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SOCIOLOGICAL ANALYSIS OF THREAT TO BIODIVERSITY AND AGRICULTURAL
LAND CONVERSION INTO COMMERCIAL USE DUE TO TOURISM IN DISTRICT
SWAT, KHYBER PAKHTUNKHWA

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ABSTRACT

This study aimed at finding the association of commercialization of agriculture/rural lands for tourism (dependent variable) with threat to biodiversity (independent variable). The study was conducted in seven tehsils and fourteen village councils of District Swat, Khyber Pakhtunkhwa. A sample size of 346 respondents was selected through simple random sampling. Data was collected on a two level likert scale interview schedule. The association of study variables was tested by using chi-square test statistics. The association community perception regarding the effect of agriculture land conversion into commercial use due to tourism was found significant with agriculture land conversion to commercial use is the threat to biodiversity aspects ($p=0.000$) and Positive ($T^b=0.144$) association was found between in terms of its negative impact tourism has the potential to over-consume natural resources and commercialization of agriculture/rural lands for tourism. ($p=0.000$) and Positive ($T^b=0.234$) association was explored between The agricultural land in all scenic spots shows a decreasing trend annually due to tourism and Commercialization of agriculture/rural lands for tourism. ($p=0.000$) and Positive ($T^b=0.226$) association was confirmed between Tourism is argued to be the prime threat to indigenous habitats, and the natural resources and Commercialization of agriculture/rural lands for tourism.

Key Words: Tourism, agricultural land conversion into commercial use, and threat to biodiversity

INTRODUCTION

Unbridled and unmanaged tourism is known for over consuming local resources. It's changed the landscape and ecology of the area more swiftly that the indigenous life forms cannot

adapt to it as they lay claim to same resources. The main losers are generally the environment and, particularly, the agricultural land (Seto, 2013). Tourism thus changes the fragile balance of an ecosystem through land conversions in many ways one of which is the increase in the emission of Greenhouse Gases (GHG) in the area. In mountainous areas, the impact is far more swift and they are then rendered unable to play their role in the safety of the ecology and share in the economy. However, the crucial implication is for the bio-diversity of the area. Indigenous flora and fauna are unable to survive the degradation of their environment and ecology (Cao X., 2019).

Qin, B. (2010) studied how a scenic spot is gradually made accessible to visitors due to development of tourism in a certain area. He found out that with the up gradation and improvement of facilities to cater to the tourist, the very attraction that a pristine spot held with its abundance of various flora and fauna, get diminishes. Increased human activity disrupts the life cycles and environment of various species. In the end, unable to cope or adopt with the rapid changes, local wild life either dies out or move to another relatively untouched area (Altman, 2018) also confirm that tourism by nature is progressive and intrusive. Its primary purpose is to introduce more and more humans into an otherwise wild area and then transport other goods and items to support them. Likewise, the gradual appropriation of land by tourism means reduction in the areas of natural habitats. The more the wild loses its lands to constructions, the more it become unattractive as a place of bio-diversity (Liang, X. 2020) also point to rapid development of tourism as a potential agent of the reduction in the bio-diversity of a tourist spot due the introduction of large number of humans, constructions, in roads and loss of natural resources or habitat.

LITERATURE REVIEW

Ecosystem is defined as a particular geographic area with all its living organisms (flora, fauna, humans and micro-organisms), its physical features (air, soil, water) as well as the complete naturally occurring cycles that help these thrive and sustain themselves. Particularly attractive areas like sandy beaches, natural lakes, rivers and mountains, are usually specific transitional zones that are characterized ecosystem that are rich in species. Nevertheless, landscapes evolve gradually over the span of time as local needs and existing physical, cultural, socio-economic and environmental imperatives determine how land is used. In addition, human activities like urbanization and industrialization leads to intensive use of land all over the globe due to scarcity of area. However, remote mountainous areas, being far from trade routes and low sustainability of populations, are often sparsely inhabited. Nevertheless, they play critical roles as watersheds that provide services which are vital for ecosystem and wellbeing of humans (Browne, 2022).

Above all these factors, mountainous areas have peculiar conditions that can render them more vulnerable to human activities like disturbances in land cover, fragility of their environment and seasonal tourism. That results in their ecosystems being inherently susceptible with low resilience towards abrupt change and are, therefore, uniquely disposed to trampling of soil and vegetation, displacement of indigenous wildlife and dumping of waste that caused by human interference (Linderman, 2005).

A study of Krushedei Island, near Rameswaram in Tamil Nadu, India, once praised as a hub for marine biologists has shown that it was completely abandoned by marine life forms in the wake of mass scale tourism leading to coral destruction and depletion of other marine life. Thus, unsustainable and unscientific tourism-related leisure activities persistently degrade or destroy natural habitats. For instance, even non-intensive watching of wildlife can cause stress for animals who may alter their existing natural behavior. The noise and commotions caused by Safaris and wildlife trips may have degrading effect on the habitat of the fauna and even flora (Theobald, 1994).

Development of tourism is regarded as a wholesome activity that bring in economic benefits to the country and the area, however, it is found to be harmful to the environment as it particularly changes the use of land (Kurniawan, 2016) *and* Lanya (2017). Studies in Lombok, Czech Republic and Bali has shown that development of tourism results in construction of tourist facilities that drastically deteriorate forests, beaches and natural ecosystems (Lavers, 2012). Additionally, like in the case of Iasi, tourism-induced development of civic and municipal utilities also has a negative impact of the land. However, since the effects of Tourism on particular areas may be different, it is imperative that separate studies be conducted for different areas (Lupu, 2018).

Even though, in the praise of globalization, tourism has been well regarded as an opportunity for experiencing cultural diversity, thus facilitating growth of international cultures, tourism has been proved to have a potentially destructive relationship with the culture (Hughes, 1989). It is argued that tourism may be the prime threat to indigenous cultures and homelands

through its exploitative practices and dislocation or desecration of natural way of life (Mahonge, 2015).

MATERIALS AND METHODS

This study was conducted in seven tehsils namely Tehsil, Babuzai, Matta, Kabal, khwazakhela, Behrain, Barikot and Charbagh in District Swat, Khyber Pakhtunkhwa, Pakistan. Total population (House hold heads) of potential respondents came out to be 3205. For a population size of 3205 a sample size of 346 suffices as per criterion devised by Sekaran (2003). The study design was single-shot and data was collected through interview schedule covering both the variables. A conceptual framework was devised comprising of two study variables i.e. commercialization of agriculture rural lands for tourism (Dependent Variable) and threat to biodiversity (Independent Variable) (Table 1). For the measurement of study variables the attitudinal statements were pooled from the existing literature and two level likert Scale was constituted for each study variable. The indexed dependent variable (Commercialization of agricultural lands for tourism) was cross tabulated with independent variable (threat to biodiversity) to measure the association between study variables. Chi-square test was used to test the level of association between these variables at bi-variate Level.

$$\chi^2 = \sum_{i=1}^c \sum_{j=1}^r \frac{(O_{ij} - e_{ij})^2}{e_{ij}}$$

Table 1 Conceptual Frame Work

Independent variable	Dependent variable
Threat to biodiversity	Commercialization of agriculture rural lands for tourism

OBJECTIVES OF THE STUDY

- To ascertain threat to biodiversity regarding agriculture land conversion to commercial use due to tourism
- To ascertain commercialization of agricultural rural lands for tourism

- To measure the association between threat to biodiversity and commercialization of agriculture rural lands for tourism

RESULTS AND DISCUSSION

1.1 FREQUENCY AND PERCENTAGE DISTRIBUTION ON THE BASIS OF THREAT TO BIODIVERSITY

Seasonal recreational is touching its climax from May to August every year in Pakistan northern part and the Swat valley. Hundreds of thousands of tourists power in into these area to such pleasure while enjoy the cool splashes of the weather. Although such lack scale human moments bring alongside the flow of income to the locals in the tourism. However, use tremendous pressure on the local infrastructure, population, biodiversity and ecosystems as well. Most of the species are either damaged or perished to this continuous animal moment pertaining to tourism which put at state the existing biodiversity also.

Table. No. 1. Threat to Biodiversity Due to Tourism

S.No	Attributes	Yes (%)	No (%)
1	In terms of its negative impact tourism has the potential to over-consume natural resources.	104(30.1%)	241(69.9%)
2	The natural, man-made and cultural resources that tourism relies upon are liable to affect bio-diversity.	153(44.3%)	192(55.7%)
3	Tourism development, and exploiting tourism resources and constructing tourism infrastructure can change the surface structure, land, soil and vegetation, posing threat to bio-diversity.	195(56.5%)	150(43.5%)
4	The agricultural land in all scenic spots shows a decreasing trend annually due to tourism.	189(54.8%)	156(45.2%)
5	Tourists do not protect the natural environment and resources either due to ignorance or indifferences.	276(80.0%)	69(20.0%)

6	International and national level tourism are seen to have a potentially destructive relationship with the natural or scenic environment.	230(66.7%)	115(33.3%)
7	Tourism is argued to be the prime threat to indigenous habitats, and the natural resources.	232(67.2%)	113(32.8%)
8	The existing ecosystem and biodiversity are under constant threat of perishing due to their threatening habitats.	181(52.5%)	164(47.5%)
9	No any law or measures have been taken in part of the relevant departments to preserve bio-diversity	250(72.5%)	95(27.5%)
10	Lack of visitor's calendar to import preservation instruction has further deteriorated the existing species in the area.	223(64.6%)	122(35.4%)

Majority of the respondents 30.1% did not favor the statement that In terms of its negative impact tourism has the potential to over-consume natural resources while, 69.9% respondents supported the statement (Seto, 2013). Tourism has been acknowledged to the more consuming even utilizing the local shares in food and property. Moreover, it also turned to be change agent regarding violating the prevalent ecology. Where major sufferer is the local environment with special reference to the agricultural it has been considered to threatening the ecosystem balance in the shape of land conversion and emission of greenhouse gases. Moreover, biodiversity including the local flora and fauna have also under the detrimental effects as it animals the prone of industrialization while altering the local ecology in the mountainous areas. Hindu Kush Himalaya of the breeding place for inhabiting almost 35000 species is under threat in terms of existence due to tourism related activities (Li Z, 2006 Antrop, 2005, Wester et al., 2019 and Cao X, 2003).

Moreover, majority of the respondents 44.3% were against that the natural, man-made and cultural resources that tourism relies upon are liable to affect bio-diversity while 55.7% had supported the statement. Zhang (2021) while studying a scenic spots observed that rise in tourism entails that up gradation and improvement of civic facilities. Such improvised attempt diminishes the local prevalent flora and fauna leading the disruption of existing environmental

cycles which has protected various indigenous species. The tourism phenomenon is progressive ensuring of human beings sans destruction of biodiversity, wildlife and ecosystem Loperena (2017).

In addition most of the respondents 56.5% favored the statement that Tourism development, and exploiting tourism resources and constructing tourism infrastructure can change the surface structure, land, soil and vegetation, posing threat to bio-diversity while, 43.5% had negated the statement. Liang, X. (2020), and Chen (2009) have also towards such activities like rapid development to change in negative progression of the biodiversity. Although man is behind this development initiatives but probably responsible for the destruction of traditional way of life and prevalent natural resources ending at breeding property, resources degradation and destruction of existing ecology (Baidal, 2003 and Albrecht, 2011).

Furthermore, majority of the respondents 54.8% showed the statement that the agricultural land in all scenic spots shows a decreasing trend annually due to tourism. In contrast, 45.2% did not support the statement. Likewise majority of the respondents 80.0% were supported the statement that tourists do not protect the natural environment and resources either due to ignorance or indifferences whereas 20% did not agree to the statement. These findings achieved that agricultural land and pressure on local resources due to influx of tourism in the study area has increased. Similarly, those findings were in confirmation to Yang, Z. (2012). inferences that infrastructural development for the purpose of promoting tourism has endangered for the biodiversity as more land is required for enhancing the capacity which usually ends up at the cost of local habitant of the wildlife. Moreover, the development of new physical interventions changing the existing typography which may also fear of social erosion, by putting at risk the local human communities and wildlife as well. In such cases, mostly the balancing methodology between human and nature is missing (Wassie, 2020 and Yang, 2016).

However, most of the respondents 66.6% were supported the statement that International and national level tourism are seen to have a potentially destructive relationship with the natural or scenic environment while 33.3% had negated the idea of the respondents. International and national level tourism both have coincidence in aims and objectives of detrimental to local

environment increased human activities handle up the pollution, population pressure on local resources, deforestation, overfishing, which often have harmful effect in environment (Possingham, 2008). The only way to contain such activities could be a sustainable model, if implemented may ensure damage to climate local resources (Telfer, 2015 *and* Calfucura, 2012). Such model must focus of the water, electricity exhaust control from vehicle and proper disposal of waste things its management absolute terms by involving local communities to mitigate the distress of pressure on local resources in harmonious manner (Sharpley, 2006).

It was further method from the table that majority of the respondents 67.2% had the favored of the statement that Tourism is argued to be the prime threat to indigenous habitats and the natural resources while 22.8% negated the statement. These findings were in line with Xu Z, (2022) who also explored such findings in his studies. He further pointed towards the disruption of the existing chain and livelihood amongst cultural heritage and natural resources as the main target of tourism related activities. Habitat destruction of the local wildlife and biodiversity are same other characteristics of tourism. Moreover, enhancement of infrastructural facilities though construction further strain the environment for local fauna and flora along with local human communities (Ahmad, 2011 *and* Pearson, 2002).

Furthermore, majority of the respondents 52.5% opined the statement that the existing ecosystem and biodiversity are under constant threat of perishing due to their threatening habitats while 47.5% were against the statement. The existing ecosystem and biodiversity are indeed under constant threat of perishing due to the destruction and degradation of their habitats as coined out from the above findings of this study. Deforestation as a resultant fact urbanization and climate change often pose threats to the fragile ecosystem but leading to habitat loss, land fragmentation and subsequent degradation resulting into decline in local wildlife species. Conservation efforts even if made may not yield any positive results (Kumar, 2022, Sharples, 2009 *and* Weiskopf, 2020).

However, most of the respondents 72.5% were opined the statement that No any law or measures have been taken in part of the relevant departments to preserve bio-diversity while 27.5% had not the favored of the statement. The preservation of biodiversity is a complex issue however, essential in designing by taking in lines the all major and relevant departments for

formulating and implementing the law pertaining to preservation of biodiversity. These strategies must be centralized by establishing protected zones, plans of wildlife conservation and regions law formulation and enactment to help sustain the biodiversity on sustainable grounds. However, the effectiveness efforts need to be made by regularly revisiting these laws and recommending the amendments in high of the growing needs and demands of the situation (Lockwood, 2021, Saizarbitoria, 2017 and Tang, 2022).

Majority of the respondents 64.4% were Supported the statement that Lack of visitor’s calendar to import preservation instruction has further deteriorated the existing species in the area while, 35.4% respondents negated the statement. Those findings supported the earlier findings a stringent law encompassing every aspect must be designed calendar would one of its internal parts as highlighted by Sharma (2010) that with proper awareness and guidance tourists consider themselves prevalence while negotiating the local customs, traditional and importance of flora and fauna protection. Moreover such laws will also help those tourist to adopt in themselves the by genic traits like not littering, disturbing wildlife by taking care of existing biodiversity (Clams, 2017 and Otero, 2017).

Table No. 1.2. Threat to Biodiversity Due to Tourism

S.No	Independent Variable	Dependent Variable	Statistics
1	In terms of its negative impact tourism has the potential to over-consume natural resources.	Commercialization of agriculture/rural lands for tourism	X ² =7.145 P=0.008 Tb=0.144
2	The natural, man-made and cultural resources that tourism relies upon are liable to affect bio-diversity.	Commercialization of agriculture/rural lands for tourism	X ² =3.147 P=0.076 Tb=0.096
3	Tourism development, and exploiting tourism resources and constructing tourism infrastructure can change the surface structure, land, soil and vegetation, posing threat to bio-diversity.	Commercialization of agriculture/rural lands for tourism	X ² =9.891 P=0.002 Tb=0.169
4	The agricultural land in all scenic spots shows a decreasing trend annually due to tourism.	Commercialization of agriculture/rural lands for tourism	X ² =18.848 P=0.000 Tb=0.234
5	Tourists do not protect the natural environment and resources either due to ignorance or indifferences.	Commercialization of agriculture/rural lands for tourism	X ² =3.710 P=0.054 Tb=0.104
6	International and national level tourism are seen to have a potentially destructive relationship with the	Commercialization of agriculture/rural lands for tourism	X ² =11.954 P=0.001

	natural or scenic environment.		Tb=0.186
7	Tourism is argued to be the prime threat to indigenous habitats, and the natural resources.	Commercialization of agriculture/rural lands for tourism	X ² =17.667 P=0.000 Tb=0.226
8	The existing ecosystem and biodiversity are under constant threat of perishing due to their threatening habitats.	Commercialization of agriculture/rural lands for tourism	X ² =18.079 P=0.000 Tb=0.229
9	No any law or measures have been taken in part of the relevant departments to preserve bio-diversity	Commercialization of agriculture/rural lands for tourism	X ² =11.292 P=0.001 Tb=0.181
10	Lack of visitor's calendar to import preservation instruction has further deteriorated the existing species in the area.	Commercialization of agriculture/rural lands for tourism	X ² =3.348 P=0.004 Tb=0.099

Table 1.2. divulged a highly-significant association ($p=0.000$) and Positive ($T^b=0.144$) association was found between In terms of its negative impact tourism has the potential to over-consume natural resources and Commercialization of agriculture/rural lands for tourism. Tourism and sustenance of ecosystem co-existence a paradoxical model all the living organism could face an environment threat of extraction once the increase on human activities are observed. Frequent interrupt time by human carries the break down in the natural cycle of growth and develop of these organism and thus face their total elimination with both plants and animal species either with graduation or instant mode of physical elimination Kropinova, (2020) has emphasized over the nature of human intervention which determine the mode and speed of elimination like the cultural, physical and socio-economic imperatives. Moreover, for from trade, the population density do play as anchor role in maintainability of environment and protection of biodiversity (Hopkins, 2013 and Sadekin, 2020) has also intimated about the complete elimination of marine life in light of mass scale tourism resulting into cover destruction in Tamil Nadu, India. This sustainable model of tourism with protective measures to ensure the natural habitat and wildlife protection could play a pivotal role in preservation of habitat and soil and environment (Mehta, 2016).

Contrary to the above, a non-significant ($p=0.076$) but negative ($T^b=0.96$) association was discovered between the natural, man-made and cultural resources that tourism relies upon are liable to affect bio-diversity and Commercialization of agriculture/rural lands for tourism. These results alluded towards all endeavor carried out for the establishment of tourism industry are primarily responsible for degradation of environment and elimination of biodiversity. These natural, manmade activities are revolving around the establishment of commercial hubs, hotels and restaurants. These activities disturb the natural cycles of organism, biodiversity and environment relationship to maintain ecosystem. The core of loftiest mountainous reigns of Hindu Kush, Himalayas, and Karakoram are some obvious examples of eroding the natural habitats by the rising number of tourists. The northern areas of Pakistan is also passing through the same condition as visitors number is using while putting pressure on local natural resources to cater the rising needs of this influx of people (Khan, A. A., 2014, Hunziker, 2017). The topography and environmental conditions of these peaks are very much fragile prone to destruction of the ecosystem with exposure to increased human interventions. Moreover, water contamination, pollution in air and non-disposal of waste with the boom in economic activities comes up with negative consequences for social, cultural and ecological composition of these areas (Buijs, 2008).

However, a significant ($p=0.002$) and Positive ($T^b=0.169$) association was confirmed between Tourism development, and exploiting tourism resources and constructing tourism infrastructure can change the surface structure, land, soil and vegetation, posing threat to bio-diversity Commercialization of agriculture/rural lands for tourism. The lives were found to be in times with the proceeding outcomes where the top soil, mountainous biodiversity were in constant threat of elimination due to tourism. The infrastructural changes to meet the growing needs of visitors have been identified as propelling factors of land erosion, degradation and destruction of biodiversity. Moreover, the conversion of land into commercial hubs and urbanization were other factors of decreasing the agriculture land (Balmford, 2009, Huang, H. 2019). Urbanization process tend to encroach the forest and agricultural land while eliminating the local natural resources and cultural heritage the conversion of agriculture land into commercial hubs increases the land values and farms opt to sell a small chunk of land with

earning more. This trend is consistently encouraged as it attracts small farms and they wittingly sell out this land to accommodate money beyond their imagination. Furthermore, the land diverted for other pro tourism activities are usually devoid of sustainable model of preservation rather intended for exported activities i.e. expansion in infrastructure inclination towards hotel and restaurant construction forcing the local biodiversity to eliminate i.e. a catastrophic conditions for natural habitat and environment (Browne, 2022 Tabayashi, 2010).

Whereas, a highly significant ($p=0.000$) and Positive ($T^b=0.234$) association was explored between The agricultural land in all scenic spots shows a decreasing trend annually due to tourism and Commercialization of agriculture/rural lands for tourism. These trends of reduction in land could be the outcome of the commercialization of land being and purchased for business related outfits. Construction and renovation of the scenic spots with major focus on accommodating more number of visitors had led to the hotels, restaurants and parking establishment. This trend in moving dynamics had put pressure on agriculture land for getting more economic benefits to vitalize on each earning opportunity (Hiwasaki, 2006). These changing dynamics had led to the initiative of land conversion phenomena into commercial spaces with high value addition to agriculture land. however, consequent upon these changes pollution, both air and water have uses in the area, mating the live of local miserable as noise pollution with land degradation and local resources scarcity have further been explored as direct outcomes of these tourism related activities (Huang, H. 2019).

However, a non-significant ($p=0.054$) and negative ($T^b=0.104$) association was confirmed between Tourists do not protect the natural environment and resources either due to ignorance or indifferences and Commercialization of agriculture/rural lands for tourism. These results predicted about the direct relationship between increases in tourism decreases the agricultural land. These findings suggested the market economy is no more favorable to the prevention local environment alluding towards the non-sustainable of most of the tourism related activities Reeder, (2005) have affirmed their relationship while concluding that use in market economy diminishes the preservation of the local environments by impeding all the initiatives meant for a protection of biodiversity and ecosystem with consistent rush to local cultural traits as well Balmford, (2009).

Similarly, a significant ($p=0.001$) and Positive ($T^b=0.186$) association was established between International and national level tourism are seen to have a potentially destructive relationship with the natural or scenic environment and landscape transformation has put immense pressure on the existing pattern of land and Commercialization of agriculture/rural lands for tourism. These findings reflected a transformative phase of land with relation to tourism with negative consequences, tourism is basically revolving around the scenic attraction of a particular geographic location and influx of human either is national or international visitors (Buijs, 2008). However, these visitors are potentially threatening the prevalent established natural dynamics in the preview of rising visitor destroying the natural resources while eliminating the biodiversity through trekkers activities, visitors generating wastes and non-sustainability in economic and cultural endeavors as least invests shown on put of various stake hold us for preservation (Zoomers, 2017). The tourism endeavors mostly includes maintaining, trekking and other outdoor mutual to environment due to its fragile nature. Moreover, water contamination, air pollution loss of agricultural land and disruption of local ecology (Richard, 2022).

Similarly, highly-significant ($p=0.000$) and Positive ($T^b=0.226$) association was confirmed between Tourism is argued to be the prime threat to indigenous habitats, and the natural resources and Commercialization of agriculture/rural lands for tourism. Altman, (2018) concluded that tourism makes the above of the land increased which attract farmers to sell their land for a handsome return. Purchase of land is usually for initiating business properly suit and endorse tourism industry. The return is usually measured to be in negative direction with consequences as detrimental to local biodiversity and ecosystem. Moreover, the local economy although grows with a tremendous potential to generate employment and business opportunities both local and non-local investors. However, has noted this booming economy out manner the preservation endears of local culture, agriculture and environment and biodiversity. Urbanization in the aftermath of tourism is seen through the Google's of environment preservation initiatives as harmful to local biodiversity (Cajee, 2014, Bhatawdekar, 2022 and Loperena, 2017)

While, a highly-significant ($p=0.000$) and Positive ($T^b=0.229$) association was found between the existing ecosystem and biodiversity are under constant threat of perishing due to

their threatening habitats and Commercialization of agriculture/rural lands for tourism. The existing ecosystem and biodiversity both are under tremendous pressure of elimination due to the destruction of local environment facing degradation on the face of using human intervention in the factor of construction, infrastructure development and loss of ecological balance along with alteration in the existing landscape etc. are deemed not conducive to survival of different ecosystem (Schunko, 2019). Moreover, some other factors like water and air pollution further add elimination chances to the existing plants and animal species as the emerging environment is not ideal for the survival Sanderson, (2013). Moreover, transportation of agriculture land introduction of industry, non-disposal of waste and excessive exploitation of local resources is dangerously affecting the local Mino organism with the disruptive ecosystem (Valbuena, 2021).

In addition to the above, a highly-significant ($p=0.000$) and Positive ($T^b=0.181$) association was established between no any law or measures have been taken on part of the relevant departments to preserve bio-diversity and Commercialization of agriculture/rural lands for tourism. These results unearthed the pathetic behavior of the relevant departments to design any sound strategy for preservation of biodiversity. These findings were in accordance to Ghosh, (2012) findings that infrastructural growth. Construction and poor management protocol regarding the waste disposal have weakened the conservation chances of the local environments. A strategy based on awareness of the relevant stakeholders and devising methodology of preservation while ensuring the input all the relevant quarters can diminish the chance of wildlife and biodiversity eliminator (Khondker, 2015). Public sector and private inventions synergy could be fruitful towards renewable energy proper waste management through involvement of local communities in a greater inclusive paradigm (Murshed, 2013).

Furthermore, a significant ($p=0.004$) and Positive ($T^b=0.099$) association was established between Lack of visitor's calendar to import preservation instruction has further deteriorated the existing species in the area and Commercialization of agriculture/rural lands for tourism the negative impacts of tourism on the environment and local communities. It is indeed noted with concerns that visiting periods on year basis is missing and the visitors often violate the natural laws of preservation due to ignorant and lacking of any guiding instruction. These essential instruments lacking turn the whole phenomena ineffective to safeguard and protect the local

environment, biodiversity and resist transformation agricultural land into business hubs. This ignorance has generated the commercialization drive on the use leaving behind for reaching effect on the local communities, sustainability drives for the natural habitats albeit use to the economy and business activities (Caldwell, 2014). The non-existence of proper sideline and regulation mechanics visitors feel free to do anything by putting at stake the local flora and fauna resulting into a decline in the respective population (Tambe, 2015).

CONCLUSION

The threat to biodiversity in the advent of high population and commercialization of agriculture rural land for tourism related activities The study dilated on responses reviewed from the respondent accursed that land conversion was primarily exploring the tourism phenomena to be the major driving force as tourism had dilated upon construction of building, infrastructure while reducing the agriculture land emanating the land and soil degradation and deforestation as well. It was further noticed in the study findings that local biodiversity and ecosystem was at stake due to changing cultural and social structural dynamics. The local had access to market economy and an up ticking on the economic profile of the locals was explored however at the cost of local culture, degradation of environment soil erosion and loss of natural resources like scenic beauty and serenity was found being compromised upon.

Sand mining and extraction was found another threat to biodiversity and enhanced the chances of flooding during the rainy season. A strict vigilance by the local government representative through enforcement of relevant rules and imposing tax, to be collected by locals, ought to serve for development of these rivers bee/bombs would serve as a major rehabilitation initiative. Moreover, yardsticks like establishment of spires if attracted may also work towards containment of flood in the rainy season. Environmental pollution including both airs, water was on rise in the study area. The major contributing fallen were vehicular exhausts in the shape of CO₂ and matter releasing. Moreover, throwing of litters by the visitors had also contaminated the local environment i.e. water springs etc. to avoid this unpleasant reality and comprehensive code of ethics entraining the awareness campaign in local media, bill loadings on the major entrust at

hotels etc. is the need of the day. Moreover, imposition of time upon violation may further and strength to mitigation of environmental pollution.

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