

Ecotourism Can Promote Sustainable Development in Sacred Grove of Parnera Hills

Hetal M. Patel¹ and Meghna Adhvaryu^{2*}

Department of Botany, Government Science College, Vankal, Mangrol, Surat, Gujarat, India

(Received 2, October, 2021; Accepted 9 November, 2021)

ABSTRACT

Tourism as sustainable development and conservation of environment are mirror image of each other. It can positively or negatively affect social, economic and environmental development of the region. A case study in sacred groves of Parnera hills, Valsad district, Gujarat, India was conducted through informal discussions and interviews with stake holders and local people of that area. Points of discussion in study included: Impact on environment, environmental sustainability policies, community involvement and interaction in the development of the area, environmental conservational activities, and economic sustainability. Findings demonstrate that tourism in sacred groves of Parnera hills affected socio-economic status in the aspect of monetary gain to local people. In targeting the development of the area, environmental policies were overlooked and loss of biodiversity in flora and fauna reiterated the negative impact. Development of infrastructural facilities at the cost of biodiversity generated numerous debates. Seeing to the challenges of conservation for the ecofriendly sustainable development; awareness programs for local population and stake holders is an essential step which would balance the goals of development of ecotourism and conserving the diversity.

Key words : Sustainable development, Ecotourism, Sacred groves, Socio-economic development, Environmental conservation

Introduction

Tourism is one of the world's largest industries and one of the fastest growing economic sectors. Ecotourism is sub-component of the tourism field. Most of researchers point out that tourism should be consolidated with ecotourism (Degang and Xiaoting, 2006). It is potentially effective tool for sustainable development. Ecotourism was defined by international ecotourism society in 1990, according to which it is responsible travel to natural areas, which protect the environment and improves the welfare of the local people (Martha honey, 2008). It is resilience of economy that is executed without reduction in natural wealth and with protection of

cultural tradition and sustenance of the quality of life of rural people. There are different forms of ecotourism- Rural tourism, Cultural tourism, Nature tourism, Ecosystem tourism and Community tourism (Anup, 2016). Ecotourism generates the economic stability and leads to sustainable development. According to UN, sustainable development restores friendly relations, which is the demand of the present without reducing the capability of forthcoming generations to meet their demands. There are three main pillars of sustainable development: social equity, economic efficiency, environmental responsibility. These three pillars are referred as people, profit and planet

Methodology

Study Area

Parnera hills are situated in Valsad district of Gujarat state in India. It is rich in biodiversity and cultural heritage. It lies between 20°25'41" north latitude and 72°54'14" east longitudes. Its height is about 800 feet from sea level and has 113.71 hectors forest area (Fig. 1)(Forest department, Valsad district). Parnera hills are historic hills known for its fort of Chhatrapati Shivaji. It is trekker’s paradise and spiritual place for pilgrims. There are beautiful patches of natural vegetation and landscape. There are famous historic temples like Kalikamata, Amba mata temple and dargah of Chand pir baba. Also, there is ‘VAV’ (Step well) and Par River which is filled with water throughout the year.

The case study

The case study was carried out to search whether

ecotourism leads to sustainable development of the area, which includes: Assessment of Social impact, Economic sustainability, environmental stability or risk due to tourist activities. The objective of the study aims at the providing an insight on the phenomenal objectives. This study was conducted, by using qualitative and informal interview methods. Face to face interviews were done with the Sarpanch, villagers, local vendors, tea staller, priest, trusties, and tourists. Data collection was based on inputs of the above-mentioned people.

The interview procedure

Strength, weakness, opportunity and threat analysis of Parnera hills was done to derive strategic proposal for future ecotourism development. Forthis, interviews of 15 individuals who were directly or indirectly involved in development of hilly area were done. Each interviewee was from different occupation, viz. Sarpanch, trusties, priest, local ven-

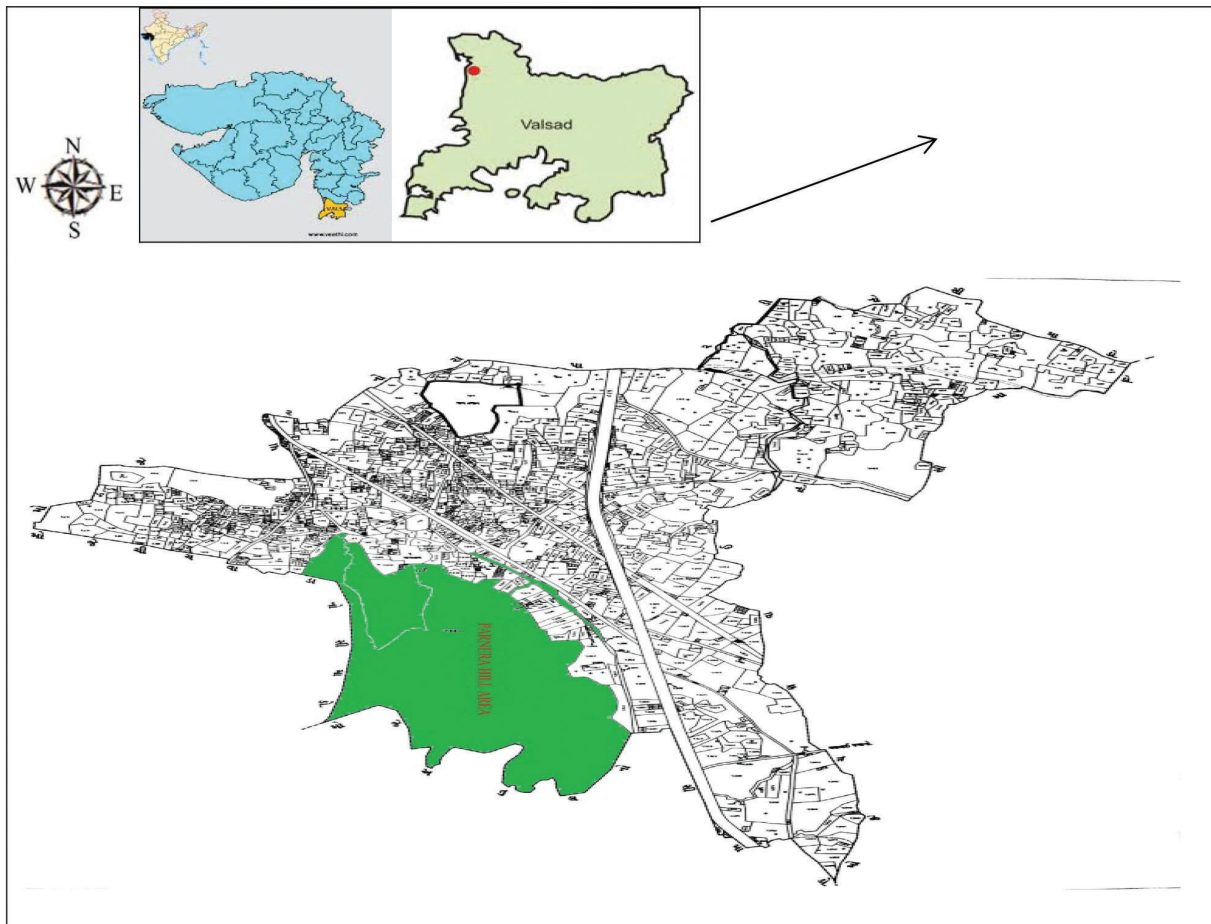


Fig. 1. Map of Parnera hills. (Gram panchayat office Parnera, Valsad district)

dors, villagers and tourists. Each interviewee was referred as I1, I2, and I3 and so on according to Table 1. Questionnaire was designed on the basis of general themes like knowledge related to environmental policies, business activities, tourism, tourism impacts, conservational activities, social and economic impacts and development of the area through tourism which is correlated with sustainable development. The qualitative data obtained was analyzed by using qualitative phenomenological analysis.

Results and Discussion

Demographic Data

Demographic data was derived from the qualitative interviews taken from the case study area. The interviewee population age ranged between 22-78 years. This suggests that young and old contributes their equal share in the development of the area. 28% of females too contribute their share in the development which ensures the upliftment of women in this area. Prevalence of equality was observed, but the low education qualification among localities could be one of the hurdles in promotion of ecotourism. Earning population average income is divided in two strata – lower average income goes up to 20,000 rupees and higher average income goes up to 1, 50,000 rupees. Maneuvering the local language can minimize the efforts in propaganda of environmental schemes, conservation of biodiversity which would have large impact on socio-economic status and building up the ecotourism.

Knowledge of environmental policies

According to Fig. 2 on the basis of the interviews taken following scenario appeared where 79 % interviewee are not able to give any answer because lack of knowledge about environmental policies. 21% of interviewee stated awareness towards environmental conservation policies is needed for their contribution. 10 % got some knowledge about environmental conservation except policies, 5% were ignorant due to their illiteracy. There is need for environmental education and environmental policies. The major problem of tourism sector is environmental pollution, which is facing lack of law enforcement and strict legislation. We should formulate administrative laws and regulation, strict legislative rules and punishment for who breaks the regulations (Qin *et al.*, 2014). The present study reveals the local communities are less aware about the environment, conservation policies and principles of ecotourism, their approach being less conscious to the matters. According to (2016) management system should concentrate on to meet sustainability through involving local residents. Tourism sector and climate change needs particular policy framework directed by government departments to transform private and global flow in to public and local flow in recent time (Elena Mondino and Thomas Beery, 2019).

Environmental impact

Like, other economic sector, tourism is also directly connected with environmental resources. It shows

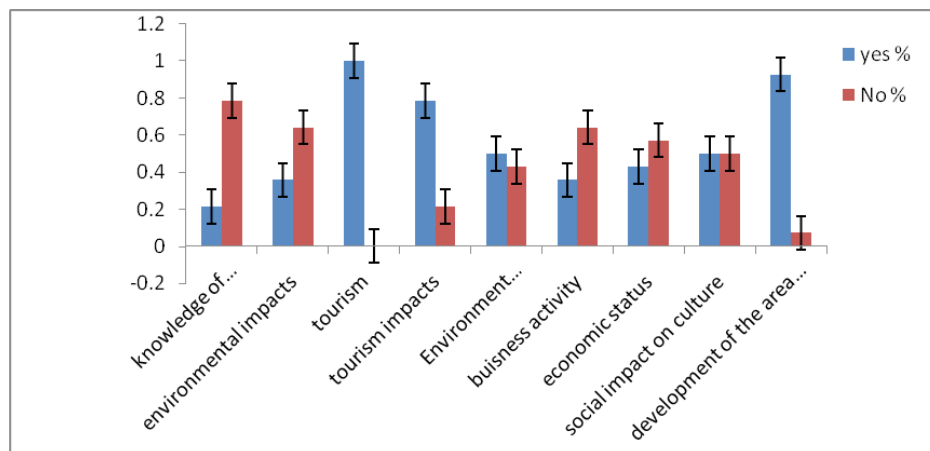


Fig. 2. Extraction of qualitative data on different themes based on ecotourism promotion and sustainable development.

both positive and negative impacts on environment. Parnera hill forest area is about 113.71 hectares, which includes 38.02 hector dense forest 47.41 hectors degraded forest and 28.28 hectors open forest area (Fig. 3). 64% interviewee stated that the condition of the surrounding biodiversity was unchanged. Local tribe has been aware about the conservation of rare species of flora and fauna. Ecotourism has positively affected the conservation of environment and reduced the rate of hunting and deforestation, conserved by forest department. It is conceding that outrageous growth of tourism sector gives short term profit but also brings adverse effects on environment by excessive usage of natural resources, pollution and wastes as consequences of developmental activities for tourist facilities (Abdelgadir *et al.*, 2017). It is conspicuously seen that deforestation is still continued surrounding communities. Some community people were worried about adverse effects of deforestation and some still continued to clear forest for agriculture and other activities. This indicates that concepts of minimum effects are not consolidated throughout community (Cusack and Dixon, 2006). Data shows that 36% admit that some forest cover is cleared for the developmental activities and it was major diversity loss for the area, which was, replanted by forest department. Most of the visitors travel by car, road transport and it is the major factor which is responsible for pollution related to tourism sector (Francesca, 2017). As this place is near to major city like Surat, Valsad and Vapi, tourists come with their personal vehicles, also tours and picnics are arranged due to which vehicle traffic, air pollution and noise pollution occurs in this area which has affected cleanliness and peacefulness of atmosphere. During 'Mela' (funfair like

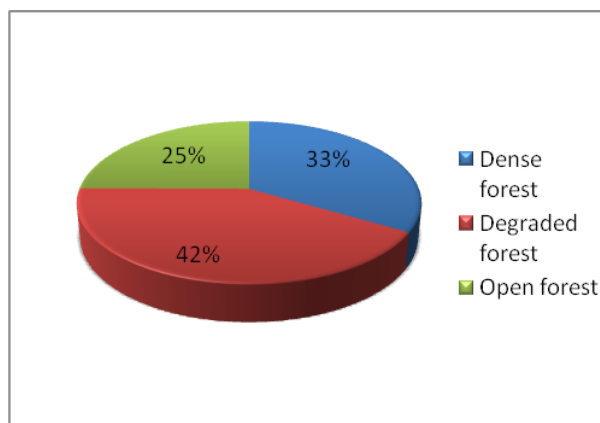


Fig. 3. Forest area of parnera hills

activity where pilgrims come on very specific occasion) there is increase in visitors entry causing anthropological waste, untreated wastes, destruction of natural value by causing litter problems, vegetation damage, desertification, soil erosion, habitat disturbance and trail erosion. Surrounding environment is polluted due to GIDC and major chemical companies have been established due to availability of natural resources which caused tremendous damage in natural flora and fauna creating air, soil and water pollution.

Tourism and tourism impact

Parnera hill has been a cultural center and is also blessed with natural hills, forest and river which remain the main attraction for the trackers, tourists, researchers and religious people. Tourism activity brings social steadiness and harmony in the region. The local people manifest traditional hospitality and honest folkway instead of modernization (Anup K.C.2016). According to data 100% interviewees agreed, to increase intourism activity in recent times. Majority of tourist visits are during Navratri to worship the goddess of the hill and to attend Dusshera Mela. Tourists are used to visit during holidays and summer vacations, during monsoon season to enjoy the natural beauty of hills and landscape. People come with family every year and enjoyed this place by doing religious and recreational activities. Many youngsters come with friends for photography and enjoy sunset from hill side. It brings second revenue for the villagers. Tours and picnics are arranged for School and college students to visit historical place and for scientific excursion. It is considered as one of the famous tourist places in Valsad district. Compared to mass tourism, ecotourism has serious impact on local communities, due to the tourists' keen interest in the culture and nature of the tourist destination (Kiper, 2013).

According to Degang and Xiaoting, 2006, employment opportunity, local's attitude towards tourism and conservation, ecological status and protection of the area; cultural disintegration and financial support for conservation are the criteria to analyze tourism impact in the region. According to that the impact of increased tourist activities in this area shows positive and negative aspects. Through tourism local people and tourist become aware about conservation of natural resources. 79% said that due to tourism, local people are getting job opportunity and small scale business activities are developed

through which economic status and standard of living is improved. Development is seen in the sectors like road facilities, electricity, public toilets and drinking water arrangements through tourism. Many Ghumti's (small stalls) are running their business where vendors sell pilgrimage goods giving them opportunity of self employment. Villager feels proud when tourist comes from different place to visit them. Tourists feel peace of mind by doing religious activity. 21% did not see tourism as value creating business as they did not get immediate profit.

Environment conservational activities

Tourism inspires local people to protect the natural environment and provide economic gain. Local people become aware about importance of conservation of natural environment. Conservation of natural environment attracts tourist to explore the nature and provide benefits to the area and local people who is related with tourism activity (Anup, 2016). 57% of interviewee is involved in conservational activities and it is positive effect of ecotourism that through ecotourism, deforestation and hunting rate is reduced. Villagers are aware about environment conservation and cleanliness in hill area and help people become aware about importance of conservation. They did plantation in hill area, in village and around their home. Facility for door-to-door garbage collection in village is done and dustbins are arranged over hill area, they go for garbage collection in hill area after Mela (funfair). A result shows that 43% are not aware about conservation and they are not involved in any conservational activities, due to their illiteracy. Thus, it becomes a vital role for the government to make people aware and educate the new generation about environment conservation and its policies.

Business activity

Tourism brings lot of economic gain for local residents and infrastructure development gives many benefits to the local people which are developed by government to expand the tourism (Degang and Xiaoting, 2006). Result shows that 36% business activities are increased in hilly areas. It offers economic income for villagers and brings second revenue. Villagers stated that their business is increased through tourism. Small scaled business is developed like tea stall, toys shop, flower shops, juice center, grocery shop, hotels and restaurants etc. Local poor

people make Ghumti's (small stall) where they sell pilgrimage goods. During navratri festival local business activities are increased as tourist number increased. It brings fund to invest in development of hill region and provide revenue through tourists and local transportation. The main sources for revenue generation are local handicrafts shop and souvenirs shops, restaurants, tea stalls and parking fees. Other source of revenue generation from ecotourism is traditional handicraft shop and local products. Due to generation of income by ecotourism, tribal families are able to educate their children. On opposite side 64% interviewee did not see tourism as profitable business. They think it is optional additional business work because they can't afford such low and seasonal income; they have to do another work for their house hold consumption.

Economic status

Increased tourism activities in hilly area improve local vendors' and communities' monetary status. Tourism activities provide small scaled economic benefits through employment, small business for local shops, and development of infrastructure (Anup, 2016). "Villagers getting job opportunity and local business activities are increased" - 43% interviewee agreed with this statement. Ecotourism provides source of employment for poor villagers and women in the territory. It is an opportunity for local villagers to gain money and village is developed economically due to tourism. It inspires villagers to develop small scaled business like tea stall, flower shop, juice center, toys shop, handicraft shops etc. It helps in poverty mitigation of rural area. Ecotourism made significant improvement in rural development, community development and women empowerment in hilly area. They admit that their monetary status is improved by increased tourism, but they are unable to give a clear answer about salary or money which is earned through tourism. 57% stated that tourism is not a value creating business and they did not see any immediate profit from ecotourism. They earn money through tourism but it is not enough for their family. They need to search another option for income.

Social impact on culture

The social effect of tourism is not as much greater as on economic and environmental status but it is largely positive on social dimension. The traditional and developing tourist places are rapidly expanded

Table 1. Demographic table (I-Interviewee, M-male, F-female)

Interviewee Number	Age	Gender	Cast	Marital status	Occupation	Education	Annual income	Family value	Addiction	Status
I-1	47	M	Brahmin	Married	Priest & trustee	12th pass	1,20,000	Nuclear	No	Local
I-2	78	M	Brahmin	Married	Trustee	7th pass	2,00,000	Joint	Smoking	Local
I-3	37	F	Koli	Married	Sarpanch	Graduate	80000	Joint	No	Local
I-4	40	M	Dhodi	Married	Hawker	12th pass	25000	Joint	No	Local
I-5	30	F	Dhodi	Married	Vendor	12th pass	24000	Joint	No	Local
I-6	62	M	Nayka	Married	Vendor	5th pass	20000	Joint	Smoking	Local
I-7	55	M	Koli	Married	Vendor	10th pass	15000	Nuclear	No	Local
I-8	51	M	Koli	Married	Companyemployee	I.T.I pass	1,44,000	Joint	No	Local
I-9	54	M	Kumbhar	Married	Buisness	I.T.I pass	225000	Nuclear	No	Local
I-10	22	F	Koli	Married	Housewife	12th pass	120000	Joint	No	Local
I-11	23	F	Dhodi	Unmarried	Buisness	10th pass	25000	Nuclear	No	Local
I-12	44	M	Surti	Married	Government employee	10th pass	240000	Joint	No	Local
I-13	60	M	Dhodi	Married	Company employee	5th pass	300000	Nuclear	No	Local
I-14	39	M	Koli	Married	Contractor	6th pass	100000	Joint	Smoking	Local
I-15	47	M	Koli	Married	Business	12 th pass	20000	Nuclear	No	Local

in to tourism sector which puts greater pressure on natural, social and cultural environment of the area (Abdelgadir, F.A.Ali and Halis, 2017). Results of tourism shows 50%of interviewee feels good by doing religious activities at this place and they feel proud about having such area in their state. Villagers feel proud when tourists come from different places to visit them. Local biodiversity attracts tourist to the area, which improves conservation ethics of community as they recognize the importance of biodiversity (Cusack and Dixon, 2006). Tourists feel peace of mind and enjoy that place by worshiping goddess. Ecotourism helps in poverty mitigation in rural area and play significant role in managing peace and prosperity in the community. Tourism removed gender inequality by effective involvement of women in commercial activities related with tourism. Customarily women have not been actively participating in community affairs because of cultural and social restrictions. Despite that modernization and globalization brings awareness in women, they play crucial role in community developments, security and progress. For example, frontline involvement of women in Barpak homestay project in Nepal (Acharya and Halpenny, 2013). On the other hand, 50% stated that their cultural values are being challenged by tourism. Interference of tourism has ability to conflict and challenge local social and cultural values (Anup, 2016). Tourism activities influence the local people toward western culture. In absence of proper education and money management skill some local people became alcohol addict due to easy inflow of tourism money. The behavior of some tourists is not always friendly with local people and that results in the conflicts between local people and tourists. Therefore, more attention should be given to promote and present local art andculture by conserving traditional folklore and knowledge.

Development of the area through tourism

Tourism can contribute to development of economical as well as natural and cultural resources of tourism destination (Degang and Xiaoting, 2006). Tourism initiates development in the hilly area by providing economic support and exposing locals to cultural diversity through tourism. Development of tourism in rural area provides the second revenue to the villagers (Anup, 2016). Economic profit comes from local business activities, employment from tourism management centers, parking fees, selling of food delicacies, pilgrimage goods and traditional

handicrafts. It helps in poverty mitigation. 100% interviewee agrees with the fact that area is developed by tourism. Old temple on hill is renovated and well-constructed by income generated through tourism. By increasing tourists number, many constructions like road accessibility, drinking water arrangements, public toilets and electricity have been developed in this region, which did not exist in past. Many local shops operated by women of this area, shows women empowerment and they are able to educate their children and afford their household consumption. Tourism contributes in involving local resident for the conservation of biodiversity of the region that diversity in return gives economic support to the community (2013). Ecotourism enhanced and promotes the appreciation of the nature and environmental education through exposing to tourists and locals to nature and conservation (Tugba, 2013). Due to ecotourism people are aware about conservation of local area and how to protect the area from pollution and deforestation.

Tourism activities in Parnera hills for promotion of Ecotourism

According to landscape, structure, type and location, element of the tourism is well defined (Qin *et al.*, 2014). But, Parnera hills can be promoted for ecotourism, so that principles of conservational activities are tested by implementation and biodiversity destruction is avoided. Maintenance by protecting, understanding and creating awareness for conserving the area and negligible or minimum damage to the natural environment is envisaged by reversing the damage to nature (Yoder and Bowler, 1998).

- Natural sightseeing camp activity: Through natural sightseeing, tourist can directly interact with the nature & observe the environment by strolling around. They can enjoy sunrise and sunset, can track on hills and enjoy river crossing and rafting.
- Horse riding, cycling, sky gliding, night camping, star gazing activities can be enjoyed along with the beauty of landscape. These activities for tourists along with an expert trainer can reduce crisis and catastrophe of the environment and will also generate the income for the local population.
- Boating is one of the ecotourism attractions, which required simple tools like boat and bamboo rafts and an ordinary tourist can also afford

boating in Par River.

- Scientific exploration activities can be made popular by exploration of biodiversity and rare flora and fauna, specimen collections and observing the geological zone.

Conclusion

This study revealed that Ecotourism has a pivotal role in sustainable development of Parnera hills area, by providing social, economic stability, awareness in gender inequality and women empowerment. Ecotourism helped the people to get jobs through which monetary status is improved. Area is developed through tourism. On environmental perspectives, the study showed lack of awareness about the environmental policy and conservation of natural environment due to illiteracy. It requires there is need for environmental education. Hence it is mandatory to frame necessary prohibitive laws as well as generous incentives for protection of local biodiversity and local tribes' traditional and folklore knowledge so that young generation gets involved in the protecting and conserving activities.

Acknowledgment

This work has been supported by the Ministry of Tribal Affairs Government of India under the grant (No.19012/03/2018). The author is thankful to local people of Parnera village for their corporation during case study.

References

- Acharya, B. P. and Halpenny, E. A. 2013. Homestays as an alternative tourism product for sustainable community development: A case study of women managed tourism product in rural Nepal. *Tourism Planning & Development*. 10(4) : 367-387.
- Anup, K. C., Rijal, K. and Sapkota, R. P. 2015 Role of ecotourism in environmental conservation and socio economic development in Annapurna conservation area Nepal. *International Journal of Sustainable Development and World Ecology*. 22(3) : 251-258.
- Anup, K.C. 2016. Ecotourism and its role in sustainable development of Nepal. p.31-59. <http://dx.doi.org/10.5772/62308>.
- Abdelgadir, Ali F.A. and Halis, M. 2017. The interactional relationship between ecotourism and sustainable development. *Imperial Journal of Interdisciplinary Research*. . 166-173.

- Cusack, D. and Dixon, L. 2006 Community based ecotourism and sustainability. *Journal of Sustainable Forestry* .22 (1-2) : 157-182.
- Degang, W. and Xiaoting, H. 2006. Coincidence and upgrade: A typical case study of rural ecotourism development. *Chines Journal of Population Resources and Environment*. 4(1) : 45-53.
- Elena Mondino and Thomas Beery 2019. Ecotourism as learning tool for sustainable development. The case of Monviso transboundry Biosphere reserve Italy. *Journal of Ecotourism*. 18 : 2,107-121,DOI:10.1080/14724049.2018.1462371
- Eagles, P.F.J. 2002. Trends in park tourism: Economics, Finance and Management. *Journal of Sustainable Tourism*. 10(2) : 132-153.
- Francesca, N. 2017. The Role of Cultural Heritage in Sustainable Development: Multidimensional Indicators as Decision-Making Tool. *Sustainability*. 9 : 1882; DOI: 10.3390/su9101882
- Martha honey 2008. *Ecotourism and Sustainable Development*. 2nd edition, Island press: Washington, DC.551 pages.
- Qin, J. X., Zhang, P., Deng, G.P. and Chen, L. 2014. A studies on ecotourism and sustainable development of economic underdevelopment areas-An example from Kanas Reserve, Xingjian province, Northwest China, *Smart Grid and Renewable Energy*. 5 170-179. <http://dx.doi.org/10.4236/sgre.2014.57016>.
- Tugba, K. 2013. Role of Ecotourism in Sustainable Development. *Advances in Landscape Architecture*, p.774-802.<http://dx.doi.org/10.5772/55749>
- Yoder, A. and Bowler, P.A. 1998. Sustainable development, ecotourism and globalization: Are they compatible? *Interdisciplinary Minor Global Sustainability* university of California Irvine.
-
-