



The radical outcomes of tourism development on the natural environment in coastal areas

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Abstract

This paper seeks to expose the radical outcomes of tourism development on the natural environment in coastal areas. Although tourism and the environment are intertwined and inextricably linked to one another, it is unfortunately generally the latter that usually suffers the consequences of both natural and anthropogenic effects. Coastal areas and the natural resources are sensitive, fragile and vulnerable therefore the need for conserving and protecting coastal zones is dire and non-negotiable if the principles of sustainability are to be assured. Arguably, the only palpable way of preserving the natural beauty while in consequence ensuring their sustainability, viability and profitability as a tourism destination is through the usage of well-planned strategies. Coastal tourism is a common type of nature-based tourism considered to be highly-strained and degraded as the sector that proves to be the fastest growing industry in the world. Probably coastal degradation is due to the fact, that 20% of the earth's surface contains coastal areas and more than 70% of the world's megacities are located in coastal areas which benefit from the coastal zones. Globally, coastal areas have been so popular to tourists primarily because of their various adventurous tourism activities that become a trump card for almost everybody including those that reside on inland areas. Similarly, coastal areas have been adversely undergoing some changes due to critical situations of losing their attractiveness due to lack of balance between anthropogenic tourism activities and natural environment operations. Research has proven that rapid and uncontrolled primary and economic anthropogenic activities of tourism development in the coastal zones have exposed the fragile ecosystems to an ever-increasing risk of environmental degradation. This paper therefore explores adverse or negative anthropogenic outcomes of tourism-related development on the natural environment of the coastal areas.

Keywords: Tourism development, nature, development, tourism impacts

Introduction

The development of tourism in the coastal areas has interfaced with the real and original characteristics of the area upon which it depends solely on for drawing tourists and as expected a holistic review of tourism research on the natural environment shows that nations do not give priority to environmental sustainability and disregard it to the benefit of economic development (Zahedi, 2008). Davenport and Davenport (2006) argue that physical development of tourism resorts, overutilization and exploitation of water resources, pollution emitted by vehicles, sewage and litter all contribute to an irreversible coastal environmental degradation.



The effects of tourism development on the physical environment is linked with an interference with the natural, anthropogenic, cultural or historical resources, which may be a reflection of the development of tourism service facilities, the preservation of ancient or historic and cultural resources, the provision of entertainment and recreation opportunities for tourists and residents, better roads and public facilities (Baysan, 2001). Altinay & Kashif (2005) postulate that tourism development puts strain and there-by affecting the natural environment of both terrestrial and the coastal areas in numerous ways, with some forms of tourism being associated with extremely detrimental effects on the ecology of the sensitive areas, resulting in the degeneration or destruction of natural habitats. The increasing development of tourism leads to an increase in the demand for land, especially for prime locations such as beachfronts, special views and high-lying areas such as mountains. This conceptual narrative research argues infers that without strategic planning controls and respect for the traditional or existing urban pattern, natural landscapes and open spaces, dubious consequences such as diminished vegetation (flora-fauna), deforestation, beach erosion and the disfigurement of the coastline can occur (Burak et al.,2004).

Zahedi (2008) argues that the fast and uncontrolled tourism development in coastal areas exposes their fragile ecosystems to a continuing and unstoppable risk of environmental aggradation and degradation, as tourism development also has an adverse effect on global warming through excessive energy use, transportation, water consumption and waste generation. According to Thoradeniya (2007) the enormous pressure of tourism development on coastal areas leads to coastal and the erosion of the sea, increased pollution, effluent deposits and discharges into the sea, loss of terrestrial and coastal habitats, escalating pressure on endangered species and increased vulnerability of coastal wetland plant species.

According to Mola (2012) the development of tourism, building of tourism facilities and infrastructure development in coastal areas regularly occur much closer to water resources and normally copes well with the demand of the tourists. Similarly, if the appropriate development is not well monitored and managed, there could be extremely adverse or negative effects and the consequence of a severe threat to the most vulnerabilities of the natural resources of the coastal areas. (Thoradeniya et al. (2007) and Hoque (2008) argue that the collection of relevant and succinct data on environmental effects of tourism development in coastal areas is so difficult because the accurate and exact negative effects of tourism development on the environment take time to quantify. Mola (2012) postulates that a number of countless range of negative environmental effects of tourism development on coastal zones have been identified by scholars and they include the loss of mangroves, erosion, accretion or saltation, loss of sand dunes, loss of endangered species, tidal ingress, sewage generation, garbage production, traffic congestion and different range of pollution.

Tourism excessive development

According to Mardomak, (2011) continuous rapid of uncontrolled tourism development in coastal areas has put the fragile ecosystem to an ever-increasing risk of environmental degradation. Ecosystems are the complex supportive systems of interconnections of plants, animals and physical and chemical factors that form natural environment (Shataei & Malek, 2005). Overcrowding, uncontrolled sewage disposal, boat-related waste, beach erosion, overfishing, and degradation and destructed wildlife habitats have been identified and reported as some of the negative results of excessive tourism development in the coastal areas (Mardomak, 2011). These become the detrimental activities that impact on the attractiveness of the raw materials of tourism in these areas. The sensitive ecosystems are also degraded and subsequently threaten the environmental quality of the area there-by depriving the next generations from being the recipients of biodiversity.



Ritchie et al (2000) argue that tourism has also affected global warming through excessive energy utilisation, transportation, water consumption, solid and liquid waste generation etc. A mutual link between temperature and the related phenomena of cloud cover, wind patterns and velocity, rainfall and snow cover and these in turn relate to both terrestrial and marine environments has been observed (Gharkhalou et al., 2009). The results of climate and natural dynamics revealed through research findings show unequivocally that man has intensified the greenhouse effect by raising the concentration of carbon dioxide in the earth's atmosphere which is accompanied by a rise in global average temperature, the rise of the sea level and changes in vegetation (Shataei et al., 2005). This geological change has therefore affected the aesthetic and the attractiveness of the environment which may decrease the tourism demand in the area. According to Tabnak News (2009) a better way of understanding or comprehending the positive and negative effects of tourism development on coastal areas is dire and necessary in order to mitigate and manage its negative effects on the natural resources and this will serve as the only mechanism to preserve all the coastal zones in a sustainable way.

Effects of tourism resort and accessory developments on the natural environment in coastal areas

Mola (2012) states that the coastal natural areas with its resources and precious landscape have high potential to become trump cards as tourism destination and are therefore exposed to change, this is caused by an increasing demand for tourists who search warm weather, sunshine, pristine nature, clean air and clean water. This is also perpetuated by a dramatic increase in demand for various types of holiday lodging along the coast due to exotic hotels, blocks of apartment, long houses, and complexes of villas. At the same time, the different sort of tourism infrastructure which led to the lack of environmental standard through the development and construction of tourism establishments, also revealed an equilibrium caused by a lack of balance between the tourism and natural environment and coastal areas which have subsequently made these areas susceptible to a risk of destruction and loss of their attractiveness (Gladstone, Curley and Shokri, 2013).

Davenport and Davenport (2006) argue that tourists resort require adequate transport link, since the explosion of cars and coaches contributes heavily to the development of extensive road networks around the coastal areas thus resulting to habitat loss and the augmentation of habitat fragmentation. They further assert that many coastal transport network were built primarily to connect resorts and sightseeing areas and these tourists resort have extensive car parking facilities which take more land/space particularly in coastal area. Coastal road network construction, tourists resort and car parking have substituted the natural habitat with concrete, tarmac while hotels, marina and sheet lighting now fringe most of the Mediterranean coast and its coastal system. The overbuilding and extensive paving of shorelines could result in the destruction of habitats and the disruption of land-sea connections (such as sea-turtle nesting spots) while coral reefs being fragile marine ecosystems are suffering worldwide from reef-based tourism developments (Hall, 2001). Various studies also suggest that there is a variety of negative effects to coral resulting from shoreline development, increased sedimentation in the water, trampling by tourists and divers, ship groundings, pollution from sewage, overfishing, and fishing with poisons and explosives that destroy coral habitat (Markovic et al, 2009).

GhulamRabbany et. al., (2008) postulate that the construction of hotels for recreation and other tourist attractions in coastal areas often lead to increased sewage pollution. Sewage runoff in coastal areas also causes a serious damage to coral reefs as it contains lots of nutrients that stimulate the growth of algae, which cover the filter-feeding coral hindering their ability to survive. Sewage pollution threatens the health of biotic and abiotic living in coastal areas (Young, 2014).



Davenport and Davenport (2006) postulate that the self-destruct theory of tourism development and the aesthetic natural place (tourist destination) is developed for an upscale exclusive market wanting low-density settlement and willing to pay top prices. In order to fill rooms, rates are lowered, and standards are proportionately lowered to an area a destination for mass tourism which may subsequently put pressure on the natural environment. According to Shahgerdi et al, (2016) the beaches are affected by construction of tourism establishments and recreational facilities in coastal areas in different ways, and sand mining for hotel and road construction weakens the beaches while erosion is accelerated by waves.

Effects of coastal tourism development on the natural environment

The environmental outcomes of coastal tourism development further impact on marine and fresh water pollution along the coastal areas through sewage discharge and in many cases direct into water without any treatment, and the disposal of considerable quantities of wastes are generated by tourism establishments (Markovic et al., 2009). According to Goymen (2000) coastal tourism development perpetuates pollution which becomes problematic on the environment, the convergence of boats, and this attributed to visitors and venders who generate a lot of litter on the coastal area. According to Lawton & Weaver (2000) tourism development in coastal area has caused potable water supply, sewage and waste-water treatment and solid waste disposal which sometimes constitute some negative effects in the natural environment of coastal areas. These authors also argue that the likelihood is that waste-water can threaten the quality of seawater once it gets contaminated, with the pollution level of tourism development in coastal area becoming so destructive to allow algal bloom to occur along the coast.

According to Gossling (2002) tourism development in coastal areas has the negative environmental consequences which could be observed as having effects in land cover and land uses, energy use, biotic exchange and extinction of wild species through pollution on the natural environment. There could also be an observation of the effects of tourist yachts and its discharges that result from marine pollution, excursion boats, car ferries and particularly, cruise ships. The 'floating towns' have a capacity of up to 4000 passengers which are considered as 'a major source of sea or marine pollution which is spout or accumulating through the dumping of rubbish and untreated sewage at the sea, and the spout of other shipping-related pollutions (World Wildlife Fund, 2007). Gossling (2002) postulates that construction facelifts such as that of hotels, aesthetic and recreation of other tourism facilities along the coastal areas often result to an accumulation of sewage pollution; seas polluted by wastewater, with lakes surrounding tourist attractions damaging the flora and fauna. Similarly, sewage runoff is destructive as it destroys coral reefs through the stimulation of the growth of algae, which then engulfs the filter-feeding corals thereby stifling or hampering their ability to survive. Salinity and siltation changes can have wide and various effects on the coastal environment and pollution from sewage can threaten the health status of anthropology and biotic species of animals living in the coastal areas (Gossling, 2002). The dearth of a suitable sewage system and lack of waste management when combine with pressure resulted from visitor's presence, makes the sea a source for disposal of garbage and waste which consequently bring about the pollution of the seafood and water (Shahgerdi et al.,2016).

Young (2014) argues that coastal environment has always been overcrowded and this is still continuing, population growth and explosion with related tourism developments exert an alarming pressure on ecosystems and coastal supporting life systems and pressure can be attributed to an increase of solid waste production, demands for water treatment, loss of beaches, loss of dunes, loss of green space and loss of wildlife habitat and through an increased need for anthropogenic utilities. As expected, as the coastal population increases in number, the natural tourism features that mostly attract visitors to the coastal environment are lost or diminished. Young also states



that tourism development also impact negatively on the surrounding communities and their culture which automatically tends to make their traditional lifestyle modified resulting to socio-cultural value and loss of identity of local population. All these negative effects may go well beyond the marine or coastal areas since the appropriate infrastructure is needed to enhance and support coastal tourism which can also extend over a wider region, the example may include housing development for employees, large shopping centres, roads and rail network.

According to young et al (2014) the consequences of the development of tourism on coastal areas include the following: ribbon development which stems from beachfront land utilization, environmental degradation caused by the removal of the natural tree cover along the coast, wetlands filled in or converted into open sewers, the pollution of the sea and beach by poorly treated waste-water from tourism resort on coastal areas, the removal and destroying of coral reefs by recreational activities with seawalls causes beach erosion. Hall (2001) also postulates that there are negative effects of tourism development on the coastal area which include coastal ecosystem degradation through economic tourism development activities, terrestrial runoff and dredging on coastal environment, destruction to coral reef and marine resources due to construction of tourist infrastructure such as runways, marinas, harbours, parking area, road network and use of coral limestone in hotels and resort development.

According to Phillips and Jones (2006) there has been evidence that tourism development in coastal areas damages sand-cay ecosystems, mangrove ecosystems, as well as coastal rainforest ecosystems, a loss of sand beaches and shoreline erosion which has subsequently led to loss of sandy beaches due to onshore development and construction of seawalls. It is also recognised that sea walls discourage beach formation and accelerate coastal erosion Holden (2000). The clearing and dredging of mangroves and estuaries for marinas and resorts development is another component of coastal environment which has been substantially affected by tourism development in coastal areas (Hall, 2001). Phillips and Jones (2006) postulate that the development of tourism has negatively impacted the coastal biodiversity and the entire environment through the effects of tourist activities on coral reefs. They further state that the vulnerability of coral reefs and adverse tourism development may result in a lower capacity to regenerate or the death of entire coral colonies. The resort construction, excessive visitation and tourism activities have destroyed coastal reefs, anchialine ponds, waste-water marshes, and mangroves, with the consequent loss of marine life and destruction of ecosystems, beach walking, snorkelling, recreational fishing, boat tours and anchoring have damaged coral reefs and grasses and have disturbed near shore aquatic life (Weaver & Oppermann, 2000).

The study has noted that the environmental impacts of tourism have generally been a concern for many environmentalists and as such it has been categorized by a number of researchers. The broad range of negative environmental impacts of tourism development which can be categorized into three major parts including resource usage, human behaviour and pollution have been discussed at length by many researchers including Holden 2000. Similarly, it is always emerging that most researchers argue and concur that since tourism competes with other forms of development and human activity for natural resources, especially land and water, more practical strategies to mitigate environmental degradation attributed to tourism should be enforced and implemented. So it is of vital importance that the usage of natural resources should subsequently lead to the transformation of ecological habitats and whilst the loss of flora and fauna is avoided. Holden (2000) also postulates that anthropogenic behaviour towards the environment contributes towards environmental negative impact of coastal tourism and this simply calls for action to be taken in as far as environmental education is concerned especially because tourists and local people are integral parts of tourism industry. According to Simon et al. (2004) the adverse impacts in the coastal environment start to emerge when local people get stimulated after being aware



of the revenue to be gained from tourism. The planning stages of a project should address the subsequent consequences of tourism facilities whilst the effects of tourists' activities can be controlled by the day to day management of the tourists' activities. Honey and Krantz (2007) argue that tourism has resulted to both positive and negative environmental impacts that have subsequently caused the coastal zones to be the most fragile and sensitive natural districts on the earth. Concerns about the effects and impacts of tourism development on the environment have been echoed by various researchers (Ritchie et al., 2000). Some of the adverse environmental effects of tourism are as follows: increment of water resources and energy consumption, pollution increment such as air, water, noise etc.; disruption of wildlife behaviour and feeding and breeding patterns; crowding and congestion; impact on aesthetic appeal of destination and the disturbance of ecosystems.

Tourism impact assessment in coastal areas (TIACA)

According to Zahedi (2008) Tourism Impact Assessment in Coastal Areas is a tool used to provide a specific environmental and other parameters which might have been attributed to tourism development projects. Similarly, the nature of the tool can be made simple or descriptive to present more elaboration on the magnitude of impacts in the coastal zone (Alipour & Kilic, 2005). Because the environmental and natural resources are the bottom line of the tourism attractions in coastal areas, these parameters are divided into two main categories such as the environmental parameters and other parameters that take note aspects of economic, social, cultural, political and so forth (Orbasli, 2000). The strategy behind this basic technique is aimed at providing communities and the entire tourism stakeholders with a necessary information for a sound decision-making regarding the tourism projects taking place in coastal areas and this can inform them about some changes affecting the operation practices before negative impacts reach a critical level and degrade the fragile and vulnerable environment.

Environmental Impact assessment (EIA)

The EIA is aimed at assessing and evaluating the impacts of specific developments or projects that may have the possibility of affecting the environment directly (Oktay, 2002). According to Burak et al (2004) the EIA is the process that involves reviewing the existing state of the environment and the extent on which the proposed development can be impacted upon. It also helps in the prediction of the state of the environment in future with or without the development, considering the methods for reducing or eliminating any negative impacts; producing the environmental impact statement for public consultation that discusses these points so that a decision can be made whether the future developments should proceed in the proposed site, along with a list of relevant mitigation measures.

Situational analysis

Baysan (2010) notes that SWOT matrix is one of the most common tools for situational analysis which becomes the two-way matrix, and SWOT simply means the strength, weaknesses, opportunities, and threats. According to Holden (2000) the strengths and weaknesses is through the consideration of the endogenic factors and conditions of the organization including opportunities and threats as linked with the external environment. The analysis is regarded as the effective tool to enable the decision-makers to consider the questions in relation to the environment and also in respect to their own characteristics. In consequent, SWOT matrix must be used as analysis strategy for every tourism development project in the host communities, exploring the various issues likely to influence the valuable natural asset, and if the project is well-



suited to the area, then tourism authorities may be prepared to cope with its significant impacts on the coastal regions.

Discussion and Conclusion

This is a conceptual research narrative that discusses the main issues of the coastal environment as they emanate from tourism development that interferes with the health and natural phenomenon of the coastal areas. The paper is strongly arguing that due to anthropogenic interferences emanating from tourism activities aimed at achieving the objectives of economic development there by disturbing the natural environment, henceforth there is a dire need for programmes put in place that will take precedence of either rejuvenating or mitigating the disruption of the environmental balances in the coastal areas. Programmes to mitigate or circumvent the environmental dubious effects caused by tourism development in the coastal areas need to be given a special attention especially because if not the impact on the coastal diversity which plays an eco-systemic role of being life supporting systems on the coastal zones might end up being irreversible and irreparable.

The study notes that there is a paradox around the coastal environment with regards to discourses pertaining to coastal zones and the extent on which they are being affected by tourism activities since the benefits associated with tourism to enhance the economy of the coastal areas are offset by the environmental degradation. As it has been emphatically or vigorously stated above the strains and severe pressure caused through tourism development in the coastal zones have arguable impacted adversely on the natural environment due to urbanisation associated with anthropogenic activities, beach and dune destruction, pressure on sensitive areas and production of waste. The study has also revealed that the objectives of sustainability are somehow not adhered to and this has become a course for concern to all the environmentalists when one takes into cognisance the importance of natural conservation. Sustainable tourism is development that meets the needs of the present without compromising the ability of future generations to meet their own needs and this also means the provision of the needs of present tourists while preserving and protecting the resources for future generations.

Sustainable development and tourism present change which refers to the movement from one state or condition to another. Therefore, sustainable tourism should also maintain a high level of tourist satisfaction while ensuring a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them. The study notes that the effects of tourism development have both positive and negative impacts in a destination and in consequence, it becomes obligatory and imperative that all stakeholders involved in the coastal tourism projects work together to ensure and assure that the positive aspects offset negativity. This could be achieved through innovative planning strategies that are formulated within an integrated comprehensive approaches that are aimed at minimizing and eliminating complete negative natural and man-made impacts of tourism in the coastal areas. Such strategies could lead to sustainable tourism, which would confer long-term benefits to both locals and tourists as visitors without destroying or degrading the environment of the destination. Although it is acknowledged that tourism development is virtually of beneficial to local communities, on the other hand it has the potential to spontaneously result to negative impacts on physical environment owing to the overuse and mismanagement. Similarly, tourism may also play positive roles in natural and built- environmental conservation, which has been verified rarely in practice, although some researchers have demonstrated this in theory (Young, et al., 2014).

It is also argued that tourism development in coastal areas is highly dependent on the natural environment, therefore a clear distinction should be made between the simple tourism growth that many countries experience in their coastal areas and a planned/responsible tourism development



which can significantly contribute to the mitigation of the ever-growing adverse effects of this industry on the coastal environment and society (Markovic et al.2009). According Zahedi (2008) tourism impacts on coastal areas should not be assessed only in terms of visual damage to the seashores in a short period of time. This paper also notes that data on the evaluation of the sustainability of the ecological systems are insufficient as a consequence the impacts of tourism on the environment get disclosed or known over a long period of time. Ecosystems may not immediately show signs of stress until suddenly a threshold is crossed when they collapse and flip to another state. Similarly, the main source of environmental impacts in the coastal regions stems from illegal construction along the shore and mass tourism especially in peak seasons.

In general perspective, tourism in coastal regions in the future lies in its effective planning and management. Planning for tourism in coastal zones enables developers and managers to foster tourism in these areas in such a way as to not only protect the natural environment but also to bring about a greater understanding of it (Newsome et al., 2006). The study reveals that both natural and unique built environments of coastal cities are endangered as a result of rapid tourism development. Many historic coastal cities in the world continue to be in high demand for tourists, but this development should not take place at the detriment and the deterioration of the uniqueness of urban environment and their distinct identity. Therefore, the distinctive identity and traditional heritage of the natural environment should be the starting point of the formulating of urban policy for these cities.

The findings also reveal that the rate of change in the physical environment is costly and attributed to tourism development that should be met by a wide array of legislative tactics, which maintain a tight gasp on the development of the environment. Town and land-use planning should begin with actions at both local and national levels, particularly with regard to the conservation of the historical heritage and the natural areas, the use of land and buildings, the sustainable management of natural resources, the development of infrastructure and the implementation of policies that encourage entirety and collective participation. The study also reveals that the existence of inadequate infrastructure resonating from negative impacts of tourism in coastal areas has forced the authorities to think of new ways of investments such as building ring roads in order to decrease the traffic congestion in the peak season, while identifying and negotiating new water and electricity supplies from other countries in order to manage the pressure of especially high consumption of these facilities during peak seasons.

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