considered to be a highly climate-sensitive economic sector similar to agriculture, insurance, energy, and transportation. Indeed, climate change is not a remote future event for tourism, as the varied impacts of a changing climate are even now becoming evident at destinations around the world” [45]. Because of the importance of weather and environment to leisure demand, tourism is one of the sectors most likely to be affected by climate change. According to Simpson, emissions from tourism, including transports, accommodation and activities [excluding the energy used for constructions and facilities, for example] account for about 5 percent of global CO₂ emissions. In 2005, Tourism’s contribution to global warming was estimated between 5 percent and 14 percent to the overall warming caused by human emissions of greenhouse gases [46]. Exact figures are difficult to provide, tourism has a broad nature and various components which all contribute to a different extent to climate change [CO₂, heating, air-conditioning, construction, etc.]. Despite these difficulties, recent approximations estimate:

- Tourism is responsible of about 5% of global CO₂ emissions. In terms of radiative forcing, tourism contributes to 4.6% of global warming.
- The transport sector, including air, car and rail, generates the largest proportion, with 75% of all emissions. In terms of carbon emissions, air causes 54-75% while coach and rail 13%. Air travel is considered the main tourism contributor to global warming: It’s responsible for 40% of the total carbon emissions caused by this sector, and 54-75 of radiative forcing
- The accommodation sector accounts for approximately 20% of emissions from tourism. This involves heating, air-conditioning and the maintenance of bars, restaurants, pools and so on. Clearly, this varies according to the location and size of the accommodation, as well as the type of establishments – hotels having greater energy consumption than pensions or camping sites.
- Furthermore, activities such as museums, theme parks, events or shopping also contribute to certain amounts of emissions [approx. 3.5%]. [47]

Few steps to adapt and mitigate within the tourism sector

Change of operating patterns - given that winter sports, beach or health-wellness tourism, no name but a few, require very specific climate conditions. The diversification of products and services decreases the dependency on climate shifts. Adaptation of tourist destinations - a difficult and long-term measure, which involves the modification of economic circuits, new technologies, intensive training efforts and especially changing the minds of all the people involved, including the tourists.

Mitigation of global warming - putting into action plans to reduce carbon emissions or modernize through carbon friendly technologies, amongst others.

2. CONCLUSION

Tourism sector with increasing trends in past few years providing large scope of opportunities and options for sustainable development of the country. At the same time its affected by global issue of 21st century for sustaining and it also generates various impacts on changing climate. Studies and researches are providing large scope to cope up with the issue of climate change for tourism development and also it generates wide scope for sustainable tourism for societal development, economic growth and environmental stability.

CONFLICT OF INTEREST

We don't have any conflict of interest.

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