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**Perspectives of Nepalese Youth on Ecotourism
Practiced at Rara National Park, Western Nepal**

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Abstract

Participatory conservation approach practiced in most of the protected areas of Nepal mandate the active role of people for conservation planning and implementation. Peoples' participation in conservation is largely regulated by the benefits they receive. Ecotourism, as it envisions the improved living standard of local people, could be one of the drivers for alluring local people towards biodiversity conservation. Thus, it is essential to assess ecotourism potential of a site for planning and implementing community engagement for biodiversity conservation. The potentiality of ecotourism depends upon three major factors i.e. visitors' satisfaction, willingness of local people to participate in ecotourism related activities, and enthusiasm of park authority. Studies on ecotourism potential in Nepal are limited in scope and time. Therefore, this study tends to recognize the perspective of youth towards ecotourism in Rara National Park, where visitors' numbers are growing of late. Scheduled interview was used to collect the perspectives of youth. Data were explored using descriptive statistics and association between the perceptions and visitors' general background were explored using Chi-Square test. In the

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study, length of stay was observed to be associated with educational background. As per the responses, ecotourism activities in the park were found to contribute in biodiversity conservation and betterment of livelihood of local people. Though, the number of tourists are increasing, they are not adequate yet with potential to increase further in near future. When optimum tourist visit the park area, ecotourism activities can create win-win situation to biodiversity and people.

Introduction

“Tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.”(UNWTO, 1994). Existing literatures relate the origin of tourism to antiquity when sporadic travels analogous to tourism were practiced which took a while to turn in to ‘The Modern Tourism’ and is proliferating since its emergence in the post war growth era in the 1940s (Bramwell & Lane, 1993; Gyr, 2008). Such a growth can be attributed to strong and positive relation to economic growth of countries as per chosen degree of specialization of tourism (Brau, Lanza, & Pigliaru, 2007). Obtained economic growth is not stimulated by foreign exchange income alone but also with the employment opportunities created (Lee, Cheng, & Cheng, 2007). Tourism, with a projection of continued growth, currently is one of the fastest growing sectors across the globe (Wight, 1997). The similar trend can be observed as of late. The number of visitors increased by 3.9% globally in 2018 and contributed 10.4% to global GDP creating 319 million jobs (10% of total employment) (WTTC, 2019).

Endeavoring an explanation about the relationship between tourism and economic activity requires consideration of merits and demerits of tourism development (Sinclair, 1998). Tourism, like the other driving force of economic development, has potential positive and negative effects. The significance of tourism has been acknowledged by governments of different countries. Besides, it has been acknowledged in international forums as well. The Manila declaration on world Tourism of 1980 recognized its importance as “an activity essential to the life of nations because of its direct effects on the social, cultural, educational, and economic sectors of national societies, and on their international relations”.

Government of Nepal has also prioritized tourism sector. For the sake of enhancing tourism sector and encouraging locals in this field, development of the modern infrastructures has been focused by the Government of Nepal (Shakya et al., 2013). But despite the possibility of tourism on various sites across all the physiographic provinces, tourism activities are limited to few places like Kathmandu, Pokhara, Annapurna Conservation Area, Chitwan and Lumbini along with the climbing activities of snow-capped mountains. Though, Nepal is bestowed with features like

scenic beauty, rich biodiversity, snowcapped peaks, tangible and intangible cultural resources we are yet to capitalize those resources.

There are good prospects of tourism in Nepal which is encouraging to investors to grab the opportunity and gain good benefits (Bhote, 2018). Since Nepal has been granted with good varieties of factors required for tourism such as diverse landscape, biological resources and culture, it's being destined for visits and a good contribution to the Nepalese economy is being made (Gautam, 2008). Some of the available features fascinating tourists in Nepal have been natural and cultural heritages, mountain climbing, trekking, rafting, jungle safari, bird watching, mountain biking, mountain flight, paragliding, bungee jumping, rock climbing, etc.

The tourism potentiality can be converted into social and economic prosperity. In Nepal, significant relationship has been observed between earning from tourism and economic growth of the country (Gautam, 2011). The generation of job due to several tourism activities such as establishment of hotels, development of new economic activities like cycling, parking of vehicles, taking care of tourist's goods, tourist guide etc. help in the local economy and its development. Regarding adventure based tourism which is a major form of tourism includes more positive effects than adverse effects with congregating Nepal's national economy (Zurick, 1992). It is undeniable that in spite of its growing relevance and the proven contribution to GDP, jobs and spreads, tourism still lacks up to the level it could have been due to less political and economic recognition (UNWTO, 2010). Though tourism industry has been recognized for its remarkable economic and social benefits, providing jobs and increase in GDP, it has been regarded as the wide source of environmental problems, especially in developing countries like Nepal (Nyaupane & Thapa, 2006).

Ecotourism

Tourism industry enhances the economy of countries while strengthening their tourism industries strategically (Fayissa, Nsiah, & Tadasse, 2007). Tourism makes unknown known with the transverse and diverse communication media along with diffusion of information regarding the place to quench the thirst of tourists before and after travel which in other hand enhances the tourism (Isbășescu & Fintineru, 2013). Despite having such advantages, there have been already a consensus that poor and ill-conceived tourism activities exert adverse impacts on various aspects of environment. A general pattern has been like, 'more popular the place is, greater the adversities it faces' (Hillery, Nancarrow, Griffin, & Syme, 2001). Such situations may not always yield benefits from tourism after inclusion of cost incurred on treating negative consequences of the very activity and thus, requires another form of sustainable tourism.

Ecotourism is a nature based tourism which directly or indirectly promotes and supports sustainable economic development leading towards the development of local infrastructure and enhances the rural economy through the demand of essentials required for accommodation purpose (Nicula & Spânu, 2014). Out of many advantages those ecotourism has been providing, economic gains in terms of incomes and employment along with the conservation of nature are the major concern (Tisdell, 1996).

The International Ecotourism Society (1991) defines ecotourism as the responsible travel to the natural areas that conserve the natural environment and improve the living standard of the local people. Ecotourism is now defined as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education”(TIES, 2015).

In 2002, Quebec Declaration suggested five distinct criteria to be used while defining ecotourism which are; nature based product, minimal impact management, environmental education, contribution to conservation, and contribution to community (Dowling & Fennell, 2009) and ecotourism is a component of the green economy as well (K.C., Rijal, & Sapkota, 2015). Ecotourism involves learning about several environmental aspects and preserving it with the active involvement of local people, which progressively optimize the benefits and minimize the problems (Boamah & Koeberl, 2007). Ecotourism is about conservation of resources, uplifting communities and sustainable development with minimal impacts on the physical, social, behavioral and psychological aspects with the recognition of rights and spiritual belief of indigenous people (Blamey, 2001).

Ecotourism potential is high in the case of Nepal but potentiality is not properly harnessed due to lack of proper policy and institutions to guide ecotourism activities (GoN/MoF, 2019). Ecotourism in Nepal, their role in sustainable development and impact of climate change on tourism are among a few pieces of works in regards that have been documented from Nepal (K.C., 2016; 2017). While ecotourism is being considered as the smartest tool for the conservation of the resources globally, it seems to be very appropriate in developing countries like Nepal as well since it allocates less amount of capital in the tourism sector (Tiwari, Nepali, Paudel, & Upadhaya, 2017).

Protected area and ecotourism

Protected areas are established with the motive of conserving the biodiversity of any region. They are often considered to be the cornerstone of conservation. But the conservation success in the protected areas are largely dependent on ability of park managers to invest in the conservation of Biodiversity. Park tourism supports the crucial component of conservation funding made to the park. Thus, it's crucial to consider about sufficiency of the visitors in the park (Eagles et al., 2006). Ecotourism

in protected areas is meaningful to establish mutual relationship between the park authority and local people (Xu, Lü, Chen, & Liu, 2009)

Poverty of people living in the vicinity of the park is one of the important drivers of environmental degradation in the protected areas (Bajracharya & Lama, 2008). Carefully planned ecotourism, besides making significant improvement in the living standard of people, also contributes to the conservation of biodiversity, which have been already evident in some protected areas of Nepal. Ecotourism activities have brought job opportunities and income to local people in Annapurna Conservation Area in Nepal and have contributed to conservation of varied landscapes, culture and biodiversity (Bajracharya & Lama, 2008). Scaling up this success to other protected areas of Nepal can ease up the tension between local people and park authority arising either due to differential understanding about the resource use perspectives or due to human wildlife conflicts.

Modern history of conservation in Nepal was initiated with the establishment of Chitwan National Park in 1973. At the beginning the conservation was primarily guided by fine and fence approach. Local people whose livelihoods were historically dependent upon the natural resources were made deprived of those resources, creating the situation of tension between management authority and local people (Allendorf, 2007). This was later addressed in 1996 when the concept of buffer zone was introduced in Nepali conservation policy with the motive of reconciling conservation and development through enhanced participation of local people in conservation (Budhathoki, 2004). This shift in management and governance approach of Nepal's protected area system from a strict protectionism approach to a participatory management model over time, following the political turmoil where country's socio political systems have advanced to a more democratic system (Bhattarai et al., 2017).

The participatory approach involves people in management of resources in a sustainable manner meanwhile providing aid in different socioeconomic developmental activities for the communities. Assistance to communities for socioeconomic developmental activities is an important factor that motivates people in turn to be involved in management of resources (Lee, 2013). However, providing such a support to communities in a sustainable manner would be difficult unless there are sustainable ways to raise funding. In this context, ecotourism can be a fairly good solution for generating funding that will work as conservation finance. Furthermore, ecotourism supports in conservation through other activities like raising awareness, education and interpretation.

Despite the significance of ecotourism in Nepal, there are not enough researches that adequately address the perspectives of ecotourism. Policy documents of Nepal

also have failed to understand the difference of other nature based tourism from ecotourism (Aryal, Ghimire, & Niraula, 2019). Low priority by the government means, problems related to ecotourism are rarely addressed by concerned government authority. Ecotourism entrepreneurs have faced many tourism related problems during the operation (KC, Rijal & Sapkota, 2015) which have significant impact to the tourists as well. Similarly, awareness regarding environmental practices and sustaining experiences in ecotourism accommodation may lead to visualize positive environmental attitudes, thus increasing their interest in further ecotourism experiences (Won & Gianna 2005). Therefore this study examines potentiality of ecotourism at Rara National Park based on perception of youth towards ecotourism and associated attributes of Rara National Park by exploring the physical, social and economic fronts of the ecotourism activities at Rara National Park.

Research methods

Study area

This study was conducted in the Rara National Park (Figure 1). Rara National Park, 81° 59'54" to 82° 8'27" E, 29° 26'28" to 29° 33'11"N, with elevations ranging from 2754 to 4097 m, was established on 1976 and its buffer zone was declared in 2006. The total area of the park is 106 Sq. Km and buffer zone covers the area of 198 Sq. Km. Major portion of the park lies in Mugu district while a fraction of area lies in Jumla district. Rara Lake, which is the largest and deepest lake of Nepal is the major attraction of the park. The lake extend about 5 Km in length, 3 Km in breadth and is 167 m deep and the area is 10.65 Sq. Km. The Lake was listed as a Ramsar site in 2006.

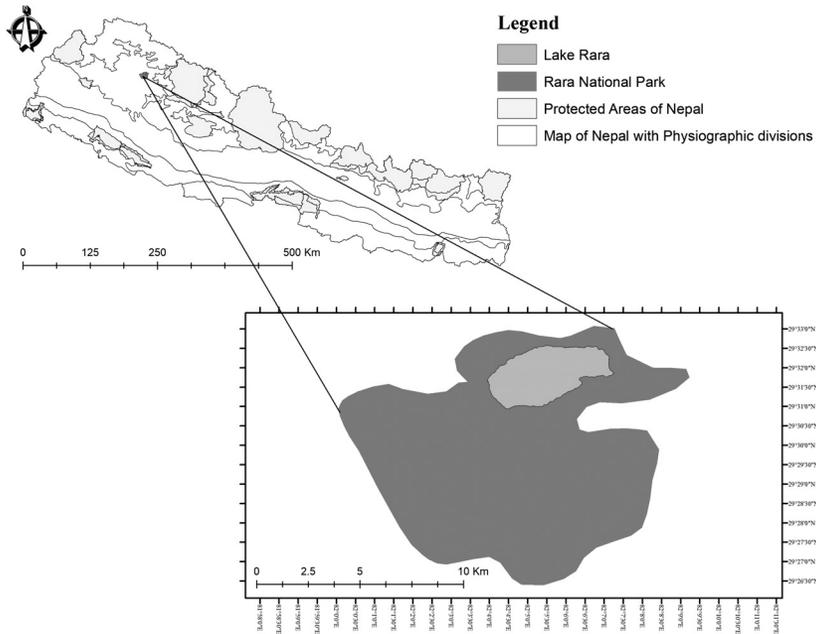
The climate of Rara National Park has Alpine climate and experiences very cold winters during the months of December to March. Temperature falls below zero degree Celsius mostly and accompanying heavy snowfall causes blocking of the high passes. High passes become accessible only after the temperature rises up from the months of April to June till the monsoon enters from June to August. The months of September and October with excellent weather conditions provide ideal conditions for the park visit.

The distribution of the vegetation in the Rara National Park varies on response to the change in elevation. The major forest type found in the locality are upper temperate blue pine forest, Fir forest, Birch-Rhododendron forest, and Moist Alpine scrubs. The area around the lake is dominated by Blue Pine (*Pinus wallichiana*) up to 3200 m. Other tree species include Rhododendron (*Rhododendron arboreum*), Black Juniper (*Juniperus indica*), west Himalayan Spruce (*Picea smithiana*), Oak (*Quercus semecarpifolia*), and Himalayan Cypress (*Cupressus torulosa*). A mixed forest of pine, spruce, and fir occurs from 3200 to 3550 m. At about 3350 m, the forest changes to a

coniferous-broadleaf forest of fir, oak, and birch. Other deciduous tree species include Indian Horse-chestnut (*Aesculus indica*), Walnut (*Juglans regia*), and Himalayan Poplar (*Populus ciliata*).

The park is home to 51 species of mammals. Some of the mammals found in the park are Himalayan Black Bear, Himalayan Tahr (*Hemitragus jemlahicus*), Red Panda (*Ailurus fulgens*), Goral (*Naemorhedus goral*), Barking Deer (*Muntiacus muntjak*) and Wild Boar (*Sus scrofa*). Altogether 272 species of birds have been reported from the park area including the national bird of Nepal i.e. Danphe (*Lophophorus impejanus*). Rara Lake and the coniferous forest surrounding the lake serves as a habitat for different migratory birds. The Lake is home to three endemic species of fishes and one endemic frog species has been reported from the park area.

Figure 1: Map of study area showing Rara National Park and Rara Lake



Data collection

Google forms were used to collect responses of the visitors. For the purpose of collection, schedule was prepared in the google forms. The schedule was divided into five sections. In first section, questions related to the general background of the visitors including their gender, age group, occupation, highest educational degree received, educational background, occupation, temporary address and permanent address were placed. Besides, 'information about the date of visit', 'length of stay at Rara National

Park' and 'source of information about the visit to the national park' were collected in the same section. In second section, questions related to the major attraction of the park were listed. Respondents were requested to rate geological attraction, cultural attraction, floral attraction, faunal attraction, recreation and amusement, uniqueness and wilderness in five point Likert scale with rating "1" assigned for poor and "5" assigned to exceptional. In same sections, respondents were asked to provide details of the major attraction and other places in the vicinity of the park to incorporate within the tourism circuit. In the third section, perception of the respondents about the facilities offered to the visitors at the park were collected. Likert scale was used in this section as well to rate the quality of the food, accommodation facility, water and sanitation status, ease for communication, level of security, medical facility and transportation facility to reach to Rara National Park. In the fourth section visitors were requested to provide perception on the impact of ecotourism activities on social and biological environment. Fifth and final section was designed to collect the response of the visitors about the impact of tourism activities within Rara National Park. Likert Scale was used over here as well. The visitors were requested to provide responses on the impact of tourism activities in physical, social and economic environments by assigning value "1" to indicate strongly negative impact and "5" to indicate strongly positive impact.

List of the tourists who have been to Rara National Park was prepared through various means including social media. We were able to list out 105 respondents with the help of social media and other people in our circle. Each of them were invited to participate in the survey by sending them a link to the questions. Respondents were asked to log-in with their email account to avoid duplicate responses. At the interval of one month, after sending invitation, they were reminded about the survey. If a person ignores even after two reminders, s/he was neglected.

Data analysis

Descriptive statistics were used to explore the nature of data. The association between the characteristics of the respondents (Gender, Age Group, Educational Background, Highest educational degree received, occupation, permanent address and temporary address) with their perception about the major attraction within the Rara National park, the facilities offered to them and impact on the different environments were explored using Chi-Square test at 95% confidence interval. All the analysis were performed using JASP software (JASP Team, 2019).

Results

General characteristics of respondents

In the online survey, of 105 respondents invited to participate, 85 respondents provided their response. Majority of the respondents were male (82.4%). The

respondents have at least completed higher school level (10+2) with majority of them either completing masters (65.9%) or bachelor level (31.8%). Most of the respondents those participated in the survey were the youth from 26-30 years followed by 21-25 age group (Table 1) dominated by the people involved private job and students (Table 2).

Table 1: Details of the age group of the respondents

Age	Frequency	Percent
16-20	1	1.2
21-25	23	27.1
26-30	44	51.8
31-35	14	16.5
35-40	2	2.4
40+	1	1.2
Total	85	100.0

Table 2: Occupational background of the respondents

Occupation	Frequency	Percent
Academic	2	2.4
Freelancer	13	15.3
Government job	12	14.1
Private Job	32	37.6
Students	24	28.2
Other	2	2.4
Total	85	100.0

Respondents from all seven province of Nepal were found to be participating in the online survey. Of these respondents, majority of the respondents were from province 3 followed by province 5. Almost 80% of the respondents were found to be living temporarily at province 3 (Table 3).

Table 3: Permanent and temporary address of the respondents

Province	Permanent Address		Temporary Address	
	Frequency	Percent	Frequency	Percent
Gandaki Province	10	11.8	4	4.7
Karnali Province	8	9.4	2	2.4
Province 1	10	11.8	2	2.4
Province 2	1	1.2	2	2.4
Province 3	33	38.8	67	78.8
Province 5	16	18.8	6	7.1
Sudurpaschim Province	7	8.2	2	2.4
Total	85	100.0	85	100.0

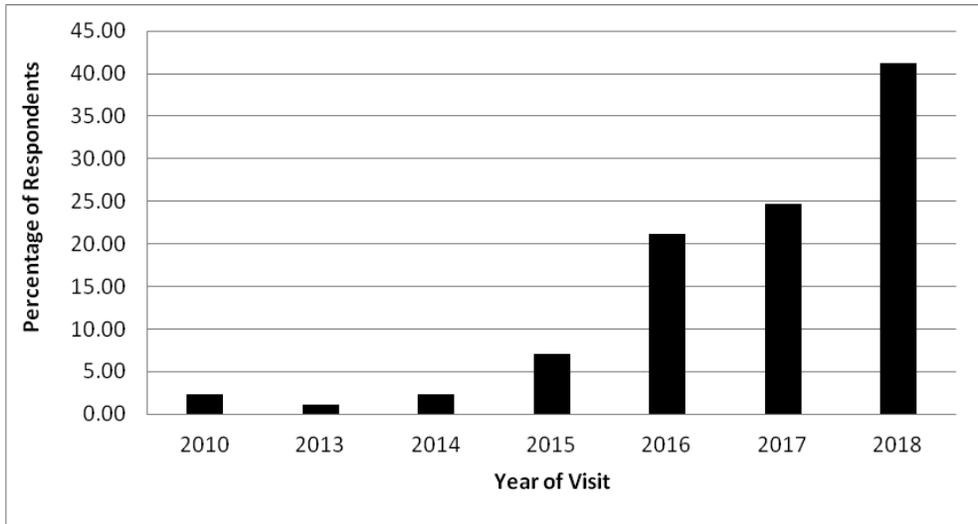
Information about the visit

Newspaper and information from friends were found to be the two important inspirations for the respondents to visit to Rara National Park (Table 4).

Table 4: Major source of inspiration that motivate respondents to visit to Rara National Park

What inspire visit to Rara	Frequency	Percent
Newspaper	33	38.8
Friends	24	28.2
Social Media	10	11.8
Book	4	4.7
Other	14	16.5
Total	85	100

Most of the respondents who participated in the survey had visited Rara National Park on the year from 2016-2018 (Figure 2).

Figure 2: Details of the respondents' year of visit to Rara National Park

There was an observed variability in the length of stay of the respondents at Rara National Park (Table 5). Of the total respondents (N=85), 47.1% were found to be spending 2-6 days in and around the park while 43.5% of the respondents were found to spend only overnight. Only 9.4% of the respondents had spent more than a week in the area. The length of the stay was independent of gender ($\chi^2= 0.188$, N= 85, $p >0.05$), Age ($\chi^2= 6.868$, N= 85, $p >0.05$), the highest educational degree received ($\chi^2= 3.550$, N= 85, $p >0.05$), and occupation of the respondents ($\chi^2= 11.01$, N= 85, $p >0.05$). The length of stay was associated with the educational background of the respondents ($\chi^2= 6.096$, N= 85, $p <0.05$).

Table 5: Relation between educational background and length of stay

Educational Background	Length of stay			
	1 week or more	2-6 days	Over night	
Natural Science	4	23	11	38
Other	4	17	26	47
Total	8	40	37	85

Major attractions of Park

Majority of the respondents have evaluated the attractions within the Rara national park towards the high end (Table 6). Majority of the respondents have rated the uniqueness and geological attraction within the park in the top rank.

Table 6: Perception of tourists about the attraction of Rara National Park

Attraction	Response (N=85)				
	Poor	Fair	Good	Excellent	Exceptional
Geological Attraction	4.7%	1.2%	5.9%	43.5%	44.7%
Cultural Attraction	5.9%	9.4%	29.4%	36.5%	18.8%
Floral Diversity Observable	1.2%	2.4%	20.0%	47.1%	29.4%
Faunal Diversity Observable	2.4%	10.6%	35.3%	32.9%	18.8%
Recreational Facility	7.1%	10.6%	31.8%	25.9%	24.7%
Uniqueness	0.0%	1.2%	14.1%	30.6%	54.1%
Wilderness	3.5%	3.5%	23.5%	41.2%	28.2%

The response of the respondents about the cultural, biological (flora and fauna) and recreational attraction along with the wilderness within the park were observed to be independent of all the variables explored (i.e. gender, age group, highest educational degree, educational background, occupation and both temporary and permanent address). While the response about the uniqueness of the park is dependent on the permanent address of the respondents ($\chi^2 = 30.53$, $df = 18$, $N = 85$, $p < 0.05$).

Respondents were asked to enlist the major attraction within the parks. Of the total respondents (N=85) Rara Lake was mentioned by 92.9% of the respondents and 72.9% have mentioned landscape within the Rara National Park as major attraction. Besides, the distinct fauna (28.7), distinct flora (29.9%) and distinct culture (18.4%) were also identified as the major attraction of the park. Sinja Valley of Jumla district, Murma Top within the Rara National Park, Chuchemara Peak, Majkatta Village, Gamgadhri and Talcha Airport are some of the nearby places recommended by the visitors to be included in tourism circuit.

Perception of respondents about the facility

Majority of the respondents rated the quality of the food, accommodation and water and sanitation to be good while communication, medical facility and transportation to be fair. They have rated the security facility to be excellent at Rara National Park (Table 7).

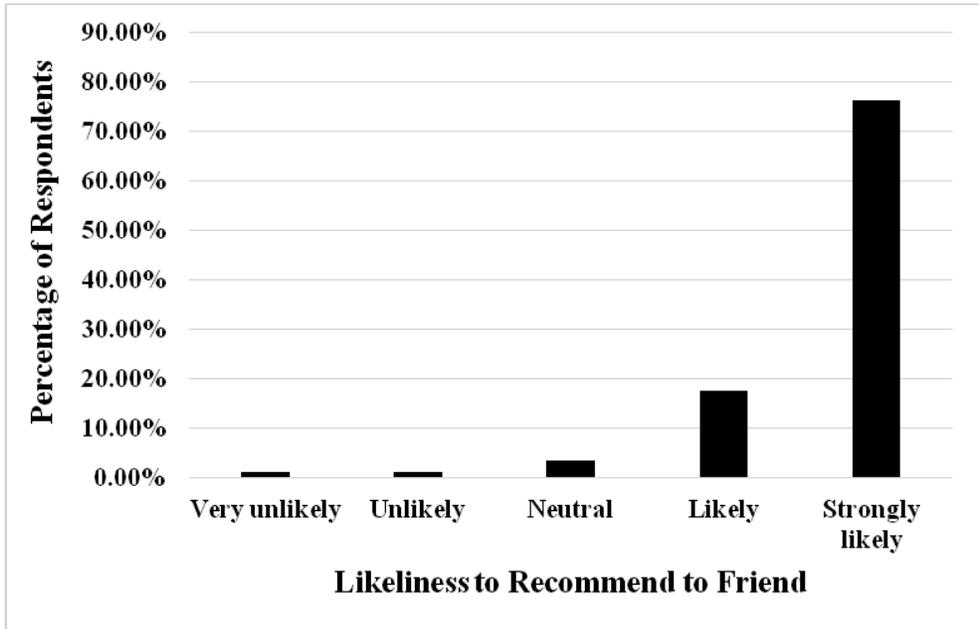
Table 7: Perception of respondents about the quality of service offered at Rara National Park

Facility	Response				
	Poor	Fair	Good	Excellent	Exceptional
Food	10.6%	27.1%	35.3%	20.0%	7.1%
Accommodation	9.4%	28.2%	35.3%	18.8%	8.2%
Water and Sanitation	4.7%	30.6%	35.3%	22.4%	7.1%
Communication	14.1%	30.6%	29.4%	21.2%	4.7%
Security	4.7%	16.5%	27.1%	34.1%	17.6%
Medical	27.1%	38.8%	24.7%	5.9%	3.5%
Transportation	14.1%	38.8%	30.6%	12.9%	3.5%

The perception of respondents about the accommodation was significantly associated with educational background ($\chi^2 = 8.68$, $df = 4$, $N = 85$, $p < 0.05$) while the perception about communication facility was found to be significantly associated with the highest educational degree received ($\chi^2 = 18.50$, $df = 8$, $N = 85$, $p < 0.05$). Perception about the Medical facility ($\chi^2 = 30.25$, $df = 8$, $N = 85$, $p < 0.05$) and Transportation ($\chi^2 = 18.20$, $df = 8$, $N = 85$, $p < 0.05$) were also significantly associated with highest education level completed. Perception about Security within the park was significantly associated with highest education level completed ($\chi^2 = 20.62$, $df = 8$, $N = 85$, $p < 0.05$) and permanent address of the respondents ($\chi^2 = 40.79$, $df = 24$, $N = 85$, $p < 0.05$).

Majority of the respondents (87.5%) expressed the Rara National park to be as per their imagination before their visit to Rara and they were strongly likely to recommend their friends and others to visit to Rara National Park (Figure 3).

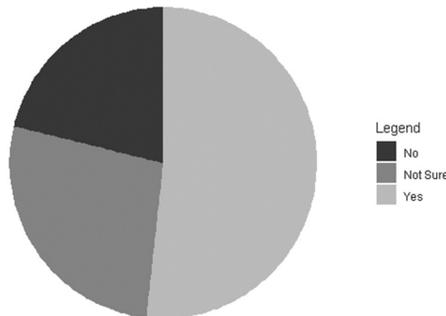
Figure 3: Likeliness of the respondents to recommend their friends to visit to Rara Natioanl Park



Ecotourism and local people

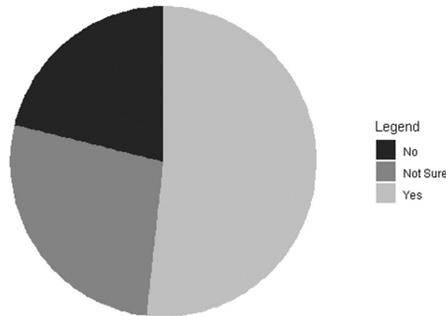
Of the total respondents, 38.8% found the local people to have moderate willingness to be involved in ecotourism activities while 35.5% found local people to have high willingness. The fractions of respondents who found such willingness of local people to be very low, low and very high were found to be 1.2%, 12.9% and 11.8% respectively. Majority of the respondents felt that local people are already participating (Figure 4) and getting benefit (Figure 5) from tourism related activities.

Figure 4: Response about the participation of local people in tourism



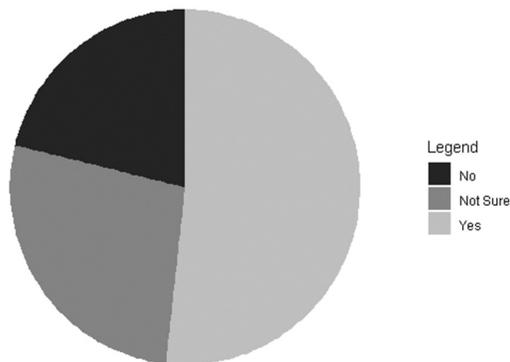
More than half of the respondents accepted that local people are getting benefits from ecotourism activities in Rara National Park and less than quarter disagreed with this fact (Figure 5). The perception about the benefit received by local people was significantly associated with the educational background of the respondents ($\chi^2=6.62$, $df = 2$, $N= 85$, $p <0.05$).

Figure 5: Perception about the local people being benefited from tourism activities in Rara National Park



Majority of the respondents have acknowledged that the tourism related activities at Rara National Park (Figure 6) are helping in uplifting status of livelihoods of local people. The perception about the improvement in the livelihood of local people were associated with the educational background ($\chi^2= 8.93$, $df = 2$, $N= 85$, $p <0.05$).

Figure 6: Perception of the respondents about the change in livelihood of local people due to Ecotourism in Rara National Park

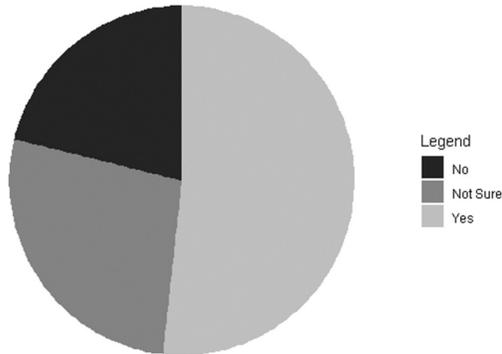


Ecotourism and biodiversity

Majority of the respondents respond that the ecotourism activities have positive impacts on Conservation of Biodiversity at Rara National Park (Figure 7). The

response about the ecotourism-biodiversity conservation relation were not associated with any of the factors explored (Gender, Age, Educational Background, Highest Educational Degree Completed, Occupation and Temporary and Permanent Address of the respondents).

Figure 7: Perception of respondents about about the positive impact of ecotourism in biodiversity



Impact of tourism

Highest proportion of the respondents were neutral about the impact of tourism activities at Rara National Park and its cultural, social and biological environments (Table 8).

Table 8: Perception of respondents about the impact of tourism in different sector

Dimension	Rating (% of Respondents)				
	Highly Negative	Negative	Neutral	Positive	Highly Positive
Impact on Culture	2.4	17.6	41.2	23.5	15.3
Social Impact	0	10.6	50.6	27.1	11.8
Impact on Flora	3.5	18.8	45.9	27.1	4.7
Impact on Fauna	4.7	23.5	43.5	22.4	5.9

The perception about the impact on social environment significantly differed according to their educational background ($\chi^2= 15.05$, $df = 4$, $N= 85$, $p <0.05$), highest educational degree ($\chi^2= 16.49$, $df = 8$, $N= 85$, $p <0.05$) and permanent address of the respondents ($\chi^2= 36.93$, $df = 24$, $N= 85$, $p <0.05$). Perception of the respondents about the impact of tourism in social environment were found to be significantly associated with the age group of the respondents ($\chi^2= 27.05$, $df = 15$, $N= 85$, $p <0.05$), educational background ($\chi^2= 8.95$, $df = 3$, $N= 85$, $p <0.05$) and the highest

educational degree received by the respondents ($\chi^2= 20.87$, $df = 6$, $N= 85$, $p <0.05$). The perception about the impact of tourism on flora were significantly associated with the highest educational degree received ($\chi^2= 44.00$, $df = 8$, $N= 85$, $p <0.05$). The highest educational degree received by the respondents was also associated significantly with the perception about impact on fauna ($\chi^2= 35.62$, $df = 8$, $N= 85$, $p <0.05$).

The response about the solid waste management at Rara National Park varied. Of the total respondents ($N=85$), 16.5% of them found the solid waste management to be strongly discouraging, 29.4 % of the respondents found SWM to be discouraging, 34.1 % of the respondents expressed neutral opinion while 14.1% and 5.9% of the respondents found the waste management issues to be encouraging and highly encouraging respectively. The perception of the respondent was significantly associated with the permanent address of the respondents ($\chi^2= 39.61$, $df = 24$, $N= 85$, $p <0.05$).

Discussion

Attraction within the Park

Visitors are tempted to visit a protected area if they have some appealing features in terms of scenic beauty, cultural features or biological diversity (Ceballos-Lascuráin, 1996). In the case of Rara National park, there are several features to attract visitors to the park. The major attraction within the national park is the Rara Lake (also known as Mahendra Lake). This lake with an area of 10.5 Square Kilometer is the largest lake of Nepal and with 167-meter depth (Yagi et al., 2009) is the deepest lake in Nepal. Besides, being the deepest and largest Lake of Nepal, the scenic beauty amplified by the landscape surrounding the lake is crucial in attracting the visitors to the area. As the park is home to 272 species of the birds (DNPWC, 2018), birdwatching activities are one of the potential activities to fascinate tourists in the area. The beautiful landscape with a pleasant climate means the park is ideal to the trekkers and other nature lovers. Circular trail around the park for walking and cycling additional recreational opportunity offered by park. Sinja Valley, which is considered to be the place of origin of Nepali language (Owen-Smith, 2008) and different temples and shrines within the parks and the buffer zone are other factors for engaging the visitors.

The beauty of Rara Lake and surrounding landscape can be observed from the Murma top (3600m) and Chuhemara Peak (4039m) (GoN/NPC/CBS, 2014) as Mugu and Jumla districts are rich with Nepali folk songs, Buddhist culture and traditional attires. Majority of the respondents have given a high rating to the geological, cultural and biological features along with the uniqueness and wilderness of the park. Presence of some fauna species such as Red Panda (*Aulirus fulgens*) (Sharma, Swenson, & Belant, 2014) along with Himalayan Monal (*Lophophorus impejanus*) make the area attractive on faunal perspectives. The moderate rating has been assigned to the floral attraction. This might be because the variation in floral blossom

and season of visitation. The area has floral attractiveness in pre-monsoon and post-monsoon (June to September) while the majority of Nepalese youth visit to the place in Autumn (Vacation of Dashain-Tihar) or early April (Baisakh-of Nepali Calendar). As the season of the visit was not collected, an association of season with the response about flora were not evaluated.

Tourism facilities

Availability of the receptive factors such as facilities for food, accommodation, nutrition, entertainment and recreation are basic prerequisites for development of ecotourism in a destination (Bulatović, 2017). Respondents were found to be giving average rating to most of the facilities and the perception about those facilities were primarily determined by their level of education. This might be due to the fact that level of thinking are expected to be dependent on the level of education they receive. Respondents had given satisfactory rating to the food. Improvement in the sector can be made by promoting local foods, as eco-tourists usually seem fond of these items (Alias, Aziz, Karim, & Isa, 2016). Besides, park managers should initiate programs to aware about the quality of food and train the locals to prepare hygienic food from local resources (Nepal, 2002). Similar response have been received for sanitation and water facilities as well.

Accommodation in the ecologically and traditionally designed architectural structure with minimal impact to the environment are ideal for alluring eco-tourist to the destination (Bulatović, 2017). In the case of Rara National Park, majority of the respondents had rated accommodation facility to be good. Still there are rooms for improvement as more than one third of the respondents had rated the accommodation to be either poor or fair one. As evident elsewhere, with the increase in the tourism activity, when demand for accommodation increases, there is high chances that new resorts and hotels will be constructed in the area causing detrimental impact to the environment of the area (Wight, 1997). The problem can be addressed by promoting the homestay activity which will fulfill the dual motive of providing economic incentives to the local people and enhancing the experience of visitors.

The role of transportation in enhancing the potentiality of a destination varies according to different tourism types (Seetana et al., 2011). In case of ecotourism, which is itself is a tourism with minimal ecological foot print, road and other infrastructure reaching to the park are of less importance. Despite this fact, we cannot ignore the issue of accessibility. In this study, transportation facility have been rated to be fair by majority of the respondents.

Peace and security are essential components for ecotourism development (Nepal, 2002). This was evident by the decline in tourism related activities in Nepal during the Maoist Insurgency period as well. As higher fraction of respondents had rated security

facility with high rating, the efforts can be considered to be sufficient for now. The perception of respondents about the security significantly differed according to their permanent address. This might be explained by the differences in the geography of the fear (Modly, 2009). Permanent address of the respondents were taken at Province level and Karnali Region is usually projected by media and other as backward region which might have affected their perception about the security status.

Peoples' involvement

In the case of Rara National Park, majority of the respondents have reported willingness of the local people to participate in ecotourism related activities and a fraction of local peoples were already observed to be involved in such activities. Additionally, ecotourism activities were seen to bring positive benefits to the local people. As conservation policy in Nepal have emphasized for people centered conservation (Bajracharya & Lama, 2008) the signs in Rara National Park are encouraging. Strong participation of the local people in tourism activity are vital for ecotourism driven sustainable development (Zhang & Lei, 2012). Poverty of the people living in the vicinity of the park is one of the crucial drivers of environmental degradation in the protected areas as evident in Annapurna Conservation Area (ACA) of Nepal (Bajracharya & Lama, 2008). Policy level intervention to encourage local people to participate in ecotourism activities and ensuring the fair and equitable sharing of benefit are essential (T. H. Lee, 2013). It is the responsibility of Park authority of Rara National Park to devise and implement policy to encourage local people in ecotourism related activity. This will bring job opportunities and income to local people and contribute to conservation of varied landscapes, culture and biodiversity as evident at ACA in Nepal (Bajracharya & Lama, 2008).

Ecotourism and environment at Rara National Park

Ecotourism has been reported to have neutral impact on the environment, according to the response of respondents. As ecotourism is considered to be an environmental friendly tourism promoted with the motive of bringing positive change in physical, biological and socio-economic environment (Wearing & Neil, 2009), further research on these aspects are essential before making some claims.

Way forward

Despite the high potentiality for development of ecotourism at Rara National Park, the visitors are not adequately visiting the Park. Promotional activities and increasing other tourism infrastructures are essential. As length of the stay of youth with natural science background are relatively high, promotional activity targeting the students of natural science for field excursion could be fruitful. Furthermore, as this research, primarily, is based on the perception of visitors, more insights can be gained by exploring the views of local residents.

Conclusions

Along with its appealing geophysical, biological, and cultural features, Rara National Park is found to be a promising site for ecotourism activities which will help in reconciling conservation and development of the area. Perception of visitors on facilities available like transportation, medical, communication and others pinpoints the sectors to be emphasized for promoting ecotourism activities. So far, the dire environmental issues are not apparent till date. But, with the increase in tourism activity, they are presumed to increase if prior care are not given by the park authority. Besides, proper planning and zonation for ecotourism infrastructures are essential to regulate construction activities. Additionally, as visitors are staying for short duration, people from fraction of areas within the parks are getting benefits. Thus, design and implementation of an effective plan that facilitates and involves local people with all other stakeholders to establish ecotourism in the park area will help to increase the visitors' number up to the permissible limit. This in turn can give a win-win situation of reducing negative impacts to the site and overall status growth of local inhabitants.

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