ISSN No:-2456-2165

The Health of Gashaka Gumti National Park using SWOT Analysis

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Abstract:- Biodiversity conservation has witnessed a tremendous growth as several scholars from different jurisdictions have directed their attention toward this subject matter. The aim of this study is to asses the health of Gashaka Gumti National Park using SWOT Analysis. The study design combines both quantitative and qualitative research, this research was to develop a questionnaire as a means to collect primary data from sampled subjects. The purpose of this data is to achieve the research objectives. This study used both construct validity and content validity and the questionnaire seeks responses on health of the national park. The participant (households) opinion was sought on threats (e.g., poaching, logging, farming etc.) on Gashaka Gumti National Park (GGNP) and require to indicate YES or NO as well as likert scale. This study makes several contributions to knowledge in terms of methodology, empirical evidence and as well as theoretical. This findings open new research page for in-depth discussions on weakness and strengths, threats and opportunity of National parks. The study applied to identify appropriate variables to predict the cases. The contribution is that tourism development and biodiversity literature is enhanced by the findings of this work.

Keywords:- *Evaluation, Healthy, Gashaka, Gumti, National, Park, SWOT.*

I. INTRODUCTION

Biodiversity conservation has witnessed a tremendous growth as several scholars from different jurisdictions have directed their attention toward this subject matter (Jarvis et al., 2000; Hobb, 2002; Cardinale et al., 2012). This growth shows the importance to academia in addressing the critical issues of biodiversity conservation society is grappling with over the last decade. The term biodiversity was first introduced by Raymond F. Dasmann in 1968 in a book titled "A Different kind of Country advocating Conservation". Since then, it has gradually evolved, and several definitions have been introduced (see Wilson, 1988; Rosen, 1985; Leveque & Mounolou, 2003).

But, the common cited one is provided by "Convention on Biological Diversity as defined: "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (CDB,1992).In simple terms, it refers to all the variety of life that can be found on Earth (plants, animals, fungi and micro-organisms) as well as to the communities that they form and the habitats in which they live. The increasing attention on biodiversity conservation is due to fact its intended value is being threatened at a faster rate (Wilson 1988;) which has led to a considerable loss of wild life and their habitat relative to biological average rate (Johnson et al., 2017).

The fast decline of endanger species and habitat has been attributed to imprints of humanity, which started many years ago, when people fed on carnivores. A case in point is where almost two –thirds carnivores, in the categories of cats, and hyenas were lost. In addition, twelve (12) varieties of elephants and their kind domicile in Africa about "3 million years ago 'were reduced to two (2) (Johnson et al., 2017). Similar losses took place in the Americas, where "large-bodied animals (mega fauna) such as saber-toothed cats, mammoths and giant ground sloths" disappeared following the arrival of humans about "11,000–13,000 years ago" (Brooks et al., 2003).

The threat to diversity is not limited only loss of endangered species, but loss of habitat due human growth and expansion of economic activities, such as farming, deforestation, climate change, overexploitation and amongst others (Adetola & Adetoro, 2014, Gashaw ,2015). With the expected human growth of 8.3 billion and average life expectancy exceeding 85 years in 2030 globally, demands of societies and households will be more diverse than anticipated. The consequence thereof will further enlarge the imprints of men leading to rapid transformation of habitat into communities and increasing economic activities thereby destroying the entire biotic resources (Nakamura 2006; Johnson et al., 2017).

In response to the present rate of extinction of species, conserving biodiversity is warranted to stem the tide, safeguard and protect the existing species (Tagowa and Buba, 2012). Several international initiatives have been taken to harness efforts to curtail further loss biodiversity. The most important is the Convention on Biological Diversity, with objectives of conserving biological diversity, sustaining the use of the components of biological diversity, and the fair and equitable sharing of the benefits arising out of the utilization of genetic Resources (UNEP-WCMC 2014).Through the CBD, an agreement was reached to achieve a significant reduction in the current trend of loss biodiversity was the targeted by

ISSN No:-2456-2165

2010.Yet, little progress have been made thus far (Butchart *et al*., 2010 cited in Johnson et al., 2017). As most figures show that the global current state of biodiversity continues to decline, with little or no empirical evidence of current reduction in rates of change (Arvis et al., 2016).

The conservation of wildlife and their habitat is very much appreciated by local communities. However, the mode of strict preservation and pure protection aimed at total elimination of the communities and their activities is the major concern, which has contributed to increasing loss of endanger spices and their habitat in the protected areas and national parks (Njogu, 2004). The local communities view the wide life as free gift of nature and main sources of employments, such as farming, hunting, poaching, etc. and thus there is no justification for protecting them and prohibiting its use at the peril of their livelihood (Tagowa and Buba, 2012).The worrying aspect is that most of the protected areas and national parks are rightly owned by the local indigene, especially in Africa, and they use the natural resources for agriculture, medicinal, purposes and will not augur well to "tag" them(PA) as restricted areas (Masozera, 2002).

Even when the protected areas and national parks were considered as methods of protecting preserving and conserving biodiversity to eliminate all forms of human interference (Stolton, 2006; Geldmann, Joppa & Burgess, 2014; Cumming et al., 2015; Oruonye et al, 2017), the impact is below expectation**.** Rockström et al., (2009) indicate that current estimated rate of loss of biodiversity ranges from 100 to 1000 times above what was anticipated relative to fossil statistics. The protectionist approach often degenerates into conflict between local communities and managers due to mistrust, skepticism and apathy. Therefore, it raises a lot of doubt about effectiveness of this approach (Ite, 1996; Joppa et al., 2008, McDonald et al., 2008). The aim of this research is to assess the health and roles of the local communities in biodiversity conservation in Gashaka Gumti National park how active participation of the local people can improve biodiversity conservation.

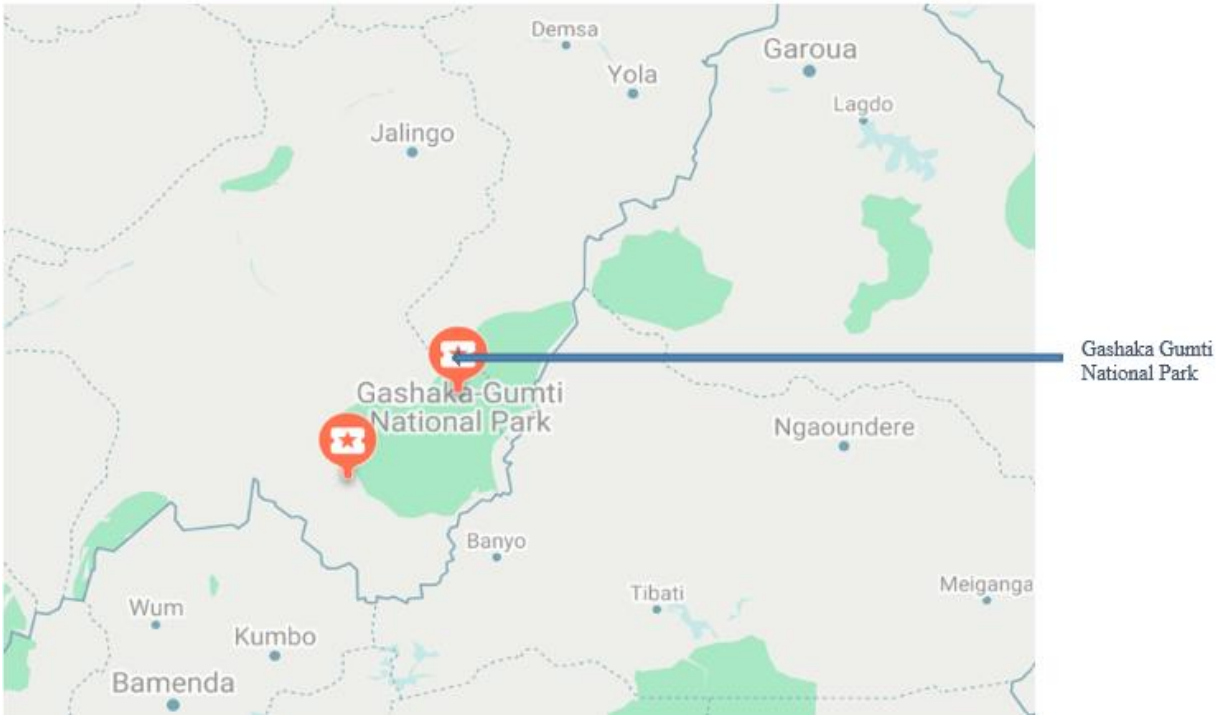

Fig 1:- Shows Gashaka Gumti National Park (GGNP)

II. METHODOLOGY

➢ *Study Area*

Gashaka Gumti National Park (GGNP) is situated at the foot of the Mambilla Plateau and covers a land area of about 6,411 km2. It lies between latitude6º55'N and 8º05'N and longitude 11º13' to12º11'E. The park was originally gazetted as Gumti, Gashaka and Serti Game sanctuaries by the defunct Northeast Government in the 1970's. The three game sanctuaries were merged and upgraded to a National park by the Nigeria National Park Decree of 26th August, 1991 which was repealed by Decree 46 of 1999.

Gashaka –Gumti National Park is a vast land of spectacular wilderness (6,000 km2) in the southeast corner of Taraba State, adjoining the Mambilla Plateau (Figs. 1 and 2). The Park, like any other Park, was established as a protected area for the purpose of nature conservation, recreation, ecotourism, scientific and medical research, and to promote art, craft and other cultural values of the indigenous people of the immediate environment.

The Park is an outstanding tourist landmark in Taraba State. Its unique position is underlined by the fact that it is not only the largest of all the eight national parks in the country (Ayodele 2001) but it is the most diverse in terms of species in the whole of West Africa, harboring such rare

animals like the colobus monkey and warthogs, including buffalo, roam antelope, chimpanzee, hippopotamus, hyena, giant forest hog, lion and leopard. It is home to some highly endangered species of wildlife. Threatened with extinction elsewhere, chimpazees are truly at 3 home at Gashaka Gumti Park; they are safe, secured, relaxed and confident. Its vast expanse of land contains river valleys and peaks that are suitable to holiday makers. The park is crisscrossed by many rivers (notably rivers Kam, Gashaka, Yim and Gam-Gam) which, among other ecological functions, act as reservoirs of diversity. Visitors to this secluded region will find no roads here, but only a small number of footpaths snaking through the wooded mountains in the direction of Republic of Cameroon. Visitors to the Gashaka-Gumti National Park would be able to take pleasure in the flourishing forests, the extensive sweeping grasslands, the fresh highland plateaus, the Rocky Mountains, rich wildlife and the captivating ethnic cultures. The climate of the park ranges from tropical to humid at different times of the year. The ethnic groups in the area are Jibu, Dakka,Ndoro, Tigun, Gbaya, Tiv, Mambilla, Kaka and Fulani in the southern part of the park, while inthe northern part or Toungo sector are the Chamba, Kutim Potopore, Fulani, Dakka, Nyamnyam and Kona.

The major occupations of the enclave communities are farming, livestock husbandry, vocational jobs, civil service with few hunters and fishermen. They engage in subsistence farming and crops cultivated include maize, groundnut, millet, guinea corn, beans, soya beans, rice, yams, sugar cane, and cassava. The best time to visit the park is during dry season that is between Decembers to March yearly.

This is when the park booms and every condition at its best both in terms of accessibility and the weather. Although one can also visit during the rainy or wet season but extra care would need to be taken, especially because of the weather and the terrain. During the dry season, visitor should expect to battle some cold and so should go with some warm clothing (Okungbowa, 2009).There are about 25 communities in and around the park; 5 outside, 11 on the periphery and 9 inside, including 6 enclaves (Deshen et al., 2010).

➢ *Study Design*

The study design combines both quantitative and qualitative research .A cross-sectional study design will be for quantitative data. (I.e. investigations and data collections have been undertaken simultaneously only at one time, and allows statistically inferences) is chosen as it is best suited to study existing situations, problems and phenomena. Observation and interviews will be used for qualitative data (i.e., naturalistic observations of respondents or to uncover unknown phenomena and behaviors (Meekosha, 2009).

➢ *Population and sample sampling*

A population is the total of number of individuals or units of interest being investigated. According to Polit and Hungler (1999) population refers to the totality of subjects that conforms to a set of specification, which consist of entire group of individual , firms, households which are of interest to the investigator or researchers whom the outcome of study will be generalized .The target population of this study is the number of households in these communities :Gashaka Gumti ,Selbe , Filinga, and Chappal Hendu communities within the Gashaka Gumti National Park. As at 2006 National Population Census, the total residents of four (4) communities is 15,038 (NPC, 2006).

➢ *Questionnaire Design*

The first stage of this research was to develop a questionnaire as a means to collect primary data from sampled subjects. The purpose of this data is to achieve the research objectives. The research question and objective provide ground for the questionnaire design. Close-ended questionnaire was used and administered to sampled household .Close-ended questionnaire which produce a greater level of responses (Gillham (2000), which produces accuracy in results and data (Seliger & Shohamy, 1989).

The questionnaire seeks responses on Health of National Park. The participant(households) opinion was sought on threats (e.g., poaching ,logging ,farming etc) on Gashaka Gumti National Park (GGNP) and require to indicate YES or NO as well as likert scale . For example.

- what is the health of the Gashaka Gumti National Park
- Please indicate how you consider these threats to Gashaka Gumti National Park
- Please indicate the extent you perceive threat as a problem to Gashaka Gumti National Park
- How will you describe the overall level of threats to Gashaka Gumti National Park?
- Do you think the park has enough worker, enough money for employment, education on the need to conserve wildlife and forest, no the number of animals in the park and does the park has enough security for the wild life and habitat.
- To what extent do you consider these as weakness of the Gashaka Gumti National Park?
- Please indicate how you perceive the severity of the weakness to Gashaka Gumti National Park
- How will you describe the overall level of the weakness of Gashaka Gumti National Park?
- vix. please indicate the extent to which you agree or disagree that the weakness contribute to the level of the threats to the park
- to what extent do you agree or disagree that Job creation, income generation, and promotion of environmental awareness are opportunities to Gashaka Gumti National Park
- Please indicate the relative importance of this opportunities to Gashaka Gumti National Park

- Please how would you describe the overall level of opportunities available to Gashaka Gumti National Park?
- Please indicate the extent to which you agree and dis agree to strength of Gashaka Gumti National Park. This questions yes or no and likert scale was applied to other status of national park, such as Weakness, strength, opportunities.

➢ *Validation of research instruments*

Validity refers to whether the instruments is measuring what it purports to measure as reported by Bryman & Cramer, (2006) and Bryman, (2008). This study used both constructive validity and content validity. Saunders et al (2007) explain construct validity as the extent to which the measurement questions actually measure the presence of those constructs one intended to measure. In this study and for the purpose of construct validity, the questionnaire was divided into several sections to ensure that each section assessed information for a specific objective.

Content validity is the extent to which the measurement device provides adequate coverage of investigative questions. Creswell (2003) suggests that a colleague and / or an expert provide additional insight into the study and research findings. To ensure content validity the questionnaire will be scrutinized by two independent resource persons from the field of Biodiversity to ensure clarity of the statement.

III. DATA ANALYSIS

Data analysis was done using statistical package for social science (SPSS version 20) Descriptive statistics of frequency and percentage were used in answering the research questions.

IV. RESULT AND DISCUSSION

Question	Responses		
	yes	No	Indecisive
Do you spot wildlife in the parks?	106 (56.4%)	77 (41.0%)	5 (2.6%)
Is there any animals you don't see them again	133 (70.7%)	20 (10.6%)	35 (18.7%)
Any wildlife not seen before?	123 (65.4%)	58 (30.9%)	7 (3.7%)
Have you poach any animals before?	76 (40.4%)	107 (56.9%)	5 (2.7%)
Do you killed the animals with your hands	59 (31.4%)	125 (66.4%)	4(2.1%)
Do you support free movement of the wildlife	57 (30.3%)	128 (68.1%)	3(1.6%)
Do you see the wildlife as a source of Livelihood?	105 (55.9%)	79 (42.1%)	4(2.1%)

Table 1:- Health of the Gashaka Gumti National Park

The results show that the respondents answered yes that they spot wildlife in the park (56.4%) that there are some animals they no longer see (70.7%). 65.4% of the respondents do affirm that, there are certain wildlife not before. 55.9% of the responded that they see wildlife as a source of livelihood. The number of the respondents that have not poached any animal is 56.9% as against 40.4% that have poached animals. In the same way, 66.4% have not killed animals with their hand as against 31.4% that have killed animal with their hand. The number of the respondents that support free movement of wildlife is less (30.3%) than those who do not support (68.1%) free movement of wildlife.

Threat	Not Too Much (%)	Not Much (%)	Much (%)	Very Much (%)	Too Much (%)
Poaching	28.7	23.4	11.7	25.5	9.0
Logging	13.3	10.6	30.9	29.3	10.6
Encroachment	36.2	23.4	18.6	11.7	7.4
Farming	29.8	26.1	20.7	13.3	2.7
Invasive species	25.0	30.9	21.3	15.4	2.7
Grazing	12.8	25.5	17.6	26.1	16.0

Table 2:- Evaluation of threats to Gashaka Gumti National Park.

Results of the Table 2 indicate that logging (29.3%) constitute very much threat to GGNP followed by grazing (26.10%). Poaching (25.5%), invasive species (15.4%) and farming (13.3%). The least of the threat to GGNP is encroachment (11.7%).

Threat	Not Severe (%)	Less severe (%)	Severe (%)	Very severe (%)	Extremely severe (%)
Poaching	11.7	19.1	31.4	23.4	12.8
Logging	6.4	19.7	29.3	28.7	13.8
Encroachment	44.7	27.1	11.2	12.8	2.7
Farming	25.0	38.8	20.7	10.6	2.7
Invasive species	53.2	25.5	10.1	6.9	2.7
Grazing	27.1	22.3	11.2	21.8	12.8

Table 3:- Evaluation of severe threat as a problem in Gashaka Gumti National Park

The result observed in Table 3 indicated logging to be 28.7%, very severe and extreme severe treat to GGNP at 13.8%.

Overall level of Threat	Frequency	Percentage (%)
Low	3	1.6
Medium	77	41.0
High	26	13.8
Indecisive	82	43.6

Table 4:- Overall level of Threats to Gashaka Gumti National Park

The overall level of threat to GGNP is at medium level. This is confirm by 41.0% of the respondents.

Information Require	Yes (%)	No (%)	Indecisive
Do you think the park have enough workers?	56.4	42.0	1.6
Does that park have enough money to employ more people	55.3	42.6	2.1
Does that park management educate you on the need to conserve wildlife and forest	59.6	38.3	2.1
Do you think that the park managers know the number of the animals in the parks?	41.5	55.9	2.7
Does the park has enough security for the wild life and habitat	34.0	63.8	2.1

Table 5:- Evaluation of the weakness of Gashaka Gumti National Park (GGNP)

From the result it was reported that the respondents show that GGNP does not have enough security for the wildlife and habitat. This is affirmed by 63.3% of the respondents who opposed to the statement the park has enough security for the wildlife and habitat. The next perceived weakness of GGNP is that the managers do not know the number of the animal in the parks. While, 55.9% of the respondents opposed to the statement that the park have enough workers.

Lacks of :	Strong disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strong agree (%)
Funding	23.9	22.3	9.5	28.7	15.4
Adequate security	12.8	13.8	23.9	32.4	17.0
Education on conservation	14.9	25.0	30.9	21.8	7.4
Inadequate staff	7.4	12.2	22.3	16.0	42.0

Table 6:- Agree or Disagree response to the weakness contribution to the level of treat to the Park

Table 6 shows that inadequate staffs is one of the weakness that contributed largely to the extent treat to the GGNP. 42.0% of the respondents strongly agree to this facts. This is followed by the lack of adequate security of 17.0% and Lack of funding of 15.4%.

Opportunities	Strong disagree (%)	Disagree (%)	Neither agree nor Disagree (%)	Agree (%)	Strong agree (%)
Job creation	21.8	17.6	11.7	30.3	18.6
Income generation	5.9	13.8	31.4	34.0	14.9
Promotion and creation of environmental awareness	19.1	15.0	44.6	9.6	11.2

Table 7:- Disagree and Agrees of Gashaka Gumti National Park Opportunities to the communities

Job opportunity is the topmost opportunity to GGNP, and this is followed by income generation and lastly promotion of and creation of environmental awareness.

Opportunities	Not Important (%)	Less Important (%)	Important (%)	Very Important (%)	Very much Important (%)
Job creation	1.6	19.7	29.3	31.4	15.4
Income generation	6.4	26.6	22.6	25.0	5.9
Promotion and creation of environmental awareness	25.0	25.5	25.0	13.3	8.5

Table 8:- Relevance importance of the opportunities of Gashaka Gumti National Park (GGNP).

ISSN No:-2456-2165

From the Table 8 it was observed that the job creation is most relevant opportunity to GGNP followed by promotion and creation of environmental awareness. The least of the relevance of the opportunity of the GGNP is the income generation as respondent by the communities of which this questioners was administered.

Overall level of Opportunities	Frequency	(%)
Low level of Opportunities	94	50.0
High level of Opportunities	75	39.9
Indecisive	19	10.1

Table 9:- Overall level of opportunities available to Gashaka Gumti National Park (GGNP)

The low level opportunity available in GGNP as reported in Table 9 as shown indicated 50% as affirmed by the respondents.

Strengths	Strong disagree (%)	Disagree (%)	Either agree or disagree (%)	Agree (%)	Strongly agree (%)
GGNP is Tourism destination	16.0	20.7	20.7	32.4	10.1
GGNP as an Academic research Centre	17.6	30.3	36.1	27.1	16.0
Gazette as international and local recognized	17.6	18.1	19.1	28.2	18.1
Protection of natural resource and cultural heritage	8.5	13.3	22.3	34.0	21.8

Table 10:- Strength of Gashaka Gumti National Park by the communities

From the Table 10 shows 21.8% of the respondents strongly agree that protection of natural resource and cultural heritage is the top strength of GGNP, this was followed by the local and international recognition of 18.1% and the least was the strength of GGNP as the tourism destination

Strengths	Strong disagree (%)	Disagree (%)	Either agree or disagree (%)	Agree (%)	Strongly agree (%)
GGNP destination	9.0	14.9	40.4	24.5	10.1
GGNP as an Academic research Centre	11.2	24.5	36.7	20.2	6.4
Gazette as international and local recognized	22.3	31.4	30.9	10.1	4.3
Protection of natural resource and cultural heritage	29.8	12.8	23.9	20.7	11.7

Table 11:- Relative importance of the strengths in Conservation of biodiversity in GGNP by respondents

From the Table 11 protection of the natural resource and cultural heritage is the most relevant importance of the GGNP to the communities as reported by the respondents.

General level of Strengths	Frequency	(%)
Low level of Strengths	104	57.4
High level of Strengths	76	40.4
Indecisive	4	2.1

Table 12:- General level of strength in conservation biodiversity in GGNP.

The Table 12 indicated the general level of strength of the GGNP in conservation biodiversity was reported to be low by the respondents as frequency of 104 with percentage of 57.4%.

Strengths	Strong disagree (%)	Disagree (%)	Either agree or disagree (%)	Agree (%)	Strongly agree (%)
Strict enforcement of gazettement	18.6	16.5	19.7	33.0	12.2
Stricter fine for poachers and grazers	7.4	11.7	24.5	36.7	19.7
Adequate will to enhance security of Park	15.4	11.7	23.9	31.4	17.0
Dialogue with the Local communities	6.9	16.5	33.0	30.3	13.3

Table 13:- Level of strength in conservation biodiversity in GGNP as a threats.

The result indicated that strict fine for poachers and grazers will minimize the level to Gashaka Gumti National Park.

V. CONCLUSION

This study makes several contributions to knowledge in terms of methodology, empirical evidence and theoretical. The present study used SWOT analysis to predict dependent variable such as opportunity, strengths, threats and weakness as measurement of health status of Gashaka Gumti national park. This findings open new research page for in-depth discussions on weakness and strengths, threats and opportunity of national parks. The study applied to identify appropriate variables to predict the cases. The contribution is that tourism development and biodiversity literature is enhanced by the findings of this work.

The existing literature on tourism development relationship confirms the mixed evidence in empirical and theoretical perspectives on the influence of biodiversity as to the evaluation of health of Gashaka Gumti National Park conservation. The finding of this study is an addition to expand existing evidence and understanding of how tourism development factors can impact conservation in the park. This study finding has broaden the impact on tourism development on conservation terms of strength, weakness ,opportunity and threats and thus, put forward that influence of tourism development has two outcomes of maximizing opportunity, maximizing strength, minimizing weakness and minimizing threat instead.

The findings of this further ads to tourism literature and argues that per the findings, it appears that evaluation of health of Gashaka Gumti National Park impact tourism development on biodiversity which will leads to maximizing opportunity of the park and maximizing strengths within the park (GGNP).

The study documents reported that tourism development activities supported by local community has positive impact on biodiversity in terms of strengths and opportunity in the park than parks excludes community involvement have inverse relationship. The adds to the above findings as contribution to literature on Gashaka Gumti national Park and parks with respect to local community role in conserving wildlife and their habitats. It is revealed that park that adhere to stake holders and local community participation practices tend to improve conservation initiative .

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