

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

4,400

Open access books available

117,000

International authors and editors

130M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Ecotourism and Its Role in Sustainable Development of Nepal

Anup K. C.

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/62308>

Abstract

Ecotourism helps in environmental protection, wildlife conservation, poverty alleviation and socio-economic development. It affects environmental, social and economic components of the community and the whole country. It has different forms which are named according to the preference of the country. Developed as well as developing countries, such as Nepal, are promoting ecotourism for sustainable development of the nation. Different methodologies are applied throughout the world by different researchers for assessing ecotourism. This chapter focuses on review of ecotourism researches throughout the world. It has both positive and negative impacts on environmental, social and economic aspects of the country. Due to the high rate of beneficial impacts, it is helping in the overall development of the community, country and the whole world. There is need of cooperation among different stakeholders, training of ecotourism to tourism entrepreneurs and appropriate management policy for sustainable implementation of ecotourism projects.

Keywords: Ecotourism, environmental conservation, economic enhancement, social development, Nepal

1. Introduction

Ecotourism is one of the fastest growing segments of the sustainable tourism industry [1–3], which focuses on wildlife conservation, environmental protection, poverty alleviation and economic development [4,5]. Hector Ceballos Lascurain coined the term, “Ecotourism” in 1983 to describe the nature-based travel to relatively undisturbed area with an emphasis on education [1]. There is no such universally accepted definition of ecotourism. It is differentiated from nature-based tourism as it helps in sustainable rural development and makes biodiversity

conservation economically viable for local communities [2]. Ecotourism is one of the preferred tools for conservation and community development in many rural areas. Its effectiveness depends in its potential to provide local economic benefits by maintaining ecological resource integrity through low-impact and non-consumptive use of local resources [6].

Ecotourism is an alternative form of tourism which embraces tourism in the biophysical environment in natural areas. It incorporates ecologically sustainable activities, conservation supporting measures and involvement of local communities [7]. It neoliberalises nature and focuses on capitalist development, community development, poverty alleviation, wildlife conservation and environmental protection [4]. Traditional economic bases like agriculture, livestock and hunting are not compatible with protected territories so change in traditional economic activities can be done by shifting cultural attitudes [8], towards ecotourism enhancement [9].

Ecotourism provide jobs for the local people and a market for local products. It encourages cultural sensitivity in guest–host relations and acts as a catalyst for ecologically sustainable development. But, planning is required to address the issues of ownership, management and coordination of protected areas. It enhances wildlife conservation and equitable sharing of benefits from ecotourism [10]. It helps in the conservation of natural, cultural and built resources and maintains the quality of life of local area [11]. With an objective of environmental conservation, it creates sustainable economic development and balances the conflicting goals of economic development and biodiversity conservation [2,5,12]. Considering the sustainable principles and practices, it fulfills goals of biodiversity conservation, poverty reduction and business viability [13]. In ecotourism, local people realize the importance of conservation and protect the environment in active manner. They maintain national standards of atmospheric quality, sound quality, drinking water, sewage, lampblack and all kinds of establishments [14].

1.1. Different forms of ecotourism

Community-based ecotourism is the best option in an area which is conserved, owned and managed by a community to gain income by operating a tourism enterprise [1]. There will be direct and indirect participants and beneficiaries looking after environmental conservation, business enterprise and community development [1]. Local income, biodiversity conservation and cultural preservation are necessary for tourism intervention in such areas. Successful implementation of such ecotourism requires improvement of accessibility, liberalization of pricing policy, empowerment of community, development of tourism facilities and incorporation of nature-based tourism products [15]. Community-based ecotourism is associated with basic accommodation and facilities marketed for independent and low-budget travelers who do not expect high-end tourism facilities. There is high degree of public participation but sometimes exclude interests of communities and benefits narrow elite. Wildlife and landscapes are sold in multiple ways as images, products and destinations in such tourism [4].

Ecosystem tourism is supply-led tourism strategy that enables sustainable development with the central theme of ecosystem integrity. It does not exclude tourist and commercial exploitation of the ecosystem but the entire ecosystems or the specific biological diversity are managed in relation to the tourism experience. The main resource base or capital stock for tourists is the

ecosystem which is the assemblages of organisms, physical environment and an array of interactions and feedbacks. In such ecotourism, the ecosystem is able to absorb or adapt the pressures of tourists until it develops a more urban character [16].

Rural tourism is a form of tourism originated in Europe which takes place in rural environment based on the rural resources reflecting rurality, traditional folkcustom and agricultural products. In such tourism, tourists enjoy staying in the yard, strolling and looking around flowers, green plants, gardens, old architecture and playing cards. It enhances the profit from agriculture and provides peasantry with more profit, more employment opportunities and better living conditions by combining agriculture and tourism. It plays a positive role in prompting the development of rural economy and rural culture. Rural tourism is in a primary stage by giving priority to agricultural sightseeing, farming experience and close quarters leisure with accommodations and simple entertainment [14].

Cultural tourism preserves cultural traditions and enriches the quality of the life of local communities. It is necessary to provide education and training programs of ecotourism and nature reserve for tourism operators, employees and tourist to develop and promote minority cultures and cultural traditions. Research opportunities should be provided to attract scientists and students to conduct research in the region [17].

Nature-based tourism is a large growing global industry which depends upon the natural environment occurring in parks and protected areas. It depends on appropriate levels of environment quality and suitable levels of consumer service. Nature-based tourism has been a key component of tourism industry in several countries [18].

1.2. Ecotourism in global and national scenario

Protected area-based tourism in parks and protected areas constitute a significant proportion of international tourism in developing countries. It has generated substantial revenue for the state and improved the local livelihoods which are directly dependent on tourism. Many state governments and international conservation agencies provide sufficient funds for the establishment of protected areas and their long-term viability. Countries such as Kenya, Zimbabwe, Tanzania, Costa Rica and Nepal are only a few examples where protected area tourism constitutes a significant proportion of international tourism [11].

There is nature-based tourism in Australia, Tanzania and New Zealand. The national ecotourism strategy for Australia had focused on ecotourism in regional areas to generate foreign exchange earnings, employment, and other economic and social benefits. For the aggressive and successful policy development in the country, Australia is taking advantage with its spectacular and diverse natural features, unique flora and fauna, and diverse cultural heritage [18].

After the coronation of 1974 in Bhutan, small groups of tourists were allowed into the country and given permission to visit dzongs and goembas in Thimphu and Paro. Government established a quota of 200 tourists a year in which tourist have to travel in a group of six or more. The cost was set at US\$130 per day and all the guests had to stay in government-approved hotels, guesthouses and lodges. Bhutan's rich heritage and vibrant culture has its

distinctive traditions and customs demonstrated in its religious festivals and architecture. Towering crags and highly diverse forests is also home to takin, snow leopard, golden langur, red panda, tiger and elephant. Trained trekking guides are provided periodic knowledge and services to accompany trekking groups. Gross expenditure of US\$14 million provides significant foreign exchange earnings in Bhutan. The present policy consists of a fixed price set by government with quality of service and visitor experience maintained by market share competition between tour operators and government regulation. Ecotourism in Bhutan was able to limit environmental and cultural impact of Western countries. But, a large number of Indian tourists would cause a major challenge in maintaining cultural and environmental carrying capacity [19].

In Small Islands of the South Dodecanese, local communities contribute in ecotourism program and help to minimize the conflicts. The islands' geomorphology and geographic position provides opportunity in nature trekking, mountain climbing and sailing. It contributes to the elongation of the tourist period and the increase in tourist revenues. Adverse ecological effects of adventure tourism activities such as underwater fishing by free-divers are negligible [20].

Ecotourism is already the largest source of foreign exchange in countries like Costa Rica and Guatemala. It is one of the meaningful sources of economic development and job creation. Cross country evidence demonstrates that tourism is labor intensive and offers a variety of small scale opportunities creating jobs for poor, women, young and indigenous communities [1].

Community-based ecotourism in southern Thailand is only partially successful. The benefits of ecotourism in Phuket are more than the costs in terms of community development. Environmental sensitivity and responsibility promoted by ecotourism can increase the political, economic, social and environmental interests of host communities. The relationship between community-based ecotourism and empowerment is complex and incomplete. The economic and psychological empowerment of individuals is accomplished by the political and social empowerment of communities [21]. Tourism operators in countryside of Thailand had also focused in nature-based tourism [11].

In Kuscenneti National Park of Turkey, the park administration encouraged local bodies to organize youth camps in the park along with some additional facilities. By allowing nearby communities to provide infrastructure and services to visitors, visitor expenditures are able to flow more easily into the local economy. Locals have positive views towards tourism development and have established some restaurants and guest houses. These activities have provided sources of extra income for families who depend on traditional activities. Economic benefits of tourism have changed the attitudes of local communities and there is good relationship between the national park and the local community [22].

Tourism in Kerala was promoted as a major agenda by government for employment opportunities and foreign exchange earnings. Accommodation industry provides more subsidies, tax cuts, concessions, promotional packages and soaps which contributes to the growth and development of the economy. In spite of the positive benefit to the economy, tourism projects have adverse environmental effects [23].

Implementation of Sitakunda Botanical Garden and Eco-park project in Chittagong, Bangladesh, had enriched the area with natural regeneration, new plantations, infrastructure development, new destination for visitors and nature-based tourism. Tourism is also providing revenue to the park authority and income to local people [24].

Tourism had provided alternative mechanism of resource utilization in China's nature reserves but it is causing adverse impact on environmental resources. Litter problems, water pollution, noise pollution and air pollution are the major problem occurring in nature reserves [25]. Local government officials had a great role for conservation, development and logistical functions towards tourism development in Wuzhishan Mountain Region of China. Participation of local communities and cooperation between local governments, local communities, NGOs and the private sector was important for development and management of the nature reserve [17].

Lugu Lake region is one of the most important areas for ecosystem conservation and cultural heritage protection in China [26]. Shangri-La County in China has abundant tourism resources and products but the natural resources were exploited beyond the carrying capacity. There is need for sustainable use of tourism resources, proper handling of tourism demands, repartitioning tourism flow and digital system for tourism management [27]. Appropriate measures by government were conducted in Xishuangbanna Biosphere Reserve (XBR) to protect the core area from over-exploitation and unsustainable human use. But, simple life and material needs of traditional local people is vulnerable to Western influence [28]. Visitors as a knowledge seeker, leisure traveler and nature lover are preferring good-quality information, tour guides and low impact activities. They are selecting the destination with high ecological value and good site management in the case of Hong Kong [29].

1.3. Ecotourism in Nepal

Ecotourism as a component of green economy contributes greatly for Gross Domestic Product (GDP) for government and private organizations [30]. Developing countries such as Nepal have advantage in ecotourism as they have unique natural environment and culture. It generates employment for the unskilled workforce in rural area through community-led tourism activities for preserving natural ecosystems [3].

Nepal is a small country with an area of 147,181 sq. km., having great diversity of topographic and eco-climatic features rich in natural and cultural heritage. It is renowned for its physiographic and eco-climatic variations, Himalayan ranges, natural beauty, protected areas, rich bio-diversity, spectacular landscape, extraordinary cultural heritage and mosaic of ethnic diversity [31]. It is one of the most adventurous cultural and ecotourism destinations in the world which depends on the quality of the natural environment [11,32]. Its main attractions are the highest mountain range in the world and many cultural and natural attractions [32]. There are many trekking routes and sites for ecotourists to explore natural beauty throughout Nepal ranging from the Kanchenjunga Conservation Area and Illam in the east to Khaptad and Shuklaphanta National Park in the west [5].

Nepal has a total population of over 23 million and consists of 59 ethnic groups and 101 spoken languages. It is the birthplace of Lord Buddha, the Light of Asia. It has a rich cultural heritage, where more than 1250 heritage sites have been identified and documented from 72 districts. Within Kathmandu valley, Kathmandu Development Committee has listed a total of 870 religious and cultural shrines and monuments. It consists of eight World Cultural Heritage Sites: Bhaktapur, Patan and Kathmandu Durbar Squares; Swayambhunath; Baudhanath; Pashupatinath; Changunarayan and Lumbini (the birth place of Lord Buddha) combined with two world's Natural Heritage Sites: Sagarmatha and Chitwan National Parks [31].

These resources are the major attractions for the foundation and acceleration of tourism industry in Nepal. It is necessary to manage these tourism resources properly by mobilizing the local participation with sufficient considerations on the quality of supply side of tourism in order to attract the maximum number of tourists from different parts of the world. Nepal is one of the countries that receive the largest number of international tourists with rapid growth of tourism [31]. Trekking and mountaineering are creating opportunities in the operation of tea houses and lodges along the trails [33], which has direct impact on livelihoods [5,34–37]. Nepal Government has also identified ecotourism as a strong sector contributing significantly to environmental conservation, employment generation and socioeconomic development [38].

Community-based rural tourism in protected areas had supported livelihood of local communities by providing opportunities to the national and international visitors in community activities [11,38]. So, Nepalese government has developed national parks, wild life reserves, buffer zones, conservation areas and cultural heritage sites for conserving wildlife and enhancing ecotourism [39]. Ecotourists enjoy its Himalayan ranges, natural beauty, protected areas, biodiversity, landscape, cultural heritage and ethnic diversity [31]. Having 8 out of the 14 high mountains over 8000 m elevation in the world is also making Nepal a main source of tourist attraction [32]. Tourism had already been an alternative source of income generation in the villages of Kaski, Tanahu, Syangja, Lamjung and Gorkha districts in Western Nepal through rural tourism initiatives [5,38].

Tourist can enjoy scenic beauty, trek and Climb Mountains, view Sagarmatha and encounter wilderness in Sagarmatha National Park (SNP). Ecotourism and its sustainability in SNP require the inclusion of local participation, economic viability, education dissemination, tourist satisfaction and tourism impact reduction [32].

Annapurna region is one of the world's most popular trekking destinations which comprises a variety of ecosystems from sub-tropical lowlands and temperate forest to some of the world's highest alpine peaks [7]. To save the region's biological diversity from growing environmental crisis, conservation area was set up handling management by government to National Trust for Nature Conservation (NTNC), formerly King Mahendra Trust for Nature Conservation (KMTNC) [11]. Considering local people as a custodian of natural and cultural heritage, participatory natural resources conservation method was implemented for making project financially sustainable [11]. With a goal to lessen the adverse impacts and strengthen the positive benefits of tourism, bottom up approach based on local management was implemented in Annapurna Conservation Area Project (ACAP) [7]. While trekking through Annapurna

Conservation Area (ACA), visitors can enjoy hiking, mountaineering, viewing wildlife and visiting cultural sites, ethnic museums and natural photography [39]. For this, ACAP collect entry fees from international tourist for community development projects on health and sanitation, education, environmental protection, etc. [11]. Also, to increase community ownership and participation, management committees have been formed which enhance ecotourism for conservation and development activities by implementing fuel-efficient stoves, back boilers, kerosene and electricity [5,7].

Homestays in Barpak, Nepal, are helpful in addressing socioeconomic, political, ethnic and gender disparities. They have experienced cleaner pathways, yards and junctions with shops full of a variety of cleaner products, water taps and public toilets [38].

Total number of tourist arrival in Nepal in 2012, 2013 and 2014 was 803,092, 797,616 and 790,118, respectively. Annual growth rate of tourists during these years was 9.1, -0.70 and -0.95 and their average length of stay was 12.16, 12.51 and 12.44, respectively. But from 2009 to 2012, annual growth rate of tourist and average length of stay was in increasing trend. Out of total tourist arrival in Nepal, 57.8 percent tourist arrives for the purpose of holiday in 2011 and this trend decreases to 47.3 percent in 2012. In 2013, tourist arriving for the purpose of holiday was again increased to 51.5 percent. The arrival of tourist for trekking and mountaineering, business, pilgrimage, official and other purpose was 12.8, 3.5, 9.0, 4.7 and 6.8 percent, respectively in 2013 [40].

2. Methodological issues of ecotourism

Different studies are conducted to assess the issues of ecotourism. There is a need to find out the issues raised in these researches and find out the methodologies applied by them. It would help the researchers to find the subject of research with appropriate methodology. It would be easier and faster to select appropriate literature for them. This part of the chapter reviews the location, aim and methodology of different researches throughout the world.

2.1. Challenges of ecotourism

Nianyong and Zhuge [25] conducted a study in China's nature reserves to assess the opportunities and challenges of ecotourism. Questionnaire survey was implemented between July and December 1997 to identify broad issues on ecotourism development in China's nature reserves.

Schellhorn [41] conducted a study in Indonesian Island of Lombok to understand the constraints and barriers of ecotourism in indigenous communities with the help of census survey of the local hospitality sector, semi-structured interviews with local tourism stakeholders, participant observations and analytical mapping of tourism infrastructure and services.

Bertella [42] conducted a study in Norway with an objective to assess the challenges and the critical factors for the development and management of wildlife tourism based on the knowledge of natural sciences. The study was conducted with the help of secondary data from the

internet and primary data through informal conversations and semi-structured interviews with the firm leader in June and August 2009.

Becken and Clapcott [43] conducted a study in Fiji and New Zealand with the help of a research to make appropriate policy to cope with impacts of climate change. Stakeholders of climate change, tourism and both the field were involved in policy-making process.

2.2. Impacts of ecotourism

Okello [44] conducted a research in Kuku Community Conservation Area (KCCA) in Kenya to assess ethical, ecological, economic and management issues at community level with the help of semi-structured questionnaire to visitors and tour companies.

Degang and Xiaoting [14] conducted a study in Nongke Village of Chengdu City to assess the concepts and criteria of rural tourism and ecotourism with the help of field work, small-scaled informal discussion, unstructured interviews and data from local tourism management.

Genzong et al. [17] conducted a research in Wuzhishan Mountain Region of China to identify the information that incorporates ecotourism related values. Sixty-seven questionnaires were administered to assess how the local government officials saw the development of tourism as an important priority in the region through four phases: profiling the community, analyzing trends, creating the vision, and developing an action plan.

Hitchner et al. [45] conducted a study in Kelabit Highlands of Sarawak, Malaysia, and the Kerayan Highlands of Kalimantan, Indonesia to examine the current state of community-based transboundary ecotourism. The study was conducted with the help of interviews with local guides, homestay owners, urban-based tour operators, tourism promotion centers and agencies; intercommunity dialogues regarding transboundary ecotourism and analysis of promotional materials on ecotourism; comments in the visitors' books of lodges, tourists' websites and travel blogs.

Beaumont [46] conducted a study to identify ecotourists' environmental concern for sustainability in Australia. For this, 243 respondents having ecotourism experience were surveyed based on the nature and learning criteria of previous segmentation studies. Pro-environmental attitudes were measured as an indication of their sustainability.

Zhuang et al. [47] conducted a study in Laojunshan area of Northwestern Yunnan Province in Western China to examine an ecotourism demonstration project. They analyzed the strengths and weaknesses of the primary actors such as government, private business, NGO, and local people to evaluate the potential for the development of ecotourism in the current institutional environment in China. In the first stage, government documents and GEI reports from the Laojunshan Ecotourism Project were reviewed to develop a guide for semi-structured interviews. Key stakeholders from different institutions were identified in collaboration with GEI staff. Field interviews were conducted by the first author using a fairly open framework for focused conversations with a core set of questions. Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis and an analytical hierarchy process (AHP) were used to analyze the data.

K.C. et al. [5] conducted a study in the Ghandruk Village Development Committee of Annapurna Conservation Area, Nepal to assess the impacts of ecotourism on environmental conservation, social and cultural heritage preservation, economic development and enhancement of livelihoods. Two hundred and forty two households were interviewed, followed by three focus group discussions and five key informant interviews.

2.2.1. Environmental impacts of ecotourism

Obua [48] conducted a study to assess the environmental impacts of recreation on camping sites and nature trails in Kibale National Park in Uganda. Nine physical parameters were assessed in camping sites and four parameters on nature trails of the national park.

Kelkit et al. [9] conducted a study in Kazdagi (Mt. Ida) National Park, Turkey to assess tourism activities sensitive to the environment and spread ecotourism by protecting biological species in Turkey and neighboring countries. Strength, Weakness, Opportunity and Threat analysis of the Park was done to derive strategic proposals for future development.

Winson [49] conducted an empirical case study to examine efforts on the Island of Cuba to establish environmentally sensitive and sustainable tourism. The study was conducted with face-to-face interviews with key informants from semi-autonomous agencies organizing ecotours, personnel at government ministries, management personnel involved in ecotourism and government park managers involved with tourism operations.

Ballantyne and Pickering [50] conducted a scoping assessment to identify the loss of orchids by tourism activity in the wild by directly collecting, habitat clearance and trampling and indirectly by weeds, pathogens and climate change using data on Australian threatened orchids.

Coghlan [51] assessed the relationships between natural resource management and tour operators' inputs and outputs with the help of quantitative and secondary data collection methods. Input data were collected from a variety of secondary sources whereas output data were collected through 4800 surveys of reef visitors from November 2006 to December 2008. Analysis of data was carried in SPSS 16.

2.2.2. Social impacts of ecotourism

Maikhuri et al. [52] conducted a study in Nanda Devi Biosphere Reserve, India with the help of detailed household survey and interviews with buffer zone villages to collect information on socio-economic conditions and population structure.

Clifton and Benson [53] conducted a study to identify the nature and causes of socio-cultural impacts of ecotourism from Indonesia with the help of semi structured interviews with local residents and ecotourists.

Dicken [54] conducted a study in Pondoland Marine Protected Area, South Africa to assess the recreational aspects of the boat-based tourism industry focused on the sardine run and estimate the economic value to the local communities with the help of face to face questionnaire survey.

Gezon [55] conducted a study in Ankarana protected area, Madagascar using a qualitative and longitudinal approach focusing on the social impacts of tourist intensification by comparing and contrasting communities nearby the protected area.

2.2.3. *Economic impacts of ecotourism*

Brunet et al. [19] conducted a study in Bhutan to assess the relationship of tourism, development, culture and environment. Primary data was collected through field visit, participant observation and interviews with stakeholders while secondary data was collected from electronic and printed texts.

Maroudas and Kyriakaki [20] conducted a study in two small islands of Dodecanese to describe and assess the relations and interactions between local development and ecotourism.

Boxill and Severin [56] conducted an exploratory study on tourism development and its impact on the caribs of Dominica.

Silva and McDill [57] conducted a study in Pennsylvania and Maryland in the United States to compare agency and business perspectives on barriers affecting ecotourism suppliers. Data were collected through forty five face to face key informant interviews with business owners, tour operators and outfitters, state and local government personnel, natural resource managers working on public lands and conservation leaders.

Nath and Alauddin [24] conducted a study in Sitakunda Botanical Garden and Eco-park, Chittagong, Bangladesh to assess the impact of park in rural community. Socio-economic survey, personal observations, informal discussion and key informant interviews was conducted using a semi-structured questionnaire with visitor and park managers.

Duffy [4] conducted a study in Madagascar to observe the development of ecotourism in the wider debates of neoliberalism and commodification of nature. Thirty six semi-structured interviews with key interest groups involved with environmental policymaking were conducted during a two months of fieldwork in Madagascar in 2004.

Lacher and Nepal [58] conducted a study to document and examine local-level strategies employed to reduce leakages of tourism revenue in three peripheral regions of Northern Thailand. The study was conducted between October and December 2006 by conducting informal interviews with tourism entrepreneurs, local tourist guides, village officials and village headman.

Zambrano et al. [59] conducted a study in Osa Peninsula of Costa Rica to assess social and environmental effects of ecotourism. The study was conducted with the help of socioeconomic data from owners, operators, managers, team leaders and locals gathered during the field work from June–August 2005.

Gallagher and Hammerschlag [60] conducted a study to examine the distribution, frequency and economic value of shark based ecotourism. In 83 locations of 8 geographic regions, 376 shark ecotour operations were identified. A socioeconomic case study of shark tourism in South Africa was conducted from October to November 2010 by taking information on

customer served and cost per trip. Consumptive and non-consumptive values of shark resources was compared and discussed. The relative economic importance of shark-based tourism at global scale and potential implications of the industry was evaluated.

Amati [30] conducted a study in Kimana Community Wildlife Sanctuary, Kenya to explore individual and household experiences of long-term participation with the help of in-depth interviews, a survey, participant observation and secondary data.

Wood et al. [61] evaluated sustainability of behavioral changes associated with the agreements and development activities supported by the grants and identified determinants of success and lessons in around Kerinci Seblat National Park in Indonesia. They conducted focus-group discussions with village leaders, farmers and others involved in the ICDP and semi structured interviews with villagers, park staffs and local NGO representatives and District Head's office in three Districts.

Acharya and Halpenny [38] conducted a study in Barpak, Gorkha, Nepal, to assess the role of homestay tourism in sustainable community development. The study was analyzed through community-based action research and evaluation methodologies. The primary information was generated through ethnographic observations and semi-structured interviews with politicians, social workers, officials, members of youth clubs, NGO workers and women from the homestay households.

K.C. and Thapa Parajuli [36] conducted a study in Manaslu conservation area (MCA) in Gorkha district of Nepal to assess the impact of ecotourism on livelihood of local people. Seventy-six household surveys, three focus group discussions and five key informant interviews were conducted to get the primary information. Graphical, correlation and regression analysis was carried out for analysis of collected information.

2.3. Visitors attitude towards ecotourism

Stem et al. [6] conducted a study in Costa Rica to assess ecotourism benefits, impacts and its potential for promoting conservation and community development with the help of semi-structured individual and group interviews and direct observation.

Puhakka and Siikamaki [62] examines nature tourists' environmental values and perceptions of ecolabels in PAN Parks certified Oulanka National Park in northeastern Finland. The method includes 273 surveys, 212 to Finnish tourists and 61 questionnaires by foreign tourists of 13 European and 3 other countries.

Cheung and Jim [29] conducted a study in four remote ecotourism hot spots in Hong Kong to understand the resource base and visitor attitude and expectation. The study was conducted with the help of 456 questionnaire surveys with visitors to evaluate the preferences of ecotourism services.

With an objective to identify the local tourism resources and calculate the ecotourism carrying capacity, Shi et al. [27] conducted a study in Shangri-La County in China. The information related to ecotourism related aspects and a resource was gathered with the help of seminars,

randomized surveys and consultations with local authorities between September and October 2011.

Nepal [63] conducted a study to find the areas of satisfaction and concerns that tourists expressed on their stay in the lodges of Annapurna Conservation Area and its effect on their total ecotourism experience. The study was conducted in May 2004 for a period of three weeks based on on-site exit interviews with 130 trekkers in the Annapurna region by in-depth qualitative discussions.

Baral et al. [39] conducted a study in Annapurna Conservation Area (ACA), Nepal to evaluate ecotourism and rate their level of satisfaction from their ecotourism experience. For this, a sample of 315 international visitors were surveyed in April and May of 2006 in Ghorepani. Statistically valid and reliable confirmatory factor analysis ecotourism evaluation scale containing seven items was applied to assess visitors' perceptions of the socio-economic and environmental outcomes of ecotourism.

2.4. Role of local guide in ecotourism

Black et al. [64] conducted a study on range of Ecotour guide training in less developed countries with the help of literature review and emailed questionnaire survey to 240 individuals. The research was based on training models, program aims, structure and content of existing training, trainers and trainees assessment methods and program evaluation.

Ormsby and Mannle [65] conducted a study in Masoala National Park, Madagascar focusing on ecotourism benefits and the role of local guides in promoting conservation awareness with the help of interviews, participant observation, and archival research to park's guide association and residents.

Serenari et al. [66] conducted a study in Garhwal, Uttarakhand from May-June, 2009 with a goal to predict guides' intentions on environmentally significant behaviors on their expeditions in Garhwal. The study was conducted with the help of 68 questionnaires by snowball sampling to guides and visiting adventure tour companies, guide agencies and storefronts.

2.5. Ecotourism certification

Matysek and Kriwoken [67] conducted a study to assess the nature and ecotourism program in Tasmania with the help of in-depth structured interviews with a key informant group of operators, industry representatives, government officials and academics. A qualitative research was conducted on an individual and personalized basis.

Catibog-Sinha and Wen, [28] conducted a study in Xishuangbanna Biosphere Reserve (XBR), South China to assess the importance of effective tourism planning and management through the integration of the social, economic and environmental goals. The study focuses on the planning stage of the 7Es model, Environment, Economics, Enforcement, Experience, Engagement, Enquiry and Education.

Chung [68] conducted a study in Hong Kong to assess the problem of implementing international ecotourism certification at local level with the help of face-to-face interviews, tele-

interviews and mailed-questionnaires. The views of stakeholders on international certification for ecotourism in Hong Kong were diversified.

Deng et al. [69] conducted a study in West Virginia to create a point evaluation system to rate and rank forest-based ecotourism areas in West Virginia, USA based on input from academics and ecotourism operators using the Delphi method. It involved one hundred ecotourism academics and sixty one ecotourism operators. Twelve criteria having several indicators were pre-identified from the literature while criteria and associated indicators in the second round were redesigned to reflect the destination conditions and the destination management.

Deng and Selin [70] conducted a study for the development of a point evaluation system for ecotourism destinations. It involves first round of panel discussion for generation of ideas and the second round for ranking and scoring of measurement items.

Different issues of ecotourism were raised by different researchers throughout the world. Issues such as challenges to ecotourism, impacts of ecotourism focusing on environmental aspects, social aspects and economic aspects, visitors attitude towards ecotourism, role of local guide in ecotourism and ecotourism certification were raised by the researchers. Primary and secondary sources of information were analyzed by researchers through literature reviews, questionnaire survey, semi structured interviews, key informant interviews, participant observation, Strengths, Weaknesses, Opportunities, and Threats' (SWOT) analysis and qualitative researches. This chapter identified location, objectives and methodologies implemented in the ecotourism researches. Methodologies implemented by different researchers were quite similar but the objectives and study area were different.

3. Ecotourism and its role in sustainable development

Infrastructures for tourism have given many benefits for local residents [14]. The ecotourism industry is taken as the driving force to accelerate the socio-economic development, change the traditional growth patterns and construct a harmonious and environment-friendly society [71]. Ecotourism and its impacts on environmental aspects, social aspects and economic aspects throughout the world are described briefly in this part of the chapter with the help of literature review of the researches on impacts of ecotourism.

3.1. Environmental impacts

3.1.1. Positive impacts

Ecotourism is supply led tourism strategy that enables sustainable development with the central theme of ecosystem integrity. It is dictated by the ability of the ecosystem to absorb the impacts but does not exclude the tourist and commercial exploitation of the ecosystem. Ecotourism does not set limits on tourist numbers from the notion of carrying capacity but only controls the nature and extent of their activity [16]. Atmospheric quality, sound quality, drinking water, sewage, lampblack and all kinds of establishments should meet the relative ordains of the national standards of environmental conservation [14].

It has significant potential to generate direct community benefits from conservation. It protects the environment, saves unique species and helps to earn money from tourists [65]. Parks help in combining conservation and development through a program to bring tourism benefits to local committees [65]. Commercial hiking and trekking encourage development where guest facilities and businesses are located [41]. Local people realize the importance of conservation and protect the environment actively [14]. Conservation of nature attracts tourists and provides a high level of satisfaction by exploring the nature and provides partnerships between protected area managers and tourism operators [51]. Forest coverage rate can be increased which provides a solid foundation for developing ecotourism [71]. Ecotourism emphasizes the protection of natural resources and biological diversity during the tourism development. It also requires maintaining the sustainability of resource use and transforming the advantages of regional tourism resources into industrial and economic advantages [71].

Ecotourism positively influences conservation near protected areas and decreases deforestation and hunting rates. Alternative ecotourism provides economic benefits and discourages the conversion of forest to agricultural and pastoral land. Resource management and financial components play a great role in conservation. Its attractiveness rests in its potential to provide local economic benefits while also maintaining ecological resource integrity through low-impact and non-consumptive use of local resources. Ecotourism has pushed its way to the forefront as one of the preferred tools for conservation and community development in many rural areas [6].

Ecotourism is a strategy that has been used to create sustainable economic development, while pursuing conservation objectives. It is a tool that may balance the conflicting goals of economic development and biodiversity conservation [2]. It is developed for the benefit of communities and for conservation activities [4]. In ecotourism, natural resources are not threatened and local people are encouraged in park protection. Rich natural resources are protected together with the recreational and tourist potential which creates a center of attraction [9]. Ecotourism projects enrich the area with natural regeneration, new plantations, infrastructure development and new destinations for visitors and nature-based tourism [24].

Ecotourism has a positive impact on education, job training, hunting, and deforestation [59]. There is also a positive benefit to flora and fauna [49]. It is able to limit environmental and cultural impacts of Western countries [19]. By encouraging both ecological sustainability and grassroots development, community-based ecotourism hopes that the environmental sensitivity and responsibility promoted by ecotourism can serve the political, economic, social and environmental interests of host communities [21]. Ecotourism supplies real experiences of natural environments [16]. Environmentally and culturally sensitive ecotourism programs can play a key role in justifying the rationale for the existence, maintenance and future benefits of protected areas worldwide. They may also serve to mediate conflict by explaining to local residents the purpose of conservation and the roles of park personnel, and can be a means of strengthening park staff's community visibility and credibility [65]. It is an excellent solution to increased tourists and increased degradation to natural areas [72].

Concentration of ecotourism services within a region can marginalize neighboring human communities without causing environmental degradation. Multi-sector planning efforts can

maximize profits, distribute benefits equitably and minimize adverse environmental impacts as tourist numbers increase [55]. The environment-friendly characteristic of ecotourism not only brings more economic benefits but also has notable ecological benefits [71].

3.1.2. Negative impacts

Tourism is an industrial activity that exerts a series of impacts that are similar to most other industrial activities. It consumes scarce resources, produces waste by-products and requires specific infrastructure and superstructure to support it [73]. Ineffective management of tourism causes negative impact on protected area resources [18]. It provides an alternative mechanism of resource utilization which may bring adverse impact on environmental resources. Litter problems had occurred in 44% of the nature reserves, water pollution in 12%, noise pollution in 11% and air pollution in 3% of the nature reserves in China [25]. Camping sites felt environmental degradation in both wet and dry seasons but more in dry season. Environmental degradation is a common problem which increases with increase in visitor number in a protected area open to recreational use [48].

Camping and caravanning zones will add increased levels of pollution to the nearby river [9]. The ecosystem may become less stable and local pollution may have drastic effects, such as fish kills [16]. Ecotourism will require more space for tourists and increased clearing of land [72]. Farmers' extensive farming methods can bring some negative effects, such as sharp drop of forest, vegetation damage, desertification and soil erosion [71]. Successful ecotourism initiatives may draw increasing interest and a correspondingly higher number of tourists, thus intensifying negative impacts such as solid waste generation, habitat disturbance, and trail erosion. Such impacts could seriously threaten the resources upon which ecotourism depends [6].

3.2. Social impacts

3.2.1. Positive impacts

The social impacts of tourism are minimal but are largely positive [56]. The growth of tourism led to migration of people to the area [41]. Guest houses provide food and beverages and are located along the main access route to the National Park [41]. Economic benefits of tourism are successful to stop political opposition to economically unviable and environmentally harmful tourism projects [23].

The local residents show traditional hospitality and their honest folkway in spite of the modernization. The traditional culture has been strengthened in the course of economic development [14]. Ecotourism operators may organize cultural tours with different community groups to ensure experience of both the tourists and community members [6]. The rich culture of the neighborhood can be introduced to visitors [9]. For sustainable ecotourism, lodges should behave as good neighbors to the local people and visitors [6]. Tourism is conducive to the social stability and harmony [71].

Ecotourism offers diverse products and services that can be categorized as both a service and an experience. Ecotourism sites, such as historic houses or theme parks, are primarily consumed for their experiential/ emotional dimensions, which is more a representation of consumption of service experiences rather than relating to their functional properties. Thus, the psychological benefits gained by ecotourists are deemed more relevant and important in this context [74]. There is no conflict between development of planting and conservation of environment. The development of rural tourism provides the villagers with second revenue [14].

3.2.2. Negative impacts

Tourism intervention has the potential to promote social conflict and challenge cultural values [15]. It may result in conflicts between the locals and government authorities [52]. There is an increase in alcoholism, drug addiction and prostitution as a result of tourism [59]. Foreign cultures brought by tourists have an impact on local traditional and plain cultures [71]. Due to tourism, traditional local people having simple life but material needs are vulnerable to Western influence [28]. Copy of Westerners clothing by wearing vests by young people is intolerable in some place [53]. Younger generation conduct between sexes and consumption of alcohol is inappropriate to local norms [53]. There are conflicting experiences of participation in conceptualization and operation of their communal ecotourism initiative. Community members do not share the same understanding and appreciation of financial growth [30].

3.3. Economic impacts

3.3.1. Positive impacts

Ecotourism enhances conservation and development by providing environmental and economic benefits [6]. There was socio-cultural change from subsistence to market economy and changes in traditional land resource rights and institutions [52]. Economic benefit in ecotourism comes from direct employment, rental of accommodation for visitors and the sale of handicrafts and food [53]. Ecotourism provides local economic benefits such as employment, improved infrastructure, increased business for local stores and also maintains ecological resource integrity through low-impact, non-consumptive resource use [6].

Rural tourism provides peasantry with more profit, more employment and better living conditions by promoting the linkage of agriculture and tourism [14]. It develops rural economy and rural culture. It brings a lot of economic income for the local villagers and provides second revenue [14]. It can attract developed region's funds to invest in periphery regions through construction, bring revenue through flows of passengers, transportation, and accommodation and solves the poverty problem. It helps to transfer the rural surplus labors to non-agricultural industries, change the traditional rural lifestyle and productive style, increase the income of farmers and improve the welfare [71]. It had great contribution to the regional economy [71].

The environment-friendly characteristic of ecotourism brings economic and ecological benefits [71]. Population having experience and skill for highland tourism business takes ecotourism

as the most desirable and important economic opportunity. The major sources of revenue generation in tourism are restaurants, souvenirs shops, guiding services, accommodation and entrance fees [58]. Additional sources of income from ecotourism might include sale of traditional handicrafts or agricultural products [2]. Traditional local handicrafts can be sold to tourist to increase economic gains of local communities [9]. Communities try to enhance economic importance and wanted to develop a greater involvement in the future [54].

Many parks work as government agency to collect revenue from fee and license, retention of budget surpluses, set prices to overcome the cost of production and coordinate with corporate and non-profit entities [18]. Ecotourism financially supports protected areas through tourism-related park fees [6]. It provides revenue to the park authority and income to local people [24]. Ecotourism is already the largest source of foreign exchange in many countries [1].

Ecotourism generate foreign exchange earnings, employment, and other economic and social benefits in the areas so it helps in developing thoughtful economic policy and institutional development [18,23]. Accommodation industry are provided more subsidies, tax cuts, concessions, promotional packages and soaps to contribute for the growth and development of the economy [23]. Ecotourism can be an integral part of the master development strategy of a developing nation [75].

Half of park visitor entrance fees are allocated to local management committees for development projects of their choice such as road improvements, construction of tables for a primary school, well and public toilet construction and building rehabilitation [65]. Due to the increase in tourist number, infrastructure for tourism and tour guiding have been developed [55]. Tourism can have both environmental and social consequences [55].

Other than the cultural centre and resource access, tourism creates jobs for community members, helps in socio-economic development and generates revenue from conservation [44]. Tourism is an important source of employment for the people in the territory [56]. Economic benefits for local residents rates the direct employment of locals in the tourism industry, including hotels, lodges, tourist restaurants, and tourist chauffeuring [75]. It should be taken as the important way to increase employment and release environmental pressure [71]. It helps to transfer the rural surplus labors to non-agricultural industries, change the traditional rural lifestyle and productive style, increase the income of farmers and improve the welfare [71]. It provides more native employment in lower job status and income [1,41,59]. Women make up to 45.3% of all staff working in guest houses and restaurants. Nearly 80% of the helping staff is family members with 50% women helpers. But most of the tourism businesses are owned and operated by male migrants or old established noble families [41]. It is labor intensive and offers a variety of small scale opportunities creating jobs for poor, women, young people and indigenous community [1]. Tourism and recreation inside the park provides employment and new business opportunities [9]. The guides working in the tour companies come from local villages and other settlements and know the environment well [9]. In some cases, community involvement is rudimentary and limited to temporary employment (3–4 weeks) in the form of maids, cooks, entertainers, porters and security guards [54].

3.3.2. *Negative impacts*

Ecotourism can bring negative social, cultural and economic impacts. In addition to its potential environmental drawbacks, it often fails to provide widespread economic benefits [6]. There is major impact on the local economy due to ban on trade and mountaineering/expeditions and trekking activities [52]. Ineffective management of tourism causes negative impact on park resources [18].

From the above discussion, environmental, social and economic benefits of ecotourism were observed. Ecotourism has helped in environmental conservation, natural regeneration, new plantations, increase in forest cover, protection of natural resources and biological diversity, conservation of flora and fauna and decrease in deforestation and hunting rate. In spite of these positive environmental impacts, it consumes scarce resources, produces waste by-products, requires specific infrastructure and superstructure, causes litter problem, air pollution, water pollution, noise pollution, destruction of fish, increased clearing of land, drop of forest, vegetation damage, desertification, soil erosion, habitat disturbance and trail erosion.

Increase in traditional hospitality and honest folkway, social stability and harmony, development of rural culture are positive social aspects while negative aspects includes promoting social conflict by challenging cultural values, increase in conflicts between the locals and government authorities, increase in alcoholism, drug addiction and prostitution, adverse impact on local traditional and plain cultures and also makes simple life vulnerable to Western influence.

Economic benefit in ecotourism comes from direct employment, rental of accommodation for visitors, sale of handicrafts and food, improved infrastructure, increased business for local stores, better living conditions, promotion of linkage between agriculture and tourism, development of rural economy, transfer of rural surplus labors to non-agricultural industries, change in traditional rural lifestyle and productive style and increase in income of farmers. Negative impact on the local economy is due to ban on trade, mountaineering/expeditions and trekking activities and negative impact on park resources.

4. Ecotourism and its role in sustainable development in Nepal

Ecotourism helps in sustainable development of the country. As, Nepal is rich in biological, cultural and social diversity, there is a great scope of sustainable development from ecotourism. By observing these benefits, this part assesses the impacts of ecotourism in environment, society and economy with the help of researches conducted in Nepal.

4.1. Environmental impacts

Ecotourism helps in natural resource management and biodiversity conservation in Ghandruk. Increase in forest cover, conservation of flora and fauna, increase in greenery and use of alternative energy sources are the positive environmental impacts of ecotourism. Floral and faunal diversity had also been increased [5].

In ACA, there are clean and comfortable stays, good local cuisine, outstanding natural scenery and positive interactions with host communities. Satisfaction rating of living room comfort, overall cleanliness, views, peaceful atmosphere, host friendliness, price, and local food exceeded the importance attached to them while bedroom options, toilet, shower, menu, Western food, lodging recommendations and environmental quality did not exceed the importance rating. But the satisfaction of environmental quality was rated very high [63].

4.2. Social impacts

Ecotourism had helped in increasing mutual help and cooperation, controlling antisocial activities and conserving religious and cultural heritage in Ghandruk. It had also played a great role in maintaining peace and prosperity in the society. There is increase in cooperation of people with religious beliefs and religious tolerance [5].

The local people felt that the presence of visitors in remote area enhanced their pride in Barpak. Increased excitement of children was the positive outcomes of ecotourism. Success of ecotourism is due to coordination of local community members, line agencies and various levels of government, transparency in the development of the homestay program, clear guidelines and standards, hospitality training and monitoring of environment and bottom up approach of women taking local level ownership and control. Also, ecotourism entrepreneurs sit in a meeting every month reviews the activities and takes feedback to improve their services. Ecotourism addresses gender inequities by the active involvement of women in economic activities associated with tourism [38].

4.3. Economic impacts

Government of Nepal recognizes tourism as a priority sector and major contributor to Nepal's economy. The total foreign exchange earnings from tourism in Nepal in fiscal year 2010/2011, 2011/2012 and 2012/2013 was Rs. 24,611.0, 30,703.8 and 34,210.6 million, respectively. The tourism sector contribution in GDP was 1.5, 1.4, 2.3, 2.8, 2.4, 1.8, 2.0 and 2.0 percent in 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011, 2011/2012 and 2012/2013, respectively. The highest total foreign exchange earnings from tourism were Rs. 34,210.6 million in 2012/2013 [40].

Ecotourism is one of the meaningful sources of economic development and job creation in Ghandruk. It had encouraged people to establish hotels, restaurants, tea shops, bakery cafes, grocery and gift shops. It has brought a lot of economic income for the local villagers [5]. Ecotourism provides fixed price of available services in a package as per the choice of the tourist in the format of a menu in Barpak [38].

Ecotourism participation had increased household consumption in MCA. By participating in ecotourism activities, people are able to generate more income and are increasing their household consumption [36].

Ecotourism has been widely recognized for its role in employment generation and contribution to the national economy. Trekking is recognized as a major part of this industry in Nepal. It

can generate jobs directly through hotels, restaurants, taxis, souvenir sales, local guides and indirectly through the supply of goods and services needed by tourism related business. The impressive growth of Pokhara is a good example of how tourism can contribute to economic growth. Similarly, settlements along the trekking routes in ACA have received tourism benefits, which have contributed to development of the region [76].

Ecotourism has immense potential to help in poverty alleviation in Nepal. It had made significant contribution to rural development, agricultural transformation, community enrichment and social empowerment of women in ACA. Because of higher incomes, many parents of Manang District of ACA can now afford to send their children to high schools and universities in Kathmandu [77].

From the above findings, it is observed that ecotourism helps in natural resource management, biodiversity conservation, increase in forest cover, conservation of flora and fauna and increase in greenery and use of alternative energy sources in Nepal. It develops mutual help and cooperation, controls antisocial activities, conserves religious and cultural heritage, maintains peace and prosperity in the society and increases cooperation of people with religious beliefs and religious tolerance. Tourism is a major contributor to Nepal's economy and helps in economic development, job creation, increase in household consumption and poverty alleviation. Also, it had made significant contribution to rural development, agricultural transformation, community enrichment and social empowerment.

5. Needs of ecotourism

Self-reliant communities have greater chance of progress in ecotourism [78]. There is need for sustainable use of tourism resources, proper handling of tourism demands, repartitioning tourism flow and digital system for tourism management [27]. Expertise in park management and finance management lowers negative environmental impacts and increases positive economic impact. There will be major shift in park management, tourism management and financial management which will help in sustainable development of tourism [18].

Local income, biodiversity conservation and cultural preservation are necessary for tourism intervention in remote areas. There is need of improvement of accessibility, liberalization of pricing policy, community empowerment, and development of tourism facilities and incorporation of nature-based tourism products. To generate social, economic and environmental benefits, tourism intervention in protected areas must make a multi or interdisciplinary and interdepartmental effort. This requires strengthening collaboration between the conservation and tourism authorities to develop ecotourism inside the park [15]. Cultural tourism need to be developed to preserve cultural traditions and enrich the quality of the life of local communities. It is necessary to develop and promote minority cultures to support preserving cultural traditions and education and training programs of ecotourism and nature reserve for tourism operators, employees and tourist [17].

Ecotourism requires four tradeoffs: success and survival at the expense of ecotourism's spatial isolation and structural independence; local employment and benefits at the expense of local

initiation and control; social status and mobility at the expense of social cohesion and harmony; and incipient environmentalism at the expense of ecological sustainability [21]. Successful ecotourism ventures depend on an integrated management philosophy that considers beneficiaries, socioeconomic constraints and impacts on the resource base within a realistic spatial and temporal scale. It requires that entire ecosystems, or at least the biological diversity that they contain, are managed in relation to the tourism experience [16]. Ecotourism and its sustainability require the inclusion of local participation/benefits, economic viability, education dissemination, tourist satisfaction and the minimizing of tourism impact [32].

5.1. Cooperation of communities

Parks and protected areas need people's effective participation for meaningful resource management [78]. If locals are actively involved in tourism planning and development, it becomes much easier to get their support for conservation and avoid serious conflicts with the management [22]. Support and participation of local communities is important for development and management of the nature reserve [17]. Community participation is needed to make ecotourism sustainable [56]. Community-based programs such as community organizing, environmental education and leadership training should be done with the involvement of relevant stakeholders in a collective manner [28].

After privatization of tourism facilities and services, park management encouraged the local communities to involve directly in delivering tourism activities. Nature guiding training is provided to local communities to enhance themselves in this sector. Local tourism provider associations are established to secure local interest in tourism participation [79]. Local economic diversity is also important to the sustainability of community-based ecotourism projects [2]. Mechanisms for managing conflicts between protection and development faced by the nature reserves should be clearly addressed [25].

Establishment of the National Network of Protected Areas needs sound management and should ensure long-term maintenance and achieve the goal of promoting local economic development within the communities [22]. The management committee should be formed which include all government agencies responsible in natural resources management and economic development. There is need of cooperation between local governments, local communities, NGOs and the private sector [17]. Development of park management framework for staff and finance management play a key role in running a park effectively [18].

Local government officials had a great role for conservation, development and logistical functions towards tourism development [17]. Local governments should develop fund from provincial and national governments or NGOs for managing the reserve [17]. Appropriate measures to protect the core area from over-exploitation and unsustainable human use need to be conducted by government [28]. Macro-scale institutional organization and coordination, both at the national and international levels, are important for the sustainability of community-based projects. Multiple government departments, including ministries of tourism, natural resources, and rural development, should coordinate policies and programs in order to pursue the success of ecotourism projects. International organizations, which often fund ecotourism projects, must also coordinate with government agencies and local non-profits [2]. Planning

and management need to be supervised by a council, advisory board, association, or program, which would be a not-for-profit NGO. The roles of the various stakeholders involved in the project, as well as the hierarchy of the people involved, will need to be clearly articulated, since the success of the ecotourism network will depend on appropriate levels of leadership, cooperation and coordination amongst the involved parties [80].

Conservation agreements effectiveness depends on appropriate role of local circumstance. An agreement between community and park management is beneficial when people are encouraged to abandon behavior that brings conflicts with conservation. Conditional link between the obligations of the community and benefits is created by agreement with external monitoring and enforcement. If the livelihoods are directly dependent on legal and sustainable use of park resource and services, an agreement for internal control is relevant to regulate access to benefits and prevent selfish behavior [61].

5.2. Skill and capacity

Tourism agencies need to enhance their skill and capacity to address climate change. Development of strong leadership, commitment and sufficient resource is necessary to cope with impact of climate change on tourism sector [43]. Knowledge and experience of local community can improve planning and decision making of tourism, conservation and economic development. For the smooth operation of tourism in protected areas, it is important to have trained staff, more efficient administration and better coordination with the contributions of various stakeholders [28]. Hence, trainings on skills, knowledge and quality development is necessary. For appropriate training approach, research on evaluation of formal training and follow up training is necessary. Systematic evaluation of existing informal and formal training is needed to assist in developing new programs and improve existing ones [64].

Positive attitude of guide is important to show pro-environmental behavior while guiding [66]. Visitors prefer good quality information; tour guides and low impact activities and select the destination with high ecological value and good site management [29]. To promote conservation, education programs should be developed for local residents related to nature reserve [17]. Overall planning for ecotourism development is necessary in most nature reserves [25]. There is need of competent staff as tourist guides with good management experience [25].

5.3 Ecotourism policies

It was recommended to develop environmental friendly policies focusing on research to understand the motivations and expectations of qualified co-workers for a successful recruitment process and conduction of longitudinal studies to investigate the lifecycle of the individual firms [42]. Management strategies should focus on ways to achieve sustainability by involving local people [54]. Strategic planning, financial analysis, and business plan development are needed to improve the quality and viability of ecotourism [13]. Also, climate change and tourism sector requires a strong policy framework led by a government agency to convert private into public and global flow into local flow in the current time [43].

5.4 Challenges of ecotourism

The main challenge for adoption of natural sciences knowledge in wildlife tourism was lack of competent and dedicated human capital and difficulties in networking. Differences in gender, culture and professional background and difficulties in local networking act as barriers to cooperation within the local context [42]. Lack of education and English language skills is a major obstacle for tourism business development and direct employment [41,53]. The main challenge is to increase the length of stay of visitors which could be done by hiking and camel safaris [44].

6. Conclusions

Ecotourism has environmental, social and economic impacts to the community, nation and the whole world. For assessing its issues and impacts, social tools such as questionnaire surveys, focus group discussions, key informant interviews and review of literature were applied by different researchers. It has helped in sustainable development of Nepal and the whole world by conserving environment, increasing employment, enhancing livelihood and promoting the culture and traditions. There is need of cooperation among different stakeholders, training of ecotourism to tourism entrepreneurs and appropriate management policy for sustainable implementation of ecotourism projects.

Author details

Anup K. C.*

Address all correspondence to: kcanup04@gmail.com

Nepal Electricity Authority, Environment and Social Studies Department, Kathmandu, Nepal

References

- [1] Das N. and Syiemlieh HJ., *Ecotourism in Wetland Ecology*. Anatolia: An International Journal of Tourism and Hospitality Research, 2009. 20(2): p. 445-450.
- [2] Cusack D. and Dixon L., *Community-Based Ecotourism and Sustainability*. Journal of Sustainable Forestry, 2006. 22(1-2): p. 157-182.
- [3] UNEP, *Tourism: Trends, Challenges and Opportunities*, in *Green Economy and Trade*. 2013, United Nations Environment Programme. p. 259-291.

- [4] Duffy R., *Neoliberalising Nature: Global Networks and Ecotourism Development in Madagascar*. *Journal of Sustainable Tourism*, 2008. 16(3): p. 327-344.
- [5] KC., Anup, Rijal K. and Sapkota RP., *Role of ecotourism in environmental conservation and socioeconomic development in Annapurna conservation area, Nepal*. *International Journal of Sustainable Development & World Ecology*, 2015. 22(3): p. 251-258.
- [6] Stem CJ., et al., *How Eco is Ecotourism? A Comparative Case Study of Ecotourism in Costa Rica*. *Journal of Sustainable Tourism*, 2003. 11(4): p. 322-347.
- [7] Dowling RK., *Global Ecotourism at the Start of the New Millennium*. *World Leisure Journal*, 2000. 42(2): p. 11-19.
- [8] Braden K. and Prudnikova N., *The Challenge of Ecotourism Development in the Altay Region of Russia*. *Tourism Geographies: An International Journal of Tourism Space, Place and Environment*, 2008. 10(1): p. 1-21.
- [9] Kelkit A., Ozel AE., and Demirel O., *A Study of the Kazdagi (Mt. Ida) National Park: An Ecological Approach to the Management of Tourism*. *International Journal of Sustainable Development & World Ecology*, 2005. 12(2): p. 141-148.
- [10] Sindiga I., *Alternative Tourism and Sustainable Development in Kenya*. *Journal of Sustainable Tourism*, 1999. 7(2): p. 108-127.
- [11] Nepal SK., *Sustainable Tourism, Protected Areas and Livelihood Needs of Local Communities in Developing Countries*. *International Journal of Sustainable Development & World Ecology*, 1997. 4(2): p. 123-135.
- [12] Cao H., et al., *Analysis of management effectiveness of natural reserves in Yunnan Province, China*. *International Journal of Sustainable Development & World Ecology*, 2014. 21(1): p. 77-84.
- [13] Hawkins DE., *A Protected Areas Ecotourism Competitive Cluster Approach to Catalyse Biodiversity Conservation and Economic Growth in Bulgaria*. *Journal of Sustainable Tourism*, 2004. 12(3): p. 219-244.
- [14] Degang W. and Xiaoting H., *Coincidence and Upgrade: A Typical Case Study of Rural Ecotourism Development*. *Chinese Journal of Population Resources and Environment*, 2006. 4(1): p. 45-53.
- [15] Gurung DB. and Scholz RW., *Community-based Ecotourism in Bhutan: Expert Evaluation of Stakeholder-based Scenarios*. *International Journal of Sustainable Development & World Ecology*, 2008. 15(5): p. 397-411.
- [16] Tyler D. and Dangerfield JM., *Ecosystem Tourism: A Resource-based Philosophy for Ecotourism*. *Journal of Sustainable Tourism* 1999. 7(2): p. 146-158.
- [17] Genzong X., Penghua Q., and Shaoxia T., *Nature Reserve and Ecotourism Development in China's Wuzhishan Mountain Region*. *Chinese Journal of Population Resources and Environment*, 2007. 5(1): p. 74-83.

- [18] Eagles PFJ., *Trends in Park Tourism: Economics, Finance and Management*. Journal of Sustainable Tourism, 2002. 10(2): p. 132-153.
- [19] Brunet S., et al., *Tourism Development in Bhutan: Tensions between Tradition and Modernity*. Journal of Sustainable Tourism, 2001. 9(3): p. 243-263.
- [20] Maroudas L. and Kyriakaki A., *The Perspectives of Ecotourism Development in Small Islands of the South Dodecanese*. Anatolia: An International Journal of Tourism and Hospitality Research, 2001. 12(1): p. 59-71.
- [21] Kontogeorgopoulos N., *Community-Based Ecotourism in Phuket and Ao Phangnga, Thailand: Partial Victories and Bittersweet Remedies*. Journal of Sustainable Tourism, 2005. 13(1): p. 4-23.
- [22] Zal N. and Breda Z., *Tourism in Protected Areas: Observations from Kuscenneti National Park*. Anatolia: An International Journal of Tourism and Hospitality Research, 2010. 21(1): p. 73-87.
- [23] Sreekumar TT. and Parayil G., *Contentions and Contradictions of Tourism as Development Option: The Case of Kerala, India*. Third World Quarterly, 2002. 23(3): p. 529-548.
- [24] Nath TK. and Alauddin, *Sitakunda Botanical Garden and Eco-park, Chittagong, Bangladesh: Its Impacts on a Rural Community*. International Journal of Biodiversity Science & Management, 2006. 2(1): p. 1-11.
- [25] Nianyong H. and Zhuge R., *Ecotourism in China's Nature Reserves: Opportunities and Challenges*. Journal of Sustainable Tourism, 2001. 9(3): p. 228-242.
- [26] Zhao J. and Jia H., *Strategies for the Sustainable Development of Lugu Lake Region*. International Journal of Sustainable Development & World Ecology, 2008. 15(1): p. 71-79.
- [27] Shi L., et al., *Evaluation of Shangri-La County's Tourism Resources and Ecotourism Carrying Capacity*. International Journal of Sustainable Development & World Ecology, 2014. 22(2): p. 103-109.
- [28] Catibog-Sinha C. and Wen J., *Sustainable Tourism Planning and Management Model for Protected Natural Areas: Xishuangbanna Biosphere Reserve, South China* Asia Pacific Journal of Tourism Research, 2008. 13(2): p. 145-162.
- [29] Cheung LTO. and Jim CY., *Ecotourism Service Preference and Management in Hong Kong*. International Journal of Sustainable Development & World Ecology, 2013. 20(2): p. 182-194.
- [30] Amati C., *We all voted for it: Experiences of Participation in Community-based Ecotourism from the Foothills of Mt Kilimanjaro*. Journal of Eastern African Studies, 2013. 7(4): p. 650-670.
- [31] Bhusal NP., *Chitwan National Park: A Prime Destination of Eco-Tourism in Central Tarai Region, Nepal*. The Third Pole, 2007. 5(7): p. 70-75.

- [32] Musa G., Hall CM., and Higham JES., *Tourism Sustainability and Health Impacts in High Altitude Adventure, Cultural and Ecotourism Destinations: A Case Study of Nepal's Sagarmatha National Park*. *Journal of Sustainable Tourism*, 2004. 12(4): p. 306-331.
- [33] Sherpa Y., *Mountain Tourism: A Boon or a Bane? Impacts of Tourism on Himalayan Women*. 2006, Federation of Women Entrepreneurs association Of Nepal: Kathmandu, Nepal.
- [34] Adhikari YP. and Fischer A., *Tourism: Boon for Forest Conservation, Livelihood, and Community Development in Ghandruk VDC, Western Nepal*. *The Initiation*, 2011. 4: p. 35-45.
- [35] Farooq SU., et al., *The Impact of Tourism on Local Livelihood' A Case Study of Galliyat, District Abbotabad*. *European Journal of Scientific Research*, 2012. 68(1): p. 10.
- [36] KC., Anup. and Thapa Parajuli R.B., *Tourism and Its Impact on Livelihood in Manaslu Conservation Area, Nepal*. *Environment Development and Sustainability*, 2014. 16: p. 1053-1063.
- [37] KC., Anup. and Thapa Parajuli R.B., *Climate Change and Its Impact on Tourism in the Manaslu Conservation Area, Nepal*. *Tourism Planning & Development*, 2014: p. 13.
- [38] Acharya BP. and Halpenny EA., *Homestays as an Alternative Tourism Product for Sustainable Community Development: A Case Study of Women Managed Tourism Product in Rural Nepal*. *Tourism Planning & Development*, 2013. 10(4): p. 367-387.
- [39] Baral N., Stern MJ., and Hammett AL., *Developing a Scale for Evaluating Ecotourism by Visitors: A Study in the Annapurna Conservation Area, Nepal*. *Journal of Sustainable Tourism*, 2012. 20(7): p. 975-989.
- [40] MoCTCA, *NEPAL TOURISM STATISTICS 2013*. 2014, Ministry of Culture, Tourism & Civil Aviation, Government of Nepal: Kathmandu.
- [41] Schellhorn M., *Development for Whom? Social Justice and the Business of Ecotourism*. *Journal of Sustainable Tourism*, 2010. 18(1): p. 115-135.
- [42] Bertella G., *Wildlife Tourism and Natural Sciences Knowledge: Challenges and Critical Factors*. *Scandinavian Journal of Hospitality and Tourism*, 2011. 11(1): p. 97-114.
- [43] Becken S. and Clapcott R., *National Tourism Policy for Climate Change*. *Journal of Policy Research in Tourism, Leisure and Events*, 2011. 3(1): p. 1-17.
- [44] Okello MM., *A Survey of Tourist Expectations and Economic Potential for a Proposed Wildlife Sanctuary in a Maasai Group Ranch near Amboseli, Kenya*. *Journal of Sustainable Tourism*, 2005. 13(6): p. 566-589.
- [45] Hitchner SL., et al., *Community-based Transboundary Ecotourism in the Heart of Borneo: A Case Study of the Kelabit Highlands of Malaysia and the Kerayan Highlands of Indonesia*. *Journal of Ecotourism*, 2009. 8(2): p. 193-213.

- [46] Beaumont N., *The Third Criterion of Ecotourism: Are Ecotourists More Concerned about Sustainability than Other Tourists?*, <http://dx.doi.org/10.1080/14724049.2011.555554>. Journal of Ecotourism, 2011. 10(2): p. 135-148.
- [47] Zhuang H., Lassoie JP., and Wolf SA., *Ecotourism Development in China: Prospects for Expanded Roles for Non-governmental Organisations*. Journal of Ecotourism, 2011. 10(1): p. 46-63.
- [48] Obua J., *Environmental Impact of Ecotourism in Kibale National Park, Uganda*. Journal of Sustainable Tourism, 1997. 5(3): p. 213-223.
- [49] Winson A., *Ecotourism and Sustainability in Cuba: Does Socialism Make a Difference?* Journal of Sustainable Tourism, 2006. 14(1): p. 6-23.
- [50] Ballantyne M. and Pickering C., *Ecotourism as a Threatening Process for Wild Orchids*. Journal of Ecotourism, 2012. 11(1): p. 34-47.
- [51] Coghlan A., *Linking Natural Resource Management to Tourist Satisfaction: A Study of Australia's Great Barrier Reef*. Journal of Sustainable Tourism, 2012. 20(1): p. 41-58.
- [52] Maikhuri RK., et al., *Promoting Ecotourism in the Buffer Zone Areas of Nanda Devi Biosphere Reserve: An Option to Resolve People-policy Conflict*. International Journal of Sustainable Development & World Ecology, 2000. 7(4): p. 333-342.
- [53] Clifton J. and Benson A., *Planning for Sustainable Ecotourism: The Case for Research Ecotourism in Developing Country Destinations*. Journal of Sustainable Tourism, 2006. 14(3): p. 238-254.
- [54] Dicken ML., *Socio-economic Aspects of Boat-based Ecotourism During the Sardine Run within the Pondoland Marine Protected Area, South Africa*. African Journal of Marine Science, 2010. 32(2): p. 405-411.
- [55] Gezon LL., *Who Wins and Who Loses? Unpacking the Local People Concept in Ecotourism: A Longitudinal Study of Community Equity in Ankarana, Madagascar*. Journal of Sustainable Tourism, 2014. 22(5): p. 821-838.
- [56] Boxill I. and Severin FO., *An Exploratory Study of Tourism Development and Its Impact on the Caribs of Dominica*. International Journal of Hospitality & Tourism Administration, 2004. 5(1): p. 1-27.
- [57] Silva G. and Mc Dill ME., *Barriers to Ecotourism Supplier Success: A Comparison of Agency and Business Perspectives*. Journal of Sustainable Tourism, 2004. 12(4): p. 289-305.
- [58] Lacher RG. and Nepal SK., *From Leakages to Linkages: Local-Level Strategies for Capturing Tourism Revenue in Northern Thailand*. Tourism Geographies: An International Journal of Tourism Space, Place and Environment, 2010. 12(1): p. 77-99.
- [59] Zambrano AMA., Broadbent EN., and Durham WH., *Social and Environmental Effects of Ecotourism in the Osa Peninsula of Costa Rica: The Lapa Rios Case*. Journal of Ecotourism, 2010. 9(1): p. 62-83.

- [60] Gallagher AJ. and Hammerschlag N., *Global Shark Currency: The Distribution, Frequency, and Economic Value of Shark Ecotourism*. *Current Issues in Tourism*, 2011. 14(8): p. 797-812.
- [61] Wood P., et al., *The Implementation and Sustainability of Village Conservation Agreements around Kerinci Seblat National Park, Indonesia*. *Society & Natural Resources: An International Journal*, 2014. 27(6): p. 602-620.
- [62] Puhakka R. and Siikamaki P., *Nature tourists' response to ecolabels in Oulanka PAN Park, Finland*. *Journal of Ecotourism*, 2012. 11(1): p. 56-73.
- [63] Nepal SK., *Ecotourists' Importance and Satisfaction Ratings of Accommodation-Related Amenities*. *Anatolia: An International Journal of Tourism and Hospitality Research*, 2007. 18(2): p. 255-276.
- [64] Black R., Ham S., and Weiler B., *Ecotour Guide Training in Less Developed Countries: Some Preliminary Research Findings*. *Journal of Sustainable Tourism*, 2001. 9(2): p. 147-156.
- [65] Ormsby A. and Mannle K., *Ecotourism Benefits and the Role of Local Guides at Masoala National Park, Madagascar*. *Journal of Sustainable Tourism*, 2006. 14(3): p. 271-287.
- [66] Serenari C., et al., *Understanding Environmentally Significant Behavior among Whitewater Rafting and Trekking Guides in the Garhwal Himalaya, India*. *Journal of Sustainable Tourism*, 2012. 20(5): p. 757-772.
- [67] Matysek KA. and Kriwoken LK., *The Natural State: Nature-Based Tourism and Ecotourism Accreditation in Tasmania, Australia*. *Journal of Quality Assurance in Hospitality & Tourism*, 2003. 4(1-2): p. 129-146.
- [68] Chung CK., *Issues of Using International Certification for Ecotourism Management at the Local Level: A Case Study of Hong Kong*. *Asian Geographer*, 2010. 27(1-2): p. 59-73.
- [69] Deng J., Bender M., and Selin S., *Development of a Point Evaluation System for Ecotourism Destinations: a Delphi Method*. *Journal of Ecotourism*, 2011. 10(1): p. 77-85.
- [70] Deng J. and Selin S., *Application of the Delphi Method to Ecotourism Destination Evaluations: A Rejoinder to Brian Garrod*. *Journal of Ecotourism*, 2012. 11(3): p. 224-229.
- [71] Bin L., Suocheng D., and Mei X., *Ecotourism Model and Benefits of Periphery Regions in Western Sichuan Province*. *Chinese Journal of Population Resources and Environment*, 2008. 6(2): p. 80-86.
- [72] Lieberknecht K. and Papazian J., *Balancing Conservation and Economics, The Development of an Ecotourism Plan for Panama*. *Journal of Sustainable Forestry*, 1999. 8(3-4): p. 107-126.
- [73] Welford R. and Ytterhus B., *Sustainable Development and Tourism Destination Management: A Case Study of the Lillehammer Region, Norway*. *International Journal of Sustainable Development & World Ecology*, 2004. 11(4): p. 410-422.

- [74] Chan JKL. and Baum T., *Ecotourists' Perception of Ecotourism Experience in Lower Kinabatangan, Sabah, Malaysia*. *Journal of Sustainable Tourism*, 2007. 15(5): p. 574-590.
- [75] Doan TM., *The Effects of Ecotourism in Developing Nations: An Analysis of Case Studies*. *Journal of Sustainable Tourism*, 2000. 8(4): p. 288-304.
- [76] Kafle S., *Prospects of Ecotourism: A Case Study of Gaurishankar Conservation Area, Dolakha, Central Nepal*, in *Central Department of Environmental Science*. 2015, Tribhuvan University: Kathmandu.
- [77] Pradhan H. and Grandon R., *Ecotourism in Nepal: Status and Contribution*, in *Readings in Rural Tourism*, Upadhyaya R.P., Editor. 2008, Sunlight Publication: Kathmandu. p. 43-64.
- [78] Singh TV. and Singh S., *On Bringing People and Park Together through Ecotourism: The Nanda Devi National Park, India*. *Asia Pacific Journal of Tourism Research*, 2004. 9(1): p. 43-55.
- [79] Yip HW., et al., *Participatory of Local Operators in Ecotourism Services Delivery: The Nature-based Tourism Development in Pahang National Park, Malaysia*. *Anatolia: An International Journal of Tourism and Hospitality Research*, 2006. 17(2): p. 313-318.
- [80] Fennell D. and Weaver D., *The Ecotourism Concept and Tourism-Conservation Symbiosis*. *Journal of Sustainable Tourism*, 2005. 13(4): p. 373-390.

