

**Study of Ecotourism: Impact of Tourism in Natural Environment
and Socio-Economic Condition of Langtang National Park
(Dhunche-Kyangjin Route)**

A Thesis

**Submitted in partial fulfillment of the
Requirement for the Degree of Master's of Science in Zoology
(Ecology)**

By

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To

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RECOMMENDATION

It is my pleasure to mention that Mr. Hari Prasad Aryal has successfully completed the dissertation work entitled **Study of Ecotourism: Impact of Tourism in Natural Environment and Socio-Economic Condition of Langtang National Park (Dhunche-Kyangjin Route)** under my supervision and guidance. This is the candidate's original work and to the best of my knowledge this dissertation has not been submitted for any other degree. I recommend that the dissertation be accepted for partial fulfillment of the requirement for the Master's Degree in Zoology (Ecology).

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APPROVAL

On the recommendation of Supervisor Dr. Madan Koirala Associate professor, This dissertation submitted by **Mr. Hari Prasad Aryal** entitled **Study of Ecotourism: Impact of Tourism in Natural Environment and Socio-Economic Condition of Langtang National Park (Dhunche-Kyangjin Route)** is approved for examination and submitted to the T.U. in partial fulfillment of the requirements for Master's Degree of Science in Zoology to special paper Ecology.

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APPROVAL

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ABSTRACT

This study was carried out in the Langtang National Park which is situated on the Northern part of central Nepal. The research work on **“Study of Ecotourism: Impact of Tourism on Natural Environment and Socio-Economic Condition of Langtang National Park (Dhunche-Kyangjin Route)”** was conducted during Oct. 2002 to March. 2004, with aimed to know the impact of tourism on natural environment and socio-economic and cultural condition of this region as well as to quantity fuel wood consumption by hotels/lodges, villagers and tourist.

Direct observation and questionnaire survey method was conducted to know about the positive and negative impact of tourism on nature and socio-economic condition of this region.

Nepal, a Himalayan Kingdom, with its magnificently varied landscape, rich cultural heritage, diversity of flora and fauna, beautiful mountains, lakes and rivers has attracted travelers throughout the world and it is an important source of foreign exchange.

Natural beauty and socio-cultural life style with untouched by modern onslaughts, high level of biodiversity with over 3000 species of flowering plant 345 species of bird 58 species of butterflies, 11 species of amphibians and 46 species of mammals, Himalayan valley of Langtang with its fusion of Tamang and Tibetan culture and multitude of glaciers including Langtang glacier, Langshisa glacier and Luring glacier and Buddhist monasteries such as Kyangjin make Dhunche-Kyangjin route in LNP high potential for tourist destination.

LNP receives substantial number of tourists including pilgrims. Environmental problem has also increased along with the increase in tourism along the trails. Illegal use of fuel wood, use of timber in lodge construction, intensive use of environmentally sensitive areas, improper disposal of waste, litter and garbage, improper campsite location

management were major type of negative environmental impacts found in LNP.

Firewood is the main source of fuel in this area. Out of total surveyed household 65% of the house hold were consuming average 20-40 Bhari of fuel wood per months, 13% were found to be consumed 10-20 Bhari per month and 12% of household were found to consuming more then 40 Bhari of fuel wood per month. Pine Hemlock, Fir, Birch, Rhododendron and Juniper was mostly used ad fuel by people's along the trail. 113 Hotel and lodge which provides services to the tourist has found to consume more fuel-wood than the local households. An average of 60.81 kg of fuel-wood was found to be used by local hotels and lodge while 18.6 kg firewood was found to be consumed by group trekkers and 5.5 kg by that of individual trekkers. Study showed that 51% of the local people and 43% of the local trekkers were agreed that solid waste disposal problem was created by tourist. On the statement wildlife behaviour, 48% of local people and 60% of the local trekkers were agreed. Similarly, 54% of the local people and 44% of the local trekkers were believed that wildlife population has been decreased due to tourism development. On the other hand tourism development in this area support for the management of park from the revenue obtained from tourist. It brings environmental awareness and concern for the environmental conservation. For this statement 70% of local residents and 47% of local trekkers were agreed. It also support the local people to know about the health and sanitation as well as it also increased awareness to used alternative energy sources instead of firewood.

Tourism has created some direct employment opportunities to the local people and most of them have got indirect benefit. Households along the trekking route and destination derive economic benefits through sale of local products like vegetables, milk, ghee, egg etc for the hotels

and restaurants. The development of tourism would promote village and hotel industry as well as agriculture and livestock farming also flourish due to the development of tourism. People along the trail are highly benefited from poultry farming

The development of tourism in these remote areas has brought demonstration effect of tourist on the host population, commercialization of culture, change in traditional agricultural and livestock dependent life styles and use of imported rather than indigenous building material along the trails were the major impacts in this region. On the other hand, tourism supports for education and help to know about foreign culture. It is also helpful for the conservation of local culture and tradition which is the major source of tourist attraction on the site.

Along with its positive impacts some negative impacts such as high dependence on tourism and has high seasonality brought fall in income during the slack tourist season. Unhealthy competition among lodges and decline of traditional agriculture system were the some common negative impact in the area.

In order to reduce the impact of tourism along the trail, clear policy, plan and strategy should be formulated regarding the number of tourist and number of hotels and their location and activities. Alternative energy source should be developed to reduce reliance on wood and group trekkers should not be allowed to use firewood and must be made to use kerosene or gas by specific direction or regulations. Continuous education regarding the sanitation and energy conservation and its proper use should be given to the local people. New infrastructure should not be permitted and notice about what to do and what not to do by trekkers for mitigating their impact in nature should be published and kept in different paces along the trail. The national park clean trail area at least once a year as well as a national park could be restricted during certain time of the year for animals and plant to bread and grow.

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LIST OF ACRONYMS

ACAP	=	Annapurna Conservation Area Project
CBS	=	Central Bureau of Statistics
CDG	=	Central Department of Geography
DDC	=	District Development Committee
DNPWC	=	Department of National Park and Wildlife Conservation
DUHE	=	Durham University Himalayan Expedition
FITS	=	Free Independent Trekkers
GTs	=	Group Trekkers
ICIMOD	=	International Center for Integrated Mountain Development
IUCN	=	The World Conservation Union
Kg	=	Kilogram
KTM.	=	Kathmandu
LNP	=	Langtang National Park
Masl	=	Meter at Sea Level
MOCTCA	=	Ministry of Culture, Tourism and Civil Aviation
MOPE	=	Ministry of Population and Environment
Mt	=	Matricitone
SNP	=	Sagarmatha National Park
TRPAP	=	Tourism for Rural Poverty Elevation Programs
VDCs	=	Village Development Committee