



VOICE OF HIMALAYA

Year 7, Issue 1, 2018

Photo: Samip Mainali



Government of Nepal
Ministry of Culture, Tourism & Civil Aviation
NEPAL MOUNTAIN ACADEMY



Government of Nepal
Ministry of Culture, Tourism & Civil Aviation
Nepal Mountain Academy

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Government of Nepal
Ministry of Culture, Tourism and Civil Aviation
Singhadurbar, Kathmandu, Nepal



Hon'ble Rabindra Adhikari
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MESSAGE

This gives me a great pleasure to congratulate Nepal Mountain Academy (NMA) for the 7th Issue of its annual journal, "Voice of Himalaya" which has been well received by readers as informative source of knowledge for tourism of Nepal. I would like to acknowledge the contribution of NMA for producing students with comprehensive knowledge of research skills in mountaineering.

I am delighted to note that NMA has been offering course for Bachelors in Mountaineering Studies (BMS) and has taken initiative to begin courses for Masters in Adventure Tourism (MAT). Its advocacy to incorporate Mountaineering Studies in the 10+2 level as an optional subject is worthy of appreciation.

I express my best wishes to NMA and hope it will produce more skilled professionals in the tourism sector through its academic, vocational and entrepreneurial vision.

July 2018

Rabindra Adhikari
Minister



Ref No.

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MINISTRY OF CULTURE, TOURISM & CIVIL AVIATION



Message

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Singhdurbar,
Kathmandu, Nepal

I feel honored and overwhelmed to provide my thoughts on the occasion of the yearly publication of 'Voice of Himalaya' by the Nepal Mountain Academy.

With the leaps that the institution has been taking, it is definitely driven towards the creation of an international training center at Garma, Solukhumbu which will be a novel, fresh and an innovative act in the tourism industry of Nepal and also globally. I strongly believe that the training center will be able to attract the attention of tourism related stakeholders from far and wide. I would therefore, like to express my wishes for the successful and timely completion of the center that is under the process of construction at the moment.

Similarly, the potential of the academy in terms of international partnerships has risen substantially after the introduction of Bachelors in Mountaineering Studies as an academic course and the preparation for the Masters in Adventure Tourism in the near future. This sort of exposure is also significant for the sustained growth and development of the institution. For this, I would also like to stress upon the need for the maintenance and deliverance of a quality academic service by the Academy which it has been efficaciously conveying at present. In addition to these, Nepal Mountain Academy also is in the pathway of becoming a leading institution in the field of adventure tourism.

Hence, I would like to heartily provide my good wishes and thoughts towards the Nepal Mountain Academy for this particular publication and also other endeavors that it has been undertaking.

Krishna Prasad Devkota

Secretary

VOICE OF HIMALAYA

Year 7, Issue 1, 2018

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Cover Picture

(Pharilapcha Peak (6017m.) and it's reflection on Gokyo Lake)

Layout / Printed at

Speedline Printers Pvt. Ltd.

Samakhusi, Kathmandu

Publisher

Government of Nepal

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Message From the Executive Director



Romnath Gyawali
Executive Director & Editor

With the vision to create a niche for production of skillful and capable human resource in the field of mountain and adventure tourism, tourism based education and research, Nepal Mountain Academy (NMA) has been conducting various short and long-term programs/ courses in order to develop, expand and promote the notion of mountaineering based tourism and adventure sports.

To accomplish this grand foresight, the major goal to undertake for the academy is to endorse Nepal as a destination for mountain based studies by founding the long worked upon concept of the 'Mountaineering University' which will pertain the capacity to deliver the educational programs, trainings and research center of an international standard.

Another crucial aim in this regards for the academy is to promote ski in particular as an adventure sport and develop the

academy as the chief hub for conducting search and rescue operations.

At present, the academy has been operational for some of the imperative projects and programs that are all directed towards the furtherance of the mountain and tourism sector.

The course titled 'Bachelors in Mountaineering Studies', a first of its kind in the world has been started by the Academy in which 23 students are enrolled in the first cohort. Similarly, the Academy is also in the progression to coordinate with Tribhuvan Univerisity for the commencement of 'Masters in Adventure Tourism Studies' which will be another milestone for Nepal in the global arena in the pitch of mountain based tourism.

Along with this, workings are at headway as per the Master plan approved by the Government of Nepal to establish college and related set-ups at Dudhkunda Municipality-7 of Solukhumbu with a premise of around 3000 Ropani of land.

Likewise, with a view to minimize the mountaineering and trekking related mishaps, NMA in the deficiency of any such appliance to forecast the weather, has taken the initiative to make available a well-timed and detailed information of the weather to the concerned authorities through SMS from the mobile phones and email. So as to fluently carry forward this initiation in the upcoming days, the

Academy plans to technologically enhance the capacities to deliver better and faster information.

With the realization of a genuine gap in gender, particularly the lack of involvement of females as professionals in this field, the Academy has initiated the Female Trekking Guide Training since 2014 with a very subsidized training charges for economically empowering the females to pursue trekking guide as a profession that helps them become self-dependent. Nepal does not only have potentials in mountaineering but ski is also an equally alluring prospect. To promote ski in Nepal, NMA has actuated a 3-leveled ski training and till date has produced 30 skilled personnel.

The academy has its associations at France and Swiss to provide the level 2 and level 3 training after the completion of basic level training in Nepal. Along with this, NMA has been enthusiastically engaging in research based studies to establish level 3 ski based spots here in Nepal itself.

One more very recent and prominent accomplishment for the academy is the approval of the Mountaineering Studies as an optional course for 10+2 level all over Nepal under the stream of Management and Humanities which was commenced as a result of the leadership of NMA and advocated by the Ministry of Culture, Tourism and Civil Aviation.

All these ingenious and resourceful programs have been effective in esteeming the tourism sector and Nepal Mountain

Academy shall always be dedicated towards exploring novel prospects along with expanding its prevailing horizons.

The future also holds a lot of scope for the academy in terms of internationalizing the academic courses of both Bachelors and Masters level, execution of the approved Master plans, establishing Nepal as a 'High Altitude Ski Destination' for development of the Ski based tourism, institutionalization of the mountaineering research center of international standard and excellence, environmental sensitization for the sustainable development of mountain tourism, formation of policies to comply with the provincial model of Nepal.

In these reposes, NMA absolutely and positively seeks cooperation and collaboration from the associated governmental and non-governmental organizations. Hence, while being at the leading position for the institute, I am very much dedicated to out-and-out justify my responsibilities and accountabilities to craft an institutional arrangement that can greatly partake in the heightening of Nepal's persona as a destination for Mountain tourism, studies and research.





Introduction

Nepal Mountain Academy

General Background

Human relation with mountains is as old as the history of mankind itself. Low and mid-hills and high mountains have been the sources of livelihood and safe haven for the human beings since time immemorial. In this long course of time, man has shown never ending fascination towards mountains. The awe-inspiring great and majestic snow-capped Himalayan peaks and the lovely yet challenging big mountains have always allured human minds to be a part of nature's own integral system. Human beings have accepted all these situations and have lived in harmony as well but the modern mankind have moved quite ahead and have been trying to not only explore further but also to study in depth the interdependence of both parties for their roles. The roles and fascination now have turned in to the form of adventure loving nature which has transformed the human attitude towards the high mountains and their special form of life. They care, respect, use, and entertain themselves in various ways. In this perspective high mountains in Nepal also receive human steps for several purposes. Cultural and adventure tourism are some of them.

Nepal's high mountains and especially the Himalayan ranges are of immense importance for all those who are concerned with this sector. Ever since Mt. Everest has been scaled by Edmund Hillary and Tenzing Norgay in 1953, the interest of mountaineering enthusiasts from all over the world has been attracted to the Nepalese mountains. This phenomenon has carved a very special niche in the field of adventure tourism. Hence, at present it is a matter of realization that there is a need of scientific understanding and approach to study this sector so that both the mountains and people may get maximum benefits. In this connection, the necessity has been felt to establish an academic institution that can serve

all the required services.

Importance of Mountain and Mountaineering Studies

Studying about the mountains is a unique interdisciplinary field of study that aims to promote dialogue about how mountains are understood physically, as ecosystems, in human history, and as part of world cultures. Mountain and mountaineering studies is the modern field of advanced studies that responds to the need and arena of interdependence between man and the mountains. Mountain study is integral to the technical aspects ranging from the mountain climbing to the formulation of policies and decisions about the local inhabitants and natural resource management. The studies caters the following aspects.

- Our knowledge of High Mountain and Himalayan life depends in large part on what we have learned from mountain environments, as does scientific advancement in the area of global warming
- Especially in high mountains and Himalayan life, mountain study is foundational to our understanding of how leisure and recreational activities, like alpine skiing, paragliding, sky diving, bungee jumping, canoeing, white water rafting, trekking, rock climbing, hiking, and mountaineering, intersect with park management principles, and with the rights and prerogatives of indigenous communities.
- World religions revere mountain regions for their proximity to the sacred entities.

As such, Mountain and Mountaineering Studies proposes to a systematic and scientific study of these concerns which need an academic discipline that leads to higher studies of university level education. Nepal is thus the most appropriate place for such kind of higher educational programs since the necessary steps

to run such programs are just ripened enough. The needed physical environment and technical expertise are both abundantly available backed by local and international supports.

Mountain and Mountaineering Studies education has a broader scope. It is a composite education of inter-disciplinary academic subjects ranging from Mountain and Mountaineering studies, Sociology, Cultural Anthropology, heritage, Environment, Ecology, Geography, Tourism, Hospitality, Economics, Finance, Accounting, Marketing, Mathematics, Statistics, Computer Sciences, Research Methodology, Intercultural Communications, Safety and Security and many more practical aspects of this subject. Because of its immense scope, this education will become very popular in Nepal and abroad too. The popularity is mainly due to both theoretical and the pragmatic nature of the courses.

Being a mountainous and developing country, yet to be industrialized, there is greater need of competent graduates in this sector. But, as experienced, many organizations that announce the vacancies for such requirements receive less number of academically and practically proven competent human capital in almost all the departments of this area. There is a considerably wide gap in the supply and demand of such proficient human capital in the fields of mountain studies related organizations. This fact clearly depicts the scope and need of quality Mountain and Mountaineering Studies education in Nepal

Rationale of Mountain Studies: Global and National Perspectives

Mountains are important assets for the tourism industry. With their clean air and cool climates, awe-inspiring landscapes and peaks, and rich natural and cultural heritage, mountains are attractive as places of escape from our stressful, urban world. After coastal region, mountains are second most popular as tourist destinations. It is estimated that mountains account for roughly 15-20 percent of the global tourism market, generating between 70 and 90 billion US dollar per year.

The cover all value of international tourism market is between USD 140 and 188 billion per year and employees between 25-47 million.

The demand for trekking, hiking, camping, mountaineering, rock climbing, mountain biking, wildlife viewing, triathlon, skiing, mountain flight, paragliding, canyoning, skydiving, whitewater river rafting, zip flyer, kayaking, canoeing and other forms of non-consumptive adventure tourism and mountain based tourism activities is ever increasing leading to the rapid expansion of the mountain adventure tourism and recreation market.

It is believed that adventure activities are both enjoyable and beneficial. Therefore, it is recognized as 'Golden Age of Adventure'; the human race finally overcame many of the natural challenges that it had faced, such as summiting the Mt. Everest (8848m) and the first non-stop circumnavigation of the world.

It has also been recognized that the adventure is currently used to attain a diversity of learning outcomes. Experiential learning is like a black box, where people are displayed in one end and they come out better at the other end. Though it is not really known what happens inside the box but it works. The idea that an adventure experience is like a journey through a mystical box is a useful starting point for describing many of the ways in which adventure facilitation have changed over the past few decades. In this postmodern world, the 'Golden Age' of travel has been shifted to current consumer -driven by the market place, where adventure opportunities are abundant. Modern people live in exciting times.

As tourism industry is expanding tremendously in the world, mountain based adventure tourism has become one of the most important subfields of tourism.

The Himalayas contain the largest mountains in the world; these attract climbers from all over the world. The main climbing countries with Himalaya are Nepal, India, Pakistan and Tibet. It is estimated that more than fifteen million people visit the mountains each year.

Tourism in Nepal has already passed through three important historical phases known as advocacy platform (tourism development and promotion led 1960s), cautionary platform (warned against the consequences of tourism led 1970s), adaptation platform (alternative form of tourism led 1980s) and has now entered into knowledge based platform (deeper understanding of tourism led 1990s onward). This latest platform mainly focuses on tourism education, research, seminar, conference, research paper writing, publishing, discussion on tourism.

Nepal Mountain Academy (NMA)

Nepal Parbatiya Prashichhyan Pratisthan, Nepal Mountain Academy (NMA), which was established on 16 Jestha, 2059 (May 30, 2002), has been renamed as Nepal Mountain Academy. The academy (NMA) is an independent, not-for-profit mountain research and educational institution. It is an English medium co-educational institution. The promoting team of the academy consists of academicians, researchers, and professionals, extensively renowned both at home and outside in the mountain and mountaineering field. The academy is at Tutevani (Near Satdobato), Chapagaon Road, Lalitpur Ring Road at current but soon plans to shift inside Kathmandu city.

The Govt. of Nepal, Ministry of Culture, Tourism and Civil Aviation has formed a governing body to carry out the programs of the academy. The governing body structure is formed with the following 13 member-dignitaries:

Chair person who is a renowned person having experience in mountain tourism nominated by the Government of Nepal.

Representatives

Ministry of Culture, Tourism & Civil Aviation,
 Ministry of Finance,
 Ministry of Education,
 Ministry of Environment,
 Secretariat of National Planning Commission,
 Chairman of Nepal Mountaineering

Association,

Chairman of Trekking Agents Association of Nepal,

Chairman of Nepal National Mountain Guide Association,

Three renowned persons having experience in mountain tourism to be nominated by Government of Nepal as Members,

Executive director of academy appointed by the Government of Nepal. - Member secretary.

NMA aims:

- a. To conduct training education and programs related to mountain tourism.
- b. To study and to research in order to produce necessary manpower for development, expansion and promotion of mountain tourism.
- c. To provide consultancy and technical services in the field of mountain tourism.
- d. To formulate and implement short term and long term plans related to mountain tourism.
- e. To prepare curriculums for training, education and programs in the field of mountain tourism and ascertain the qualification of the persons taking part in such training, education and programs.
- f. To give necessary advice to the Government of Nepal in the field of mountain tourism.
- g. To develop necessary infrastructure for mountain tourism.
- h. To establish educational or training institutions for mountain tourism.
- i. To translate one of the goals to establish an academic institution,

At the present Nepal Mountain Academy has been carrying out all the aims mentioned above. As stated in the official web site www.man.gov.np, the establishment of a university in this field of mountaineering education is the ultimate goal and for the materialization of this very goal, the academy is successfully running an undergraduate program titled as Bachelor of Mountaineering Studies (BMS) and has proposed to soon launch Masters of Adventures

Tourism (MATS) program with the affiliation from the Faculty of Management, Tribhuvan University.

Philosophy

NMA develops science that people can use to address the mountain related educational perspectives such as adventure and environmental issues. It conducts and facilitates research, provides educational opportunities and internships, and conducts environmental monitoring. This will connect scientists and stakeholders across the world mountain regions to go beyond scientific inquiry to the meaningful application of knowledge that makes a difference for the quality of the environment and the global and local communities.

Vision

NMA eventually envisions to be a University for mountain and mountaineering studies that promotes, coordinates, and conducts academic activities and carries out research from across the disciplines on mountain places, peoples and practices, and advances both theoretical and experiential learning on campus and in mountain environments in future. Presently, the main vision of this academy is to be a nationally and internationally reputed learning center, recognized for academic and practical excellence in teaching and research in Mountain and Mountaineering Studies education in Nepal.

Mission

The academy seeks to make mountain studies part of the core identity of the University by building on the academy's existing world-class strength in research and teaching on the mountains and the mountaineering studies.

Goals

The academy is dedicated with special focus towards:

1. Understanding mountains and environments, mountain cultures, and mountain activities in relation to one another, and
2. Bringing students, faculty members, and

community together through the study of mountains and its allied services.

In pursuit to achieve these practical goals the academy aims:

- To develop mountaineers, mountaineering managers, tourism entrepreneurs and market leaders through market-friendly, accessible, flexible and innovative academic programs;
- To develop graduates of mountains and the mountaineering studies who would be able to grasp local, national and international needs and serve accordingly; and
- To develop graduates who would be excellent researchers, managers and entrepreneurs and also be socially very responsible mountain friendly citizens.

Objectives

In accordance to cater the purposes envisioned as the mission and goals, the academy has set the following objectives:

- To develop graduates of mountain and mountaineering studies education at various levels with sound management knowledge in the proposed sectors, skills and values along with positive leadership qualities;
- To motivate students in a caring and conducive learning environment to bring out the best in them;
- To instill creativity and innovativeness in the students through motivational approaches of personalized nurturing guidance;
- To motivate the students to be involved in research oriented learning activities;
- To make learning and living at the academy / college a wonderfully practicable, pleasant experience for all, and develop a strong yet tender bond of friendship and fraternity; and
- To establish relations with universities and similar institutes of Nepal and abroad for program enhancement.





Bachelor Program in Mountaineering Studies (BMS)

About us

Situated inside the Kathmandu Valley, Nepal's central stunning natural landscape, Nepal Mountain Academy (estd. 2002) is a place where top-tier students, educators and researchers from across the country and around the globe come and thrive.

The academy's programs are academically divided into two phases: first is the beginners' theoretical courses that will be conducted in Kathmandu and the second phase will take the students to the Solukhumbu campus located in Garma, an hour walk from Sallery, in its own spacious premises specially built for technical and practical mountain studies program.

More than 200 students will be attending the academy for their undergraduate program where they receive a world-class education in a broad range of subjects that include the most awaited mountain studies in truly desired locations of Nepal and along with mountain trades and allied courses of mountain and

tourism studies.

Vision

NMA eventually envisions to establish the University for mountain and mountaineering studies for promoting, coordinating, and conducting academic activities and carrying out research from across the disciplines on mountain places, peoples and practices, and advance both theoretical and experiential learning on campus and in mountain environments in the future. Presently, the main vision of this academy is to be a nationally and internationally reputed learning center, recognized for academic and practical excellence in teaching and research in mountaineering studies education in Nepal.

Mission

The academy seeks to make mountaineering studies part of the core identity of the University by building on the academy's existing world-class strength in research and teaching on the mountains and the mountaineering studies.

Goals

Understanding mountains & environments, mountain cultures, and mountain activities in relation to one another for bringing students, faculty members, and community together through the study of mountains and its allied services.

About the Program

In Nepal, a substantive number of students are going abroad for higher education seeking better quality and relevance in their career prospect. This new program has been designed to minimize the trend of migration among the youths and develop professional and technical expertise within the country itself.

The curricula of the Bachelors in Mountaineering Studies (BMS) program have been academically designed by leading professors of different disciplines and faculties based on the wisdom of the past (history of mountain tourism and mountaineering) with an eye for the future. The academy envisions to run Master Program in Adventure Tourism Studies (MATS). The required curricula designing and approach to the concerned university have been completed and related progressions have been in the pipeline. The bachelors program aims to prepare graduates who will possess a set of skills, attributes, and values that will equip them to become constructive and contributing leaders in an increasingly globalized field of mountain and mountaineering tourism.

The syllabus for BMS and MATS have been developed by following international standards in a way to cater the needs of rapidly developing tourism and hospitality industry in the global and in Nepal as well. It comprises of foundation courses of management studies, mountaineering and tourism core courses, elective and project works culminating in thesis writing representing both sectors of management, mountain tourism and mountaineering.

This academic program primarily follows the three pronged approach: professional, vocational, and entrepreneurial with an aptitude

Teaching Methods

- Lecture and interactions
- Individual and group presentations
- Case studies, Audio and visual presentations
- Project works and field trips
- Review work, Books/Journals
- Guest lectures
- Practical demonstrations of village studies, rock climbing, trekking, peak climbing and mountaineering.

for lifelong learning of the mountain education. The program tries to develop core competencies, subject specific, interdisciplinary, and methodological competencies that comprise with practical and applied competencies (phronesis and praxis). The entire course focuses on inculcating Ethics, Stewardship, Knowledge, Professionalism and Mutuality between the Stakeholders (TEFI).



Course Structure			
SUBJECTS	CREDIT	SUBJECTS	CREDIT
<i>FIRST SEMESTER</i>			
Principles of Management	3	Practical Training Trip - 4 (PTT-4)	
E-Tourism	3	Trekking Peak Climbing for 2 weeks with reporting	
Business Statistics and Mathematics	3	successful climbing weight age 50%,	
English	3	trip reflection report 50%	3
Himalayan Heritage	3	<i>FIFTH SEMESTER</i>	
Practical Training Trip - 1 (PTT-1)		French Language-I	3
Rock Climbing for a week days with report	1	Mountain Environment and Tourism	3
<i>SECOND SEMESTER</i>		Safety and Security Operation	3
Fundamentals of Financial Management	3	Entrepreneurship	3
Anthropology and Sociology of Mountaineering	3	Mountaineering: Fundamentals of Climbing 3	
Business Communication	3	<i>SIXTH SEMESTER</i>	
Geography of Nepal Himalaya	3	Tourism Policy and Planning	3
Tourism in Nepal	3	French Language-II	3
Practical Training Trip - 2 (PTT-2)		Tourism Law	3
Cultural Tour for a week with report	1	Conflict Management	3
<i>THIRD SEMESTER</i>		Mountaineering Planning	3
Management Accounting	3	Human Resource Management	3
Cross Cultural Behavior in Tourism	3	<i>SEVENTH SEMESTER</i>	
Himalayan Climate and Climate Change	3	Practical Training Trip - 5 (PTT-5)	
Research Methodology	3	Mountain Climbing 6000m (45 days) with reporting	6
Trekking and Peak Climbing Operation	3	Mountaineering : International Mountains	3
Practical Training Trip - 3 (PTT-3)		Mountain Resource Management	3
Trekking Trip up to Base Camp (up to 10 days)	1	High Altitude Hospitality (Elective-I)	3
<i>FOURTH SEMESTER</i>		<i>EIGHTH SEMESTER</i>	
Tourism and Hospitality Marketing	3	Practical Training Trip - 6 (PTT-6)	
Biodiversity, Conservation and Mountain Tourism	3	Mountain Climbing (7000m, 45 days) with reporting	6
Nepalese Society and Culture	3	Service Quality Management (Elective-II)	3
Economics of Tourism	3	Thesis	6
Himalayan Geology	3		

Admission Procedures

ADMISSION REQUIREMENTS

Candidates seeking admission to the BMS course should apply in the prescribed form for entrance test within the stipulated time. The applicants should enclose with the application form, attested copies of:

- Certificates and testimonials of all examinations passed
- Equivalency, Transfer and Character Certificates
- Two recent passport size photographs
- Must have secured 40% marks in CMAT conducted by T.U.

ADMISSION TEST

The applicants will be required to sit for an admission test designed to judge their ability and aptitude for the program in the following areas:

- I.Q. Test
- Aptitude Test
- General Knowledge
- English Language
- Group Discussion
- Personal Interview¹²



ELIGIBILITY FOR ADMISSION

The candidates applying for admission to the BMS program must have:

Successfully completed 10+2 or equivalent examination in any academic stream with a minimum of 45% aggregate marks from a Secondary Education Board or any other board recognized by Tribhuvan University with English as a compulsory subject.

Reasons to Join NMA

A national course with international gratitude!

Our dedication to students' success and a dynamic learning environment prepare you to be a positive force in a changing world. The academic experience at NMA will challenge your mind and bring your dreams to life. Our diverse array of educational and academic programs allow you the flexibility to explore your interests and find a course of study that suits your unique strengths.

Services and Facilities

COMPUTER LABORATORY

There will be a well equipped computer lab with 65 latest branded computers with LCD monitors. Each computer will be accessed by networks and unlimited internet facility will be available on all weekdays.

SPORTS

Indoor and outdoor sports activities will be arranged as required.

SEMINAR/ MEETING HALL

The academy will furnish a seminar hall of the capacity of 150 persons fully equipped with audio and visual equipments. The hall will be well-carpeted, well-decorated with comfortable and luxurious furniture. The hall will be equipped by stereo sound system, computer and multimedia facilities.

LIBRARY

Library facility at the academy will be highly valuable asset for higher studies. The academy will have a well-resourced library section with peaceful study environment. The library will comprise of Reading Section, Text Book Section, Issuing Counter, Journal, Newspaper Section and Property Counter. Currently, there are about 1,500 hard physical books related to mountains, mountaineering, social sciences, management and other disciplines supported by 500 books and other materials. In addition, there are e-books and in the process of initiating e-library by which students have an access to the library 24/7 from their convenience. Number of journals and magazines about adventure tourism and mountaineering studies are readily available in the library and, accordingly, more books and resources in proportion to programs and number of users will be further added in the library.



Tourism Education and Nepal MountainAcademy:A Critical Debate

Prof. Ramesh Bajracharya, Ph.D.*



Abstract

Two and half decade long tourism education in Nepalese academia may not be a considerable force of academic training in context to world tourism academics but it has certainly garnered a place in its respective field. This paper tries to explore the academia and the tourism industry interrelationship particularly after the establishment of the only academic institution in the mountaineering studies field in Nepal. It also brings a few regional and international experiences that have pertinent implications in this field of studies.

Key Words

Tourism, tourism education, inter-intrarelationship, mountaineering tourism education

Nepalese tourism education got its headlong start with a positive motive to enhance the tourism industry by developing appropriately trained academic tourism human capital. Initially the Nepal government's initiative step came forward by running a well facilitated training institute that prepared a middle ranged technical man power in hotel and travel and tourism industries. This

experience paved the path for the establishment of proper academic institutions for higher level academic graduates who could run the industries professionally with an international flavor of competency. The result in these two decades' rigorous works in the field is the flourishing tourism education in Nepal. Many universities like Tribhuvan University, Purwanchal University and Pokhara University have academic programs up to master's level. In this respect Nepal Mountain Academy in affiliation with Tribhuvan University has been running academic course on mountaineering studies since 2017. Nepal Government's concerned ministry is running the academy with a noble perspective to create competent mountaineering graduates at the undergraduate level and soon to launch the master level program as well.

Tourism is much more than an economic sector, it is also a social, cultural, political, and environmental force that drives societal change. Understanding, responding to, and managing this change will inevitably require knowledge among the workers who are able to address a range of problems associated with tourism, travel, hospitality, and the increasingly complex operating environment within which they exist. In this very context, NMA's conception in Nepalese tourism academia stands significantly to contribute in all possible aspects but more particularly in mountaineering and adventure studies programs.

Despite the fact that the necessity had given the birth of tourism sector academic activities the relationship between tourism education and the tourism industry is historically a complex one which has been characterized by a lack of trust (Rahimi, Roya

* (Prof. Dr. Ramesh Bajracharya is the senior faculty and an expert resource person for Nepal Mountain Academy)

et. al, 2018). In deed this aspect can be seen and felt across all over other academic fields most notably in Nepalese management education where the required skills for the industry has fallen short as per the sharp observation made by the stakeholders. Increasingly, however, both education and industry are recognizing the mutual benefits of developing a more co-operative relationship and the importance of narrowing the divide which has traditionally existed between them. The need to satisfy both academic and the industry stakeholders does have special implications for the delivery of tourism education, as opposed to more traditional subject areas such as language studies, culture, geography or history. This paper explores the relationship between education and industry and outlines the particular responses of tourism educators to come to terms with the relationship.

This study further tries to seek a better understanding of the industries and investigate the driving forces that bring students and industries together. Nepal Mountain Academy (NMA) has an ambition to be an institution of international reputation for its sheer academic excellence in the mountaineering and adventure tourism education. With all stakeholders working to achieve the goals will surely put NMA to its desired position. In this respect some basics of tourism education discourse demands our attention for better comprehension of the issues involved.

Educational Tourism

Nepal Mountain Academy has all possible means to develop its tailored programs that can practically entice international students to be in the place where mountaineering education can in essence impart truly professional education of high academic importance. This paves the path to educational tourism. It can be a strong partner to the concept of sustainable development through educational tourism. Medical sciences and engineering studies programs have already been into this framework and now mountaineering education is going to be sure shot as well. It is developed because of the growing popularity of teaching and learning

of knowledge and the enhancing of technical competency outside of classroom environment. Educational institutions at home or abroad are the ambassadors to sustainable development programs for they can easily promote the concept once students move out of their usual classroom activities. In educational tourism, the main focus of the tour or leisure activity includes visiting another country to learn about the culture, study tours, or to work and apply skills learned inside the classroom in a different environment, such as in the international practicum training program.

The academy in this light of its academic and training programs can achieve commendable results in short period once its programs come to the floor. Many observable factors indicate that resources may not be a stagnant condition since expertise gathered and developed at different location and time look forward to be of some use for good and when opportunities are ready knocking at doorstep there are people in this sector extending their friendly hands. The academy has a very conducive environment to get going its tailored programs and produce results.

The positive situation of Nepalese education sectors has arisen back again right after the end of conflicts between political parties ensuring constitutional strength regained by the republican political system in Nepal. The combination of a crippling debt burden, political instability, civil wars and falling export prices and rising commodity prices is that living standards are lower today in the Indian sub-continent what we read everyday in the national dailies. But attempts are being made and continued to be made by leaders in the sub-region to alleviate these conditions. Promotion of mass tourism is one of several strategies that has been tried.

This paper suggests education tourism as an alternative strategy to the mass tourism development efforts. It calls for a coordinated, sustained and organized approach to education tourism to realize its social and economic potential.

What is Education Tourism? The term

education tourism or edu-tourism refers to any “program in which participants travel to a location as a group with the primary purpose of engaging in a learning experience directly related to the location” (Bodger, 1998, p. 28) (qtd. in Paul K. Ankamah and friends). It is comprised of several sub-types including ecotourism, heritage tourism, rural tourism, mountaineering and adventure tourism, and student exchanges between educational institutions. In Nepalese context, the notion for educational purposes travelling has been quite an old one for there has been historical records and accounts of international students visiting Nepal for Buddhist studies and Nepalese going abroad for various educational purposes. The notion of traveling for educational purposes is not new (Gibson, 1998; Holdnak & Holland, 1996; Kalinowski & Weiler, 1992) and its popularity in the tourism market is only expected to increase (Gibson, 1998; Holdnak & Holland, 1996). Asian countries can increase their tourism earnings by tapping into this growing market phenomenon.

Resource Base for Education Tourism

The South Asian sub-region is endowed with abundant tourism resources that could serve as the basis for education tourism. These resources may be categorized into the following dimensions: mountaineering and adventure, cultural/historical, ecotourism/nature-based tourism/rural tourism, and study abroad programs. Examples of themes that may be used for education tourism include: mountain studies, Himalayan people and ecological studies, studying dolphins in Nepali snow-fed rivers to discover their ecological limits; monitoring trans-Siberian bird migration to restore declining populations and manage habitat change; tracking the habitats of rare endemic carnivores; measuring the impact of public health education and clinical testing of intestinal parasites of remote Asian and SAARC villages; surveying traditional herbalists to preserve indigenous knowledge; finding the connection between global warming and decreasing snow level in the Himalaya, cultural and historical themes

include : ancient Arya, Hindu and Buddhist studies, arts and crafts, architecture, language, archaeological sites, music, dance, etc.

Markets for Education Tourism

The size of the world market for international education travel is estimated to have increased from 4.8 million trips in 1985 to almost 8 million trips in 1996 (Smith & Jenner, 1997). This figure represents a time period which when we compare with the first and second decades of the twenty first century is not that significant at present for this situation has gone into massive changes. Today the USA, England, Australia, China and India are some of the countries which enjoy a significant state of importance in the tourism education field. Hundreds of thousands of international students choose these and some other European destinations for higher education and trainings in this field of education. No exact data are available but the number and spending capacity have gone to be staggering figures. If just India is considered for Nepalese students' educational destination in almost all fields except mountaineering studies even then this field of edu-tourism is much more lucrative from Indian perspectives. In this regard a limited study of students choosing England for their education in tourism indicate that behind Asian students studying tourism and hospitality in the United Kingdom point at 3 stages: (a) choosing a foreign country, (b) selecting the United Kingdom as the host country, and (c) undertaking tourism and hospitality courses of saleable value in the international job markets. This study also reveals that seeking a better life, the nature of the program, and external influences significantly impact students' movements.

When countries like Nepal come to be considered then these countries in the sub-region cannot expect to develop a sustainable edu-tourism based solely on foreign tourists. These countries need to build and nurture the domestic capacity critical for the long-term success of edu-tourism. Education policies should be revamped to incorporate edu-tourism programs in school curricula to college levels.

Students in these institutions should not only learn about these attractions/resources in their courses, but they also should be actively encouraged and required to make field trips to these sites. This is particularly important because research suggests that interest in the activities that most people engage in as adults were first developed during childhood and adolescence (Mcguire, Dottavio & O'Leary, 1987) Consequently, by encouraging the involvement of school children in their formative and impressionable years, the Himalayan countries will be creating a cadre of future clients to sustain edu-tourism.

The second edu-tourism market results from intra-regional travels. Countries within the sub-region can tap into this vast potential market via education tourism. To stimulate intra-regional edu-tourism travel, member countries can overhaul and strengthen existing travel and immigration protocols of their respective regional blocs to facilitate easy movement among nationals within the sub-region. Furthermore, conscious promotional efforts will have to be undertaken within the sub-region to heighten public awareness of available edu-tourism opportunities and their accessibility. In addition, national tourism organizations and universities will need to work in a coordinated manner to design and create edu-tourism programs that engender interests of nationals of the sub-region.

The third edu-tourism market is represented by the European Union (EU). This region is a large tourist-generating market in world tourism sectors. Most of the countries –India, Sri Lanka, and Pakistan - in the sub-region still have strong ties to these former colonial powers. Education tourism could benefit from this market through several bi-lateral and technical agreements. SAARC and the Himalayan countries can negotiate with European institutions of higher learning to encourage European students to travel to the sub-region.

The fourth market is the North American market. It comprises of universities and institutions offering area studies relating to

SAARC and Himalayan studies. Promotional efforts and direct contacts will have to be made with these entities to stimulate and tap into these latent markets currently underexploited by the SAARC and Himalayan countries.

Nepal Mountain Academy can now explore the areas of mutual cooperation in and among SAARC and all other countries that have shown and participated in the mountaineering and adventure activities.

For many in the world of education, the months of May and June represent the end of the academic year and the start of tourism's high season. Thus, from the perspective of the tourism industry as the academic year wanes, new tourism educational opportunities begin to wax. Educational tourism is one of the fastest growing areas of the travel and tourism and one that is too often overlooked by tourism professionals and marketers is "educational tourism." For example, many meetings and conventions have either an educational component to them or serve their members by being educational instruments. Often educational tourism is called by other names, such as career enhancement, job development or self-actualization experiences. Educational tourism then comes in a wide variety of formats, yet despite the differences all forms of educational tourism have a number of points in common. Among these are, the idea that travel is as much about self-improvement as it is about relaxation, that learning can be fun, and that learning is for people of all ages. Here are just some of the opportunities location to attract educational tourism income.

School Trips

It may pay our community to create reasons for school children to visit. While these trips rarely translate directly into overnight stays, they can help promote tourism products in two ways: (1) children may bring their parents back for a longer visit and (2) they help the local restaurant business.

Alternative 'spring break' travel experiences.

This form of educational travel may be a

useful form, but some may argue that Summer/Winter/Spring Break travel has nothing to do with education. This form of travel only works when we have a geography that lends itself, be it snow covered mountains or beaches with palm trees.

Study Abroad Experiences

Most major universities around the world promote some form of foreign travel for their students. Study abroad experiences provide students with anything from 6-week intensive study sessions to a full year of cultural and linguistic immersion. US universities that have long seen themselves as student-exporters have now come to realize that non-English speaking students seek US study abroad adventures too. Students often travel not only within their destination country of choice but throughout that country and even to neighboring lands. The goal here is to widen the educational experience so that university students do not only know their own culture but also that of at least one other nation. Some SAARC countries have started such students exchange programs but to have a mass is still a far cry.

Seminar and Vacations

These types of travel experience especially appeal to those organizations which have a large coverage in profit earning areas for they encourage their dealers and stakeholders to be able to participate in such programs. Hundreds and thousands travel abroad through such opportunities. Besides countries in high income range also send their employees outside for some time with full expenses. Closely related to seminar vacations are “hands-on enhanced experience” vacations. For example, each year thousands of people travel to Israel to learn something about an archeological dig and then pay to participate on such a dig.

Skill Enhancement Vacations

These are trips that range from learning how to build houses to how to protect the ecology. Nations such as Costa Rica have been extremely successful with eco-tourism in which they combine lessons on how to protect the world's ecology with the travel experience.

Educational Cruises

These cruises combine all of the fun of a cruise with lectures on specific subjects. Educational cruises have the advantage that people who take them tend to have a common interest and therefore have a greater possibility of making new friends while acquiring new knowledge.

Educational tourism offers another major advantage. It does not need to be weather dependent, a community does not need special geography and usually most of the needed infrastructure is already in place. In order to take advantage of these educational tourism products consider

Develop a Tourism Educational Inventory

Work with local schools and universities to know what is of educational interest to visitors. While historical sites are an important part of educational tourism, do not neglect other aspects. For example, can you incorporate a local science lab into your list of educational offerings? Is there a way to work with a local school in order to teach an athletic skill? For example, Portugal's Pierre de Coubertin Soccer Academy, located just outside of Oporto will teach individual how to incorporate the art of soccer into a person's business life. While these adult students can learn soccer, get in shape, sample Portuguese wine, and visit Portugal's grape and wine country. These skill enhancement trips are a great way for working people to de-stress while learning a new skill or perfecting an older one.

Find local people who would be willing to teach others a skill or impart some form of knowledge. These people become local attractions and the tourism industry can help them to earn extra money at the same time.

Make sure that conference planners know that you can offer local educational experiences as a way to enhance their conference. Offer local experiences to conferences and seminars that add both professional knowledge and personal growth. Indicate that you are willing to include family members who may also be attending the conference. (qtd. in

tourism and more...)

Be careful of who works in educational tourism. Often tour guides and other educational tourism staff members forget that educational tourism is based around people on vacation. These people do not want to be treated as children. Never forget that they are paying guests.

Establish regional tourism study groups. One of the best ways to promote educational tourism is to be involved in it yourself. Pick a topic for the year and help hotels and other tourism establishments know that visitors are welcome to come for one or more sessions.

Educational tourism then comes in a great variety of formats, places seeking to enhance their educational tourism product however have to first consider who their market is and what they have to teach others that is special or unique. Educational tourism is a way to use better our facilities and impart information to the local stakeholders the better and sustainable methods.

Nepal Mountaineering Academy has all these opportunities to create a better understanding of the mountain and its allies and their relevancy in people's everyday life. By producing better informed academic work force needed for the market it can surely carve a niche in the tourism education world.



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Politics, Economics and Leadership in Tourism: An Analysis for Vision 2020 and 2030



Gyaneshwar Mahato & Aaditi Khanal*

Tourism in Nepal: A General Background

Tourism in Nepal is a highly prioritized industry mostly because of the world's highest summit, Mt. Everest and other highest mountains and peaks along with the diversity in culture, religion and ethnic practices found in Nepal. Tourism actually is a relatively new phenomenon as the country was opened to the Western world only in the early 1960s (Thapa, 2003, p. 117). Hence, the tourism related practices are still comparatively fresh in the Nepalese context that includes activities such as trekking, hiking, mountaineering, jungle safari, rafting, tours amongst others that serve as a source of attraction for the tourists. The development of tourism sector is highly associated with the economic development of the nation and hence has been considered by the Government of Nepal as the priority economic sectors and a major source of earning foreign currency through the expansion of employment opportunities.

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As such, by the year 2020, the government intends to develop the tourism aiming 2 million annual arrivals. The Tourism Vision 2020 states that, "Tourism is valued as a major contributor to a sustainable Nepal economy, having developed as an attractive, safe, exciting and unique destination through conservation and promotion leading to equitable distribution of tourism benefits and greater harmony in the society". To achieve this vision, the major goals that have been set are:

- Increase annual international tourist arrival to Nepal to 2 million by 2020 and 5 million by 2030.
- Augment economic opportunities and increase employment to tourism sector to 2 million.

To attain this sort of highly ambitious figures, rigorous scrutiny of the various factors and components of tourism industry is necessary. So, this article aims to analyze some of the most imperious dynamics in this regards considering the statistical facts of the tourism industry of Nepal available at current.

Tourist Arrival in Nepal

The latest statistical data provided by the Ministry of Culture, Tourism and Civil Aviation, Government of Nepal surely indicates a double digit growth rate in the number of tourists' arrival in Nepal in the past year of 2017. However, the quandary remains that is the growth rate of 25% as compared to that of 40% in the year 2016 that clearly reflects a deficit of 15% within a period of last one year a merry situation while discussing the strategies to promote and upgrade the industry to meet the vision of Visit 2020 to welcome 2 million tourists within the time period of less than 2 years now? If we go by the numbers, then the target that was set to meet the number of 1

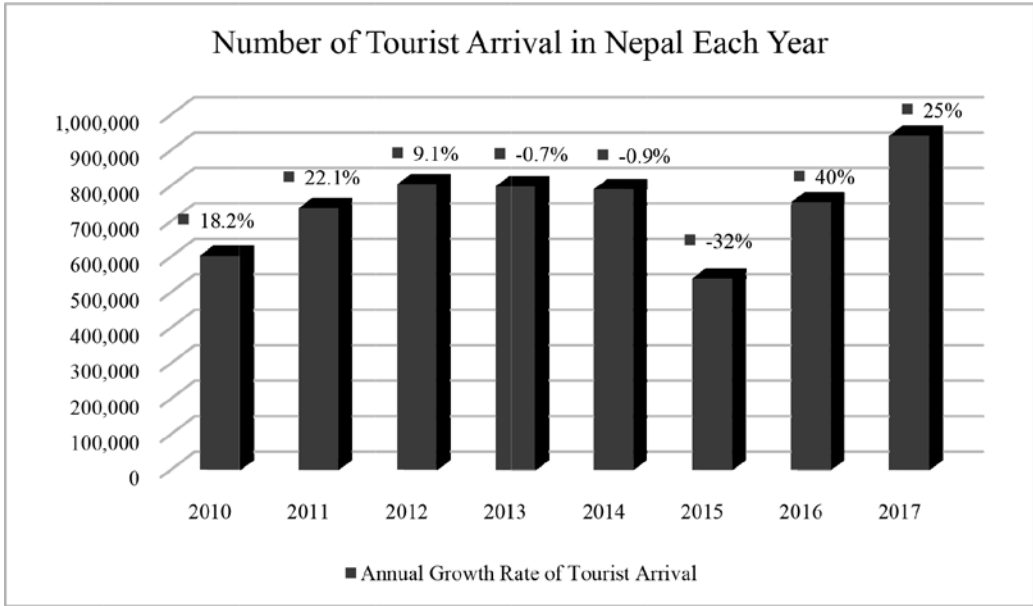


Figure 1: Comparative Analysis of the Annual Number and Growth Rate of Tourist Arrival in Nepal (Source: GON, MOCTCA, 2018).

million tourists’ arrival by the year 2017 has been dipped down by almost six hundred thousand (600,000) as the total number of tourist arrival was estimated to be 940,218 in 2017.

Presented below, is the comparative statistical table of the arrival of tourists in the past seven years which further will provide a clearer notion to the context of tourists’ arrival to Nepal and its trend:

It is not difficult to understand as such that since 2012, there has been significant downfall in tourist arrival to Nepal which was further deeply impacted by the devastating earthquake of 2015. As a result, the growth rate of 40% in the year 2016 might look very significant at first but a comparative study helps the analyst

understand that if we go beyond the earthquake then the tourist arrival in Nepal has not been so significantly changed in terms of number as it was definitely more in the years 2012, 2013 and 2014 even after the slow growth and negative growth rates in these years. Hence, these data clearly reflect that the growth rate of 25% in the year 2017 is definitely not a highly impressive number considering the overall scenario and since the last seven years at least, the tourist arrival to Nepal has been deeply and negatively impacted due to various reasons out of which the 2015 earthquake being the most significant one in the tourism history of Nepal.

Now looking at the future demands to accommodate the 2 million and 5 million tourists in the year 2020 and 2030 respectively,

S.N.	Particulars	2016	2017	2020	2030
1	Total number of tourist arrival	753,002 (100%)	940,218 (100%)	2,000,000 (100%)	5,000,000 (100%)
2	By Air	572,563 (76.03%)	760,577 (80.89%)	1,617,800 (80.89%)	4,044,500 (80.89%)
3	By Land	180,439 (23.96%)	179,641 (19.11%)	382,200 (19.11%)	955,500 (19.11%)

Table 1: Typology of Tourist Arrival by Land and Air (Source: GON, MoCTCA, 2018).

a segregation of the tourists' arrival by land and air could be helpful.

From the above table, it is clear that the number of tourist arriving from air is much more in comparison to that by land and also, the number of tourist arrival by air has increased as the number of tourist arrival by land has decreased. Now, considering all the other factors as constant and going by the percentage of 2017, by the end of 2020 the total number of tourist arrival by air tends to become 1,617,800 and that by the end of 2030 becomes 4,044,500. As these numbers are calculated considering the percentage to be constant, however the trend shows that the number of tourist arrival via air is increasing every year, as such the projected number for tourist arrival through air by 2020 and 2030 are bound to thus increase. Hence, these projected numbers can be considered as the minimum number of tourists to arrive to Nepal by air at the end of 2020 and 2030. Keeping these figures in mind, it makes a lot of sense to put in effort from the state level to expand the facilities to attract more number of tourist to reach the desired goal and realize the vision of 2020 and 2030 respectively.

Country Specific Tourists

Further, according to National Tourism Statistics 2017, out of the total tourist arrivals, five countries occupy more than 50 percent which has been depicted as follows:

It is now clear that the maximum number of tourists arriving to Nepal are of Indian nationalities followed by China, USA, UK and then Sri Lanka. From this, it highlights the need to focus on these specific nationalities and their specific touristic preferences while visiting Nepal in order to attract more tourist. In this manner, very specific strategies related to marketing and promotion can be formulated to attract more number of tourists from these countries that can ultimately play a great part in the visions set.

Furthermore, the following table adapted from the Nepal Tourism Statistics 2017 clearly depicts a comparative statistical analysis of the number of tourists' arrival in Nepal from the top 10 countries since the past 7 years.

Average Length of Stay

Another important aspect that determines the economic rise through tourism as a driving

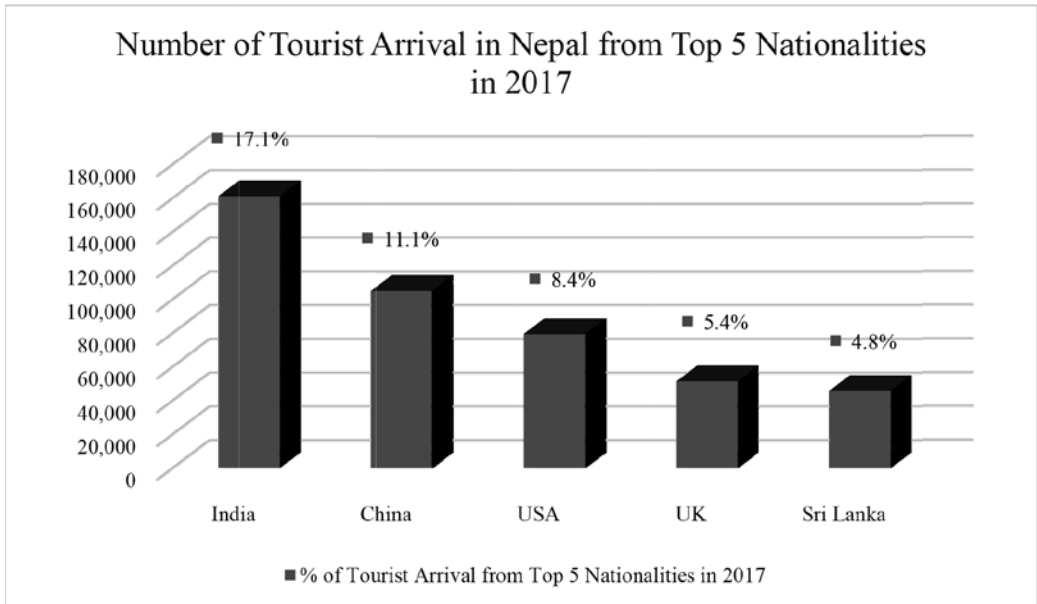


Figure 2: Comparative Analysis of the Number of Tourist Arrival in Nepal from the Top 5 Nationalities (Source: GON, MOCTCA, 2018).

Rank	2010	2011	2012	2013	2014	2015	2016	2017
1	India 120,898	India 149,504	India 165,815	India 180,974	India 135,343	India 75,124	India 118,249	India 160,832
2	China 46,360	China 61,917	China 71,861	China 113,173	China 123,805	China 64,675	China 104,005	China 104,664
3	Srilanka 45,531	Srilanka 59,884	Srilanka 69,476	USA 47,355	USA 49,830	USA 53,897	Srilanka 57,521	USA 79,146
4	USA 36,425	USA 42,875	USA 48,985	Thailand 40,969	Srilanka 37,546	Srilanka 43,117	USA 53,645	UK 51,058
5	UK 35,425	UK 39,091	UK 41,294	UK 35,668	UK 36,759	Thailand 32,338	UK 46,295	Srilanka 45,361
6	France 24,550	Germany 37,472	Germany 30,409	Srilanka 32,736	Thailand 33,422	UK 204,469	Thailand 26,722	Thailand 39,134
7	Japan 23,332	France 26,720	France 28,805	Japan 26,694	Japan 25,829	S. Korea 18,112	Myanmar 25,796	S.Korea 34,301
8	Germany 22,583	Japan 26,283	Japan 28,642	Bangladesh 22,410	Australia 24,516	Bangladesh 14,831	Australia 25,507	Australia 33,371
9	Australia 16,243	Australia 19,824	Australia 22,030	Germany 22,263	France 24,097	Japan 14,465	S.Korea 25,171	Myanmar 30,852
10	Spain 13,712	16,836	Netherlands 15445	France 21,842	S.Korea 23,205	Germany 12,216	Germany 23,812	Germany 29,918

Table 2: Comparative statistical analysis of the tourists' arrival from top 10 countries in 7 years (Source: GON, MoCTCA, 2017).

force is the length of stay of the tourists in Nepal after their arrival. It is easily relatable that the longer the length of stay, the more the

tourists tend to spend in Nepal and the more is the income. So, the average length of stay is directly proportional to the income generation

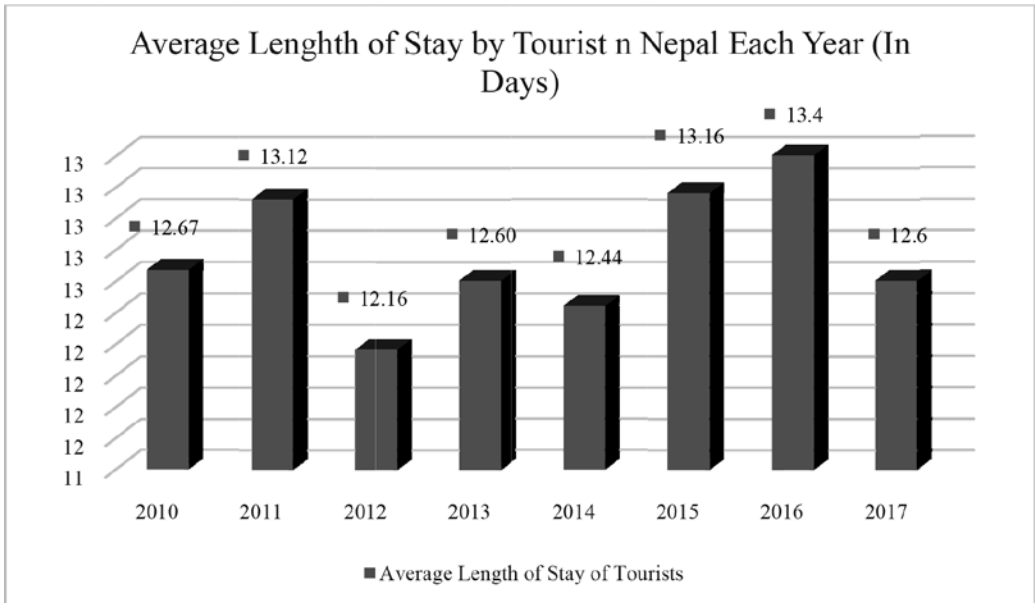


Figure 3: Comparative Analysis of the Average Length of Stay by Tourists in Nepal (Source: Department of Immigration; In GON, MOCTCA, 2018).

by the Tourism industry of Nepal. The three-year development plan (2017-2018) aimed to increase the length of stay to 14 days by 2017. In 2016, the average length of stay was 13.4 days which has come down to 12.6 days in the year 2017. Further, a comparative data through the past 7 years has been depicted as follows:

So, even if the number of tourist arrival in the year 2017 has increased, the average length of stay has drastically decreased which indicates that there is the urgent need for Nepal to come up with activities and events that the tourists would want to engage themselves in more once they come to Nepal for a visit so that they plan for a longer trip and increase the length of their stay.

Purpose of the Visit

Similarly, another important factor that needs to be considered is the purpose of the visit by the tourists which is a major indicator of the tourism sector output. This indicator is deemed to be very useful for evaluation of characteristics, type and economic and social contributions made by tourists and to further plan and manage infrastructure, services and

market economy accordingly. The analysis of the various purposes for the visit can also be helpful to invest in those sectors in which the tourists are more engaged which can lead to increase the average length of stay as discussed above. The data gathered in the year 2017 shows that higher proportion (70%) visited Nepal for Holiday purpose and pleasure followed by pilgrimage (15%), adventure (8%) and other purpose (7%) (MoCTCA, 2018, p. 39). It should also be noted that the number of tourist arriving to Nepal for the purpose of adventure i.e. trekking and mountaineering has been decreased as compared to 2016 which was 8.83% which has been significantly decreasing from the past years that can be visualized as follows:

Hence, a realization of the verity that Nepal is losing its adventure tourists in the present milieu is imperative. Targeted promotions and advertising campaigns in these sectors might be a bliss.

Tourism in Nepal: Evaluation and Analysis in Global context

Therefore, in order to ensure that the goals

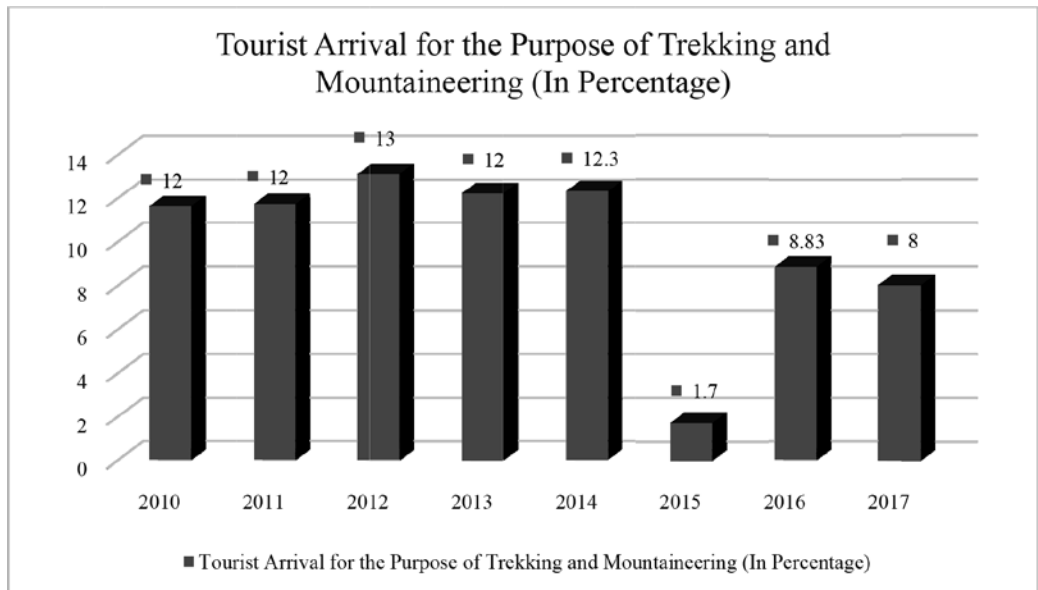


Figure 4: Comparative Analysis of the Tourist Arrival for the Purpose of Trekking and Mountaineering (Source: Department of Immigration; In GON, MOCTCA, 2018).

that have been set for the 2020 and 2030 are attained, a critical evaluation of what actually is the present context of tourism in Nepal should be understood. Only then can a clearer perspective regarding what should be the strategies to move forward can be realized. In this regards, presented below are some of the factual information provided by the World Travel and Tourism Council in the report titled Travel and Tourism Economic Impact 2017 Nepal can prove to be reassuring:

- Out of the 185 countries, Nepal ranks 123rd in the relative importance of Travel and Tourism's total contribution to the GDP.
- The direct contribution of Travel & Tourism to GDP was NPR 85.2bn (USD0.8bn), 3.6% of total GDP in 2016 and is forecast to rise by 6.8% in 2017, and to rise by 4.3% pa, from 2017-2027,
- The total contribution of Travel & Tourism to GDP was NPR177.9bn (USD1.6bn), 7.5% of GDP in 2016, and is forecast to rise by 6.2% in 2017, and to rise by 4.3% pa to NPR287.6bn (USD2.7bn), 8.3% of GDP in 2027.
- In 2016 Travel & Tourism directly supported 427,000 jobs (2.9% of total employment). This is expected to rise by 6.0% in 2017 and rise by 2.9% pa to 604,000 jobs (3.2% of total employment) in 2027.
- In 2016, the total contribution of Travel & Tourism to employment, including jobs indirectly supported by the industry was 6.4% of total employment (945,000 jobs). This is expected to rise by 5.4% in 2017 to 996,000 jobs and rise by 2.9% pa to 1,325,000 jobs in 2027 (7.1% of total).
- Visitor exports generated

NPR48.6bn (USD449.8mn), 17.7% of total exports in 2016. This is forecast to grow by 9.0% in 2017, and grow by 6.8% pa, from 2017-2027, to NPR102.1bn (USD945.0mn) in 2027, 25.9% of total.

- Travel & Tourism investment in 2016 was NPR16.5bn, 3.0% of total investment (USD0.2bn). It should rise by 0.3% in 2017, and rise by 5.5% pa over the next ten years to NPR28.3bn (USD0.3bn) in 2027, 3.6% of total.

Similarly, presented below is the travel and tourism competitiveness index by the World Economic Forum for the year 2017:

From the above table, the factual setting of Nepal in terms of tourism at a global platform can be readily examined. It is clearly understood that in order to improvise the tourists' flow and

S.No.	The Travel & Tourism Competitiveness Index	Rank (out of 136)	Score (1-7)
	Travel & Tourism Competitiveness Index	103	
1	Business Environment	108	4.1
2	Safety and Security	100	4.8
3	Health and Hygiene	85	5.0
4	Human Resources and Labor Market	99	4.2
5	ICT Readiness	124	2.6
6	Prioritization of Travel & Tourism	51	4.8
7	International Openness	87	2.8
8	Price Competitiveness	19	4.6
9	Environmental Sustainability	126	3.4
10	Air Transport Infrastructure	105	2.0
11	Ground and Port Infrastructure	135	1.9
12	Tourist Service Infrastructure	124	2.3
13	Natural Resources	27	4.2
14	Cultural Resources and Business Travel	117	1.3

Source: The Travel & Tourism Competitiveness Report 2017

their experiences in Nepal, there is a need to adopt better information and communication technology strategies along with the development of the ground and port infrastructures which includes hotels and lodges, airports, vehicles for transport and other related tourist service infrastructures. Similarly, Nepal ranks very low in terms of the cultural resources and business travel which should also be taken into consideration as because Nepal as a nation is rich in cultural as well as natural resources along with various business related opportunities that can actually help the economy of the country to boom. Along with this, another zone of vulnerability for Nepal lies in terms of environmental sensitization and sustainability. So, it definitely a huge challenge for Nepal to protect the environment while at the same time working towards development of the infrastructures which categorically demands for compromise with the environment. Hence, the above mentioned areas are to be worked upon immediately for promotion and development of the tourism sector in the country. In the long run however, other areas of the index such as business environment, safety and security, health and hygiene, human resources and labor market, price competitiveness and natural resources should be considered as the overall ranking and status of Nepal in the global context is evidently not very palpable.

The SWOT Analysis

As per the SWOT analysis of Vision 2020, following are the major weaknesses of the Nepalese Tourism Industry:

- Insufficient infrastructures
- Inadequate investment in tourism sector
- Limited air connectivity and weak national carrier
- Poor coordination among government agencies
- Weak public-private partnership
- Scarcity of resources for aggressive publicity and consumer promotion
- Tourism patterns limited to only in a few geographic areas

The Hotels and Hoteliers

It is also to be noted that the number of hotels that have been legally registered and functioning in Nepal varies dramatically as per different sources.

For instance, according the Company Registration Office's latest data, the total number of hotels are 3,682 and the total number of beds are 97,573 whereas the study by Nepal Rastra Bank in 2016 indicates the total number of hotel to be 2,450 and the total number of beds to be 67,489 with an average occupancy of 70%. Similarly, there are just 2,090 hotels who are the members of the Hotel Association

S.N.	Source	Total Hotel	Total Bed	Total Bed Nights	Average Bed/Hotel
1	Company Registration Office (BS. 2073)	3,682	97,573	35,614,145	27
2	Registered at Department of Tourism (BS 2075)	1,102	39,833	14,539,045	36
3	Study conducted by NTB	2,604	69,040	25,199,600	27
4	Study by Nepal Rastra Bank (BS 2074)	2,450	67,489	24,633,485	28
5	Member hotels of Hotel Association Nepal	2,090	55,385	20,215,525	27

Table 3: Comparative Analysis of the total hotels, beds, bed nights and average bed/hotel (Source: Company Registration Office, 2073; Department of Tourism, 2075 Nepal Tourism Board; Nepal Rastra Bank, 2074 and Hotel Association of Nepal)

of Nepal and as per the study conducted by Nepal Tourism Board, the total number of hotels are 2,604 and the total number of beds are 69,040. The most alarming aspect is the number of hotels registered under department of tourism (1102 hotels with 39833 beds only). This shows more than 150% of the hotels are not registered with department of tourism.

Hence, this sort of variation in data regarding the number of available hotels and beds in the country can be detrimental towards the formation of related strategies and their implementation with the aim to meet the targets

that have been set for Visit 2020 and 2030 respectively. Therefore, this should definitely be considered as an alarm for the nation to maintain a transparent system of registering the available hotel based resources for accommodating the desired number of tourists.

Accommodation Requirements for 2 Million Tourists in 2020 and 5 Million by 2030

The total number of tourist arrival in the year 2017 was 940,218 with average length of stay of 12.6 days occupying 11,846,747 bed

Project to manage 2.0 Million Tourists							
	<i>No Of Hotels</i>	<i>Total Beds</i>	<i>Average Bed / Hotel</i>	<i>Total Bed Nights Available</i>	<i>Total Bed Occupied Nights</i>	<i>Average Occupancy %</i>	<i>Remarks</i>
Projection based on NRB	2,450	67,489	28	24,633,485	11,846,747	0.48	
Projection to 70% occupancy	2,450	67,489	28	24,633,485	17,243,440	0.70	1,368,527
To accommodate 2.0 Million tourists by 2020	3,814	104,892	28	38,285,714	26,800,000	0.70	2,000,000
Increased %	55.7	55.4					
Times increment	1.6	1.6					

Table 4: Accommodation Requirements for 2 million tourists in 2020 (Source: Nepal Rastra Bank, 2074)

Project to manage 5.0 Million Tourists							
	<i>No Of Hotels</i>	<i>Total Beds</i>	<i>Average Bed / Hotel</i>	<i>Total Bed Nights Available</i>	<i>Total Bed Occupied Nights</i>	<i>Average Occupancy %</i>	<i>Remarks</i>
Projection based on NRB + upcoming hotels	2,450	67,489	28	24,633,485	11,846,747	0.48	1 million arrival in 2017 (NTB)
To accommodate 5 Million tourists by 2030	8,806	246,575	28	90,000,000	63,000,000	0.70	5,000,000
Increased %	259.4	265.4					

Table 5: Accommodation Requirements for 5 million tourists in 2030 (Source: Nepal Rastra Bank, 2074)

nights in 2017. The occupancy rate seems very low of 48.1% which does not seem realistic. The private sector hoteliers suggest the occupancy percentage is around 70%. The main reason for this is a large number of tourists around 13% travel for trekking and mountaineering who stay in tented camps and tea houses along the trails. The other reason is there are number of hotels which are not registered with department of Tourism as well as homestays are also accommodating tourists. As the occupancy rates are very low we can easily increase hotels' occupancy to absorb demand to 1368527 tourists annually based on number of beds available currently.

From the available data, in order to accommodate 2 million tourists by 2020 as per the projection based on NRB, the increment in the number of hotels and beds has to be more than 55.7% which is 1.6 times the number of hotels we currently have with the average length of stay to be set as 12.6 days and the average occupancy being 70%. This data should further be increased by 259.4 % which is 3.6 times the number of hotels we currently have to meet the target of bringing in 5 million tourists by 2030 again only after maintaining 70% occupancy and 12.6 days as the average length of stay. This shows we need to construct additional 1364 hotels by 2020 and 6356 hotels with average 28 beds per hotel.

So, Nepal as a tourism oriented nation for meeting the targets set must take great leaps forwards in terms of constructing, managing and systematically registering the available hotels and related other facilities. However, it is also a matter of concern that upon the informal discussions with the hoteliers, it has been conceded by the hoteliers that they can go

as much as up to the increment till 80% considering the seasonality of the tourism industry in Nepal.

Airlines and Airports

Similarly, in order to increase the number of tourists, the number of airlines flying into Nepal should go up than the existing conditions. As per the latest data included in the Nepal Tourism Statistics (2017, p. 89), out of 56 airports in Nepal, 32 airports are in operations. 29 airports run in all seasons. 7 airports are under construction and 18 are as non-functional.

Analyzing the Current Travel Trends of Nepal's Market

Similarly, 39 international airlines carried 38,87,845 passengers transiting 10,651 passengers per day: out of which 20, 83,150 which is 54 % of total travel (125 passengers / flight) were outbound and 18, 04,695 which is 46 % of total travel (108 passengers/flight) inbound by 27,118 flights.

Similarly, 39 international airlines carried 38, 87,845 passengers transiting 10,651 passengers per day: out of which 20, 83,150 which is 54 % of total travel (125 passengers / flight) were outbound and 18, 04,695 which is 46 % of total travel (108 passengers/flight) inbound by 27,118 flights.

Understanding the share of tourist markets against the local markets as shown in the data above shows of total arrivals 58% were domestic market and only 42% was international tourists' arrivals. The total tourists arrivals in 2017 was 9, 40,218; of which 7, 60,577 which is 81 % air and rest by land. This means the airlines market is still dominated by the local markets probably the labor markets and tourists travelling by air. The number of

<i>Airlines capacity to handle tourists</i>	<i>No of Flights</i>	<i>People travel</i>	<i>Average/ Flight</i>	<i>Passengers ratio</i>	<i>2020</i>	<i>2030</i>
Inbound	16681	1,804,695	108	46%	2,664,118	4,914,581
Outbound	16682	2,083,150	125	54%	3,075,177	5,478,391
Total Arrival	33363	3,887,845	117		5,481,084	10224485
Total Arrival	33363	3,887,845	117		5,481,084	10224485

Table 6: Airline Capacity to Handle Tourists (Source: Nepal Tourism Statistics, 2017)

<i>Total Travels</i>	<i>Total Inbound Travels</i>	<i>Tourist Arrival</i>	<i>National Travelers</i>	<i>International Tourists</i>	<i>Percentage % Share of Tourists</i>
3,887,845	1,804,695	940218	1,044,118	760,577	81%
100%	46% of total travel		58% of travel	42% of travel	
940218	1,044,118	760,577	81%		
100%	46% of total travel		58% of travel	42% of travel	

Table 7: Total travels by tourists (Source: Nepal Tourism Statistics, 2017)

countries having civil aviation contract reached to 38 and there are 20 airlines for domestic movement.

Analysis of Air Seat Capacity Needs for 2020 and 2030

Now, if we are to go by the numbers then,

in order to facilitate the travel of the 2 million by 2020 the number of airlines has to increase to 46,847 flights per year which is 40% increase in flights and 113% increase in tourists arrivals keeping the national travel around same (national travel and labor market travels kept

<i>Projection of Airlines seat required for 2.0 Million Tourists by 2020</i>							
	<i>Airlines</i>	<i>Total flights</i>	<i>Average/ flight</i>	<i>Total Travels</i>	<i>Total inbound travels</i>	<i>Domestic</i>	<i>International</i>
Existing Capacity	39	33,363	117	3,887,845	1,804,695	1,044,118	760,577
Projection for 2020		46,847	117	5,481,085	2,664,118	1,044,118	1,620,000
Increased %		40.42					113.00
Times Increment		1.40					

Table 8: Projection of Airlines Seats Required for 2 Million Tourists by 2020 (Source: Nepal Tourism Statistics, 2017)

<i>Projection of Airlines seat required for 5.0 Million Tourists by 2030</i>							
	<i>Airlines</i>	<i>Total flights</i>	<i>Average/ flight</i>	<i>Total Travels</i>	<i>Total inbound travels</i>	<i>Domestic</i>	<i>International</i>
Existing Capacity	39	33,363	117	3,887,845	1,804,695	1,044,118	760,577
Percentage %						58%	42%
Projection for 2030		87,389	117	10224485.5	5,094,118	1,044,118	4,050,000
Increased %		161.93					432.49
Times Increment		2.62			2.82	5.32	

Table 9: Projection of Airlines Seats Required for 5 Million Tourists by 2030 (Source: Nepal Tourism Statistics, 2017)

constant); and 5 million tourists till 2030 the number of airlines has to increase to 87,389 flights per year which is 161% increase in flights and 432% increase in tourists arrivals keeping the national travel around same (National travel and labor market travels kept constant).

Analysis of Terminal Capacity

The data below shows the current terminal capacity of TIA is 32000 sq. M. handling 9,616 travelers per day with an average of 3.33 sq. M. per traveler.

Projecting the terminal capacity to manage tourists' arrival of 2 million inbound and national travel the total travel projected would be 5,481,084 (inbound and outbound); which will require 15,016 travel per day. This shows the terminal capacity has to increase by 56.2% or 1.6 times the current capacity of TIA. Discussion with officials and private sectors it is felt the TIA is currently not in a position to expand its capacity as it has to cover domestic flight as well. This means in order to expand the terminal capacity there is a dire need of an

additional international airport soon.

Considering the expected targets of 5 million the terminal capacity has to increase by 291% managing 28012 tourists per days; which means we need at least 3 airports to manage it. Hence, this further indicates that there is a serious need of more number of international airports that can accommodate the smooth functioning of more international airlines here in Nepal as the only international airport of Nepal at the present seems to be completely exhausted and burdened.

Tourism Based Employment

Likewise, it will also be productive to know that as per the data of 2016, the from the total tourist arrival, the direct employment generated is 0.6% per tourist whereas the induced employment counts to 0.7% per tourist and the total average employment per tourist thus generated is merely 1.3% i.e. 950,000 million individuals are directly or indirectly employed.

It clearly therefore, indicates that tourism sector has not been able to really contribute

Terminal area processing projection for 2020				
	<i>Available Area in sq. M</i>	<i>Traveler's Handled</i>	<i>Average Travel/Day</i>	<i>Average Space per Tourist Sq. M</i>
Existing Capacity of TIA	32000	3,510,000	9,616	3.33
projection for 2.0 million tourists	49970.0	5,481,084	15,016	
Increased %	56.2		56.2	
Times increment	1.6		1.6	

Table 10: Projection of Terminal Area Processing for 2020 (Source: Nepal Tourism Statistics, 2017)

Terminal area processing projection for 2030				
	<i>Available Area in sq. M</i>	<i>Traveler's Handled</i>	<i>Average Travel/Day</i>	<i>Average Space per Tourist Sq. M</i>
Existing Capacity of TIA	32000	3,510,000	9,616	3.33
projection for 5.0 million tourists	93215	10224485	28,012	
Increased %	291%			
Times increment	2.91			

Table 11: Projection of Terminal Area Processing for 2030 (Source: Nepal Tourism Statistics, 2017)

towards the economy of the nation. In the longer run therefore, the number of employment generated by the tourism industry in 2020 with 2million tourists would be 2.5 million and the 5 million tourists by 2030 will amount to around 6.2 million than suggests and increment

Nepal can be considered as these that follow:

- As per the Leiper Model of tourism development the challenges are in four major categories; a. the destination b. the origin, c. the transit and d. enabling environment (PEST)

Human Resource Requirements Projection for 2020				
	<i>Total Tourist Arrival</i>	<i>Direct Employment</i>	<i>Induced Employment</i>	<i>Total Employment</i>
Employment in 2016	753,002	427,000	518,000	945,000
Average employment per tourist		0.6	0.7	1.3
Projection for 2020 reaching 2.0 Million tourists	2,000,000	1,134,127	1,375,826	2,509,953
Increased %	166			
Times increment	2.66			

Table 12: Projection of Human Resource Requirement for 2020 (Source: Nepal Tourism Statistics, 2017)

Human Resource Requirements Projection for 2030				
	<i>Total Tourist Arrival</i>	<i>Direct Employment</i>	<i>Induced Employment</i>	<i>Total Employment</i>
Employment in 2016	753,002	427,000	518,000	945,000
Average employment per tourist		0.6	0.7	1.3
Projection for 2030 reaching 5 Million tourists	5,000,000	2,835,318	3,439,566	6,274,884
Increased %	564			
Times increment	6.64			

Table 13: Projection of Human Resource Requirement for 2030 (Source: Nepal Tourism Statistics, 2017)

of employment by 564% approximately which means an increment by more than 6 times than the present context. These numbers thus expressed appear to be highly ambitious and exceeding. Is it possible to attain such result in verity? This is a pertaining question in the face of the tourism industry of Nepal.

Major Challenges

From the above data looking at the present ranking of the tourism industry of Nepal, the projections that have been made for the future with specialized targets of 2020 and 2030 and the available means and resources, some of the major challenges of the tourism industry in

- The challenges Lack of political will, commitment and focused leadership backed up by financial resources in order to meet the targets.
- Sustained political stability and the peace that obstruct the day to day tourism based activities. (Bandhs and strikes)
- The new tourism policy rolled out by the Ministry of Culture, Tourism and Civil Aviation needs to be translated into laws, rules and regulation sin order to implement the policies.
- Weak monitoring an evaluation

components in the Nepalese context which is the great challenge for the government even if the plans and policies are implemented to meet the target.

- Lack of proper plans based on research findings and market intelligence to produce plans, strategies and activities to meet the targets.
- From the above data analysis, meeting the projected demands of airlines and airport related infrastructures and the accommodation is a huge challenge.
- Fulfilling the human resource need for the industry also seems very challenging.
- As the data on the investment for infrastructural development has not been analyzed in this study, our assumption is that in order to meet the targets, it will be a challenge to fulfill all the infrastructural need of airports, airlines, road transport, communication etc. to meet the need of tourism industry.

Steps Ahead

With the objective of developing and diversifying the tourist destinations to provide quality services and facilities to maximize satisfaction for tourists and economic benefit to local community, strategies should be formulated in the manner for destination development and management. Some of the important steps thus could be:

- Building tourism integrated development plan
- Sound guiding policies backed by laws, rules, regulations for national tourism industry development and management.
- Developing Tourism Master Plan and regional plans.
- Developing short, mid and long term plans for destination development.
- Integrated destination development backed up by resourced in partnership with different stakeholders.

Conclusion

Looking at the projections and challenges

ahead, accomplishing the targets of Visit Nepal Year 2018 and the Vision 2020 and 2030 sounds very idealistic and full of wish full thinking. It is going to be a miracle in the Nepalese tourism industry if the targets are out rightly met. However, the tasks that have been given are not impossible but it should be realized that it requires all of the tourism stakeholders and the government to fire in all the cylinders. For this, a greater political commitment, focused leadership and better coordination among the tourism stakeholders with the strategic marketing plan is the key to achieve the target of bringing in and managing 2 million international tourists. Therefore, we need to amalgamate Political, Economic and Ethical Leadership to empower tourism development to meet the targets.



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Mountain Economics

Pramod Nepal*



Introduction

An opening line of H.W. Tilman's classic book entitled 'Nepal Himalaya' (1952)—there can be no other country so rich in mountains as Nepal—is enough to introduce Nepal as a mountainous country. Sandwiched between two giant countries—India and China, Nepal is synonymous to mountains. Mystic mountains never fail to entice tourists. Standing as last frontier of Nepal's territory in northern side, mountains are unmoved markings of Nepal's border with China. Ever since Tenzing Norgye Sherpa of Nepal and Sir Edmund Hillary from New Zealand became the first people to scale on the top of the world on May 29, 1953, it has become the symbol of pride, courage and determination for mountaineers. Mountaineers from all over the world visit to Nepal with the aim to conquer Mt. Everest. People shed the tears of happiness while glimpsing mountains particularly Mt. Everest.

Nepal opened mountains for climbing in 1949 AD. Since then, mountaineering has been the most promising tourism activity and is considered as prolific sector in terms of revenue generation of the country. Therefore, the Government has opened 414 peaks for mountaineering activities by adding 104 new

peaks in 2014. Among the newly opened peaks, nine are above 7,000m, ninety are above 6,000m and four are above 5,000m (Mountaineering in Nepal: Facts and Figure; Department of Tourism, 2017). In its document of May 2014, TAAN claims that Nepal has a total of 3,310 peaks including 1,913 climbing peaks. Likewise, Nepal Mountaineering Association (NMA) is operating 27 mountains below 7000m heights (Department of Tourism).

Effective from January 1, 2015, Department of Tourism (DoT), Ministry of Culture, Tourism and Civil Aviation charges USD 11,000 royalty per person for Mt. Everest Normal route, which is the South-East ridge of the mountain for the Spring Season; the charge is half of it for Autumn Season. For other route of the Mt. Everest, expedition royalty per person for Spring and Autumn season is USD 10,000 and USD 5,000 respectively. Likewise, expedition fee for other mountains of more than 8000 meters is USD 1800 for Spring and 900 for Autumn season. The rate is even low for 7501 meter to 7999 meter mountains—USD 600 for Spring Season and USD 300 for Autumn Season. The above mentioned charges are different for Nepali climbers.

Out of total area of Nepal (1,41,181 sq. km) approximately 83% of land mass is covered with mountain landscapes including Himalayas, however, attributed with pristine nature and culture (CBS, 2006). Out of more than 3,500 km. vast extensions of the highest Himalayas termed as Hindu Kush – Himalaya ranging from Afghanistan in the north-west to Myanmar in the south-east, Nepal Himalaya has covered approx. 800 sq. km. beginning from Byasrishi Himal in Darchula in the west

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to Kanchejunga in the east (Upadhyaya & Upreti, 2008)

A range of different communities inhabits the four ranges of mountains covering Sivalik, Mahabharat, Mid Hill and high Himalayas with valleys in between. The communities are a mixture of various castes, ethnic people, and indigenous groups from Tibeto Mongoloid and Indo Aryans races with their age-old rich cultures and traditions. Mountain regions are generally characterized by irregular & steep relief of land/surface, deep gorges, low temperature, fragile ecology, poorly developed soil, limited choice of crops, remote isolated villages, low oxygen pressure, and low humidity of air (Upadhyaya, 2006).

Tourism Act, 2035 (1978 AD), Mountaineering Expedition Regulation, 2059 (2002), Tourism Policy 2065, Mountaineering Royalty Allocation and Mobilization Directives, 2070 BS, National Natural Resources and Fiscal Commission, 2074 (2017), Intergovernmental Fiscal Arrangements Act, 2074 are some of the legal instruments that govern mountaineering. Likewise, Ministry of Culture, Tourism and Civil Aviation, Ministry of Finance, NNRFC, Department of Tourism, Nepal Tourism Board, Nepal Mountaineering Association, Trekking Agencies' Association of Nepal are some governmental as well as non governmental entities responsible for mountaineering.

Besides expeditions, trekking, sight-seeing, skiing, hotels, restaurants and tea shops, rescuing are some of the services and activities that are carried out in mountain regions. While talking about the economics of mountains, it connotes two aspects, namely, macroeconomics and microeconomics.

Since the macroeconomics deals with four areas related to output, employment, prices and foreign sector (Samuelson and Nordhaus, Economics, Twelfth edition), for this study purpose, the focus is in output (GDP) aspect only. Therefore, macroeconomics of mountains here is its contribution to national economy, more particularly on GDP.

Microeconomics focuses on the actions of individual agents within the economy, like households, workers, and businesses. Therefore, microeconomics of mountains surrounds around guide, porters and workers as well as agencies carrying out expedition and trekking.

The direct contribution of Travel & Tourism to GDP was NPR85.2 billion (USD0.8 billion), 3.6% of total GDP in 2016 and is raised by 6.8% in 2017, and to rise by 4.3% per annum, from 2017-2027, to NPR138.9 billion (USD1.3 billion), 4.0% of total GDP in 2027. Similarly, in 2016 Travel & Tourism directly supported 427,000 jobs (2.9% of total employment). This figure is increased by 6.0% in 2017 and to rise by 2.9% per annum to 604,000 jobs (3.2% of total employment) in 2027 (Tourism and Travel: Economic Impact 2017, Nepal; World Travel and Tourism Council).

Even though mountains are considered as backbone of Nepal's tourism, its overall contribution to national economy is largely unaccounted. Owing to lack of satellite account of tourism sector, the actual contribution of tourism sector still is underestimated. While computing the contribution of mountain sectors in GDP, royalty generated from mountaineering expeditions and household incomes were taken into consideration.

Limitation of the Study

The study is mainly based on secondary data. Tourism is the crosscutting issue, so is the mountain tourism. Various components of mountain-based-tourism need to be analyzed to accurately determine its the exact contribution. Unfortunately, prevalence of informal economy, unaccounted transactions and multiple crosscutting sectors being out of government's purview made the study quite complicated. Unavailability of data made the study complicated. The study is focus on royalties received from mountains; crosscutting issues are mountain economics are not considered because of the time and other resource constraints.

Review of Literature

Mountains are sources of freshwater, raw materials, are locus of significant biological diversity and are attractive tourist destinations. Mountain ecosystem plays vital role in the lives of upstream and downstream populations (Ariz et al 2013). Every year thousands of tourists flock in mountains with the purpose of climbing them or seeing them close by. Thousands of people are relying on mountains for their livelihoods. Economic activities thus developed in mountain region have not only generated revenues from the government, the movement of tourists in the mountains region also equally benefits people. Employment opportunities are available in the region. Owing to tourism value of mountains, the lives of people residing in the mountains are becoming less miserable (NMA reports).

Mountaineering expedition is among the main facets of mountain tourism. Every year hundreds of climber visit Nepal with purpose of climbing mountains. Associated with expedition, various economic activities and products namely porter, insurance, helicopters services, hotels and tea-shops, foodstuffs, helping people, mountain guides are operated (Mountain Tourism in Nepal, Shrestha, H.P).

Alas, climate change coupled with unsustainable tourism activities in mountains has threatened the mountains. Rise in temperatures has resulted in melting of snow from the mountains. If the course is not corrected, it shall further complicate the lives of mountains and will disturb mountains' ecosystem (ICIMOD, 2016).

Contribution of Mountaineering Royalty to GDP

As a simple rule of thumb, the Ministry of Culture, Tourism and Civil Aviation manages 8000m and 7000m peaks while NMA manages the 33 peaks ranging from 5587m to 6654m. The revenue generated from mountaineering activities, particularly expedition royalty is enlisted below. The statistics of mountaineering from 2011 to 2017 reveals inconsistency pattern. The number of climbers is highest in

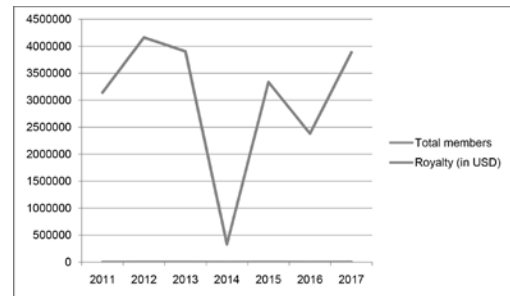
the year 2015 whereas lowest is in the year 2014.

(A) Revenue Received by Department of Tourism

S.N.	Year	Total Members	Royalty (in USD)
1	2011	1937	3,141,575
2	2012	2216	4,160,675
3	2013	2273	3,904,825
4	2014	1536	330,340
5	2015	2763	3,334,162
6	2016	1946	2,380,802
7	2017	2277	3,885,758

(Source: Department of Tourism)

The phenomenal decrease in revenue from USD 3,904,825 in year 2013 to USD 330,340 in the year 2014 is the consequences of Hud-Hud avalanche, which was occurred in Annapurana region. The aftermath of devastated earthquake too has some effect in mountaineering. In the year 2016, there was significant decrease in number of climbers and corresponding revenues.



While there was notable decrease in number of climber and revenue in 2014 on government-operating mountains, the NMA-operated-mountains had almost no impact of that avalanche. But, it seems that earthquake affected to the climbing of mountains managed by NMA. Fundamentally, young enthusiastic climber, adventure lovers, trainees are attracted towards NMA-managed mountains, which are relatively easier to climb and less expensive.

In NMA-managed mountains, year 2015 witnessed lowest number of climbers and

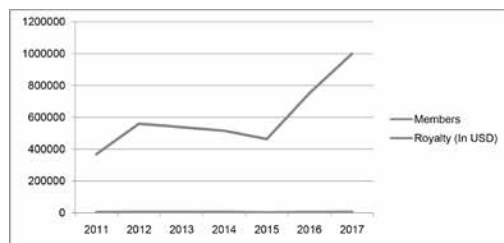
associated royalty. In 2012, there was all time high of climbers but on revenue front year 2017 stood first, generating to almost one million USD.

(B) Royalty Received by Nepal Mountaineering Association

S.N	Year	Members	Royalty (In USD)
1	2011	4266	368,330
2	2012	6486	560,175
3	2013	6153	537,850
4	2014	6059	515,645
5	2015	2506	463,145
6	2016	4822	751,535
7	2017	5920	999,850

(Source: Nepal Mountaineering Association)

The clustered column of revenues collected by Department of Tourism and Nepal Mountaineering Association is given below. The revenue collected by DOT is shown in red color and that of NMA is shown in orange color. In comparison to revenue collected by DOT, the royalty received by NMA is insignificant. Unlike uneven pattern of revenues collected by DOT, the royalty collected by NMA is gradually increasing over the years.



S.N	Year	Revenue from Mountain (Revenue of both DoT and NMA)	GDP	Revenue to GDP
1	2011	3,509,905	18.914	0.0185
2	2012	4,720,850	18.852	0.025
3	2013	4,442,675	19.271	0.023
4	2014	845,985	20.003	0.00422
5	2015	3,797,307	21.411	0.0177
6	2016	3,132,337	21.132	0.01480
7	2017	4,885,608	24.472	0.02

(C) Mountain Revenue to GDP (GDP in \$ Billion and Mountain Revenue in \$)

The total contribution of tourism sector to GDP was USD 1.6 billion, 7.5% of GDP in 2016, USD 1.919 billion, 7.8% in 2017 and is forecast to rise by 5.2% in 2018 (WTTC, 2018). The figure is still low, around 3% according to national statistics of Nepal. Tourism sector, which has transformative power to bring Nepal in the path of prosperity, is struggling to attract even one million tourists and create forward and backward linkages in the economy. People are not being able to get benefit from the tourism.

Around the world, Nepal is known for its mountains. Unfortunately, its contribution to national economy is very insignificant. The data below shows the pity condition of mountain sectors. The direct revenue collected from mountains is very low, far below 1% of GDP. Statistics shows that, even though Nepal has more than eight mountains having more than 8 thousand meter height, only Mt. Everest generates significant amount of revenue (DOT). Nepal has not put its all efforts to promote mountains and allure climbers to climb mountains of Nepal. Political instability, lack of clarity in policies and regulation, natural calamities, unethical practices in mountain tourism and lack of proper regulatory and facilitative support have marred the growth of mountain tourism.

Owing to lack of tourism satellite account, the actual contribution of tourism sector in national economy is unaccounted, so is the mountain sector.

(Source: World Bank and Economic Survey)

Employment Generation

There is no official data regarding employment supported by mountain tourism. Prevalence of unregistered agencies and agents is significantly high. Besides climbing, there are plenty of jobs in expedition but undocumented. Similarly, mountain-tourism-dependent teashops, restaurants, and hotels and human resources working in those places are out of government purview. Therefore, it is quite difficult to estimate the status of employment supported and/or created by mountaineering.

According to World Travel and Tourism Council, in 2017, Travel and Tourism directly supported 497,500 jobs in Nepal (3.2 % of total employment). This is expected to rise by 3.9% in 2018. Nevertheless, these data too does not differentiate the contribution of different sectors within Travel and Tourism.

Summary and Conclusion

Tourism is an important sector to earn foreign currency and maintain balance of payment. It demands coordinated actions of all stakeholders, as it is a cross-cutting sector. Government has accorded tourism sectors, among other, high priority to fulfill national dream of prosperity. For this the government machineries in tandem with private sectors must develop tourist friendly policies, infrastructures, human resources and soft skills. Government must ensure that people residing in far-flunked areas have also received dividends of tourism development.

Mystic mountains are fundamentals of Nepalese tourism. Every year hundreds of thousands tourists visit Nepal either to see mountains or climb these. Trekking, mountaineering, heli safari, mountain flights, skiing and other adventure undertakings are so of the activities associated with mountains. Various governmental as well as non-governmental and private sectors are working on mountain tourism, yet its growth is crawling.

Recently, honorable tourism minister has vowed to increase the contribution of tourism sector to 25% in the national economy. This is

very ambitious target. It demands massive transformation in existing scenarios including mountain tourism. Government must provision all necessary assistance stand-by in basecamp to facilitate expedition. Sherpas, who are the backbone of mountain tourism, should be motivated to carry out ethical practices in mountains. Government should provision adequate insurance for high risk Sherpa climber. Technical skill development training related to mountaineering should be provided to all Sherpa climber and assistance climber.

Nevertheless, providing basic amenities in mountain region to facilitate expedition activities is central to attract tourists for mountain activities. Every stakeholder should work in tandem to develop mountain tourism and thus mountain economics.



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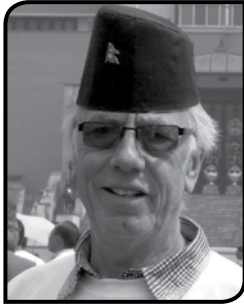
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Becoming a Trekking Guide in Nepal Past and Present

Ian Wall*



Nepal has always prided itself on being the Premier Destination for Adventure Mountain Tourism. This accolade was gained at a time when there were few other mountainous destinations accessible to tourists and Nepal had the monopoly of pristine high mountains, a clean unpolluted environment and a national community virtually untouched by the modern world and commercialism. Today everything is different and some of the challenges facing our trekking guides are coming from the most unexpected quarters.

To understand the challenges of the future we must learn about the situations experienced from the past.

In a bye-gone era visitors, trekkers and mountaineers visiting Nepal would expect to experience pristine nature, crystal glittering mountains, and medieval Nepali villages, rich cultures, customs and festivals and be more than happy with that.

Back then within the trekking and mountaineering sector, foreign visitors were generally mountain lovers, they had possibly climbed and trekked in the Alps but in the main they had trekking or mountain walking/climbing experience and had acquired the large armoury of skills and mountain knowledge required to undertake a safe passage through a possibly hostile and technical mountain environment.

They were adventure seekers with possibly a higher tolerance for the 'less luxurious life style' and they possibly had more time to undertake their expeditions away from the 'office', flexibility up to a point was the name of the game.

The 'adventure' came in the form of being unsure of the outcome of their travel plans and objectives and, to a certain extent, was also



The first sun rays of the day kissing the summit of Annapurna I in the distance © Ian Wall

* (Mr. Ian Wall is the co-founder of Off the Wall Trekking and an expert resource person for Nepal Mountain Academy)

based on a lack of good risk assessment and, or, lack of planning, as a result of the lack of detailed information.

At that time, information was scarce and out of ignorance of issues like altitude sickness, which was also a major unknown factor, it created a real 'unpredictable' outcome scenario.

Lodges did not exist so essential detailed planning, as much as was possible, back home was essential so as to be able to deal with all possible eventualities that might be met along the way once in Nepal. There were very few high mountain airstrips and most people started their adventures trekking from Kathmandu although a little later Pokhara developed as the second centre for tourism. Equipment was heavy and unsophisticated and the tents, with, in general, no sewn in groundsheets, were cold and draughty and 'campers' needed a good 'level of outdoor skills' to exist for the duration of a trek in relative comfort. Light-weight down clothing was expensive and in general only available to the top end 'tourists'.

At that time very little was known about Nepal other than the romantic image of the high white mountains, remote and ethnically diverse communities and pristine environments. There were no trekking agents, no trained mountain or trekking guides and no other form of 'adventure tourism' other than that of just 'travelling' through the country. The journey to arrive in Nepal was long and expensive and included several long weeks at sea and then overland from Calcutta, an adventure in itself. The in-country road system was poor and vehicular movement was restricted not only by the shortage of vehicles but also due to the lack

of motorable roads outside of the Valley. The first car in Kathmandu was given as a gift to King Tribhuvan by Adolf Hitler, the latter's own personal 1938 model Mercedes Benz, which was the first car ever seen in Nepal. In 1940 it was carried to the capital by an army of porters.

To gain knowledge about Nepal prospective travellers had to read expedition reports or talk to someone who had been to Nepal, there were virtually no maps, no guide books and the Boris Lisanevich obtained the visas for the first group of tourists to visit Nepal trekking routes were along simple 'local' trails. Even the local people had little idea of the greater geography of their own region. And above all there was no

Mountain Tents

THE AUTHENTIC MOUNT EVEREST 2-MAN 'MEADE'

These Tents were the final outcome of experiments carried out in conjunction with the R.A.E. Station at Farnborough, and in one of these Sir Edmund Hillary and Sherpa Tenzing spent the night at 27,900 ft. (the highest altitude at which a tent has ever been used) prior to the successful final assault on Mount Everest.



Size: 7' x 5' wide x 4' 6" high, 12' eaves.

Inverted "V" poles of Duralumin fit into pockets. A large sleeve entrance at both ends, wall pockets, 9 ins. snow flap all round, sewn-in groundsheet, and necessary pegs.

Complete in carrying bag

In Yellow "Wynol" Cotton and Nylon £45 10 0
In Green Millerain £27 6 0

THE 'MEADE'



Particularly suitable for the Mountaineer, these excellent tents of world renown and fame have been made by us for a large number of years and are recommended by the Royal Geographical Society, having passed the test of time. Made in Green Millerain.

Size B :
7' x 5' x 5' high.

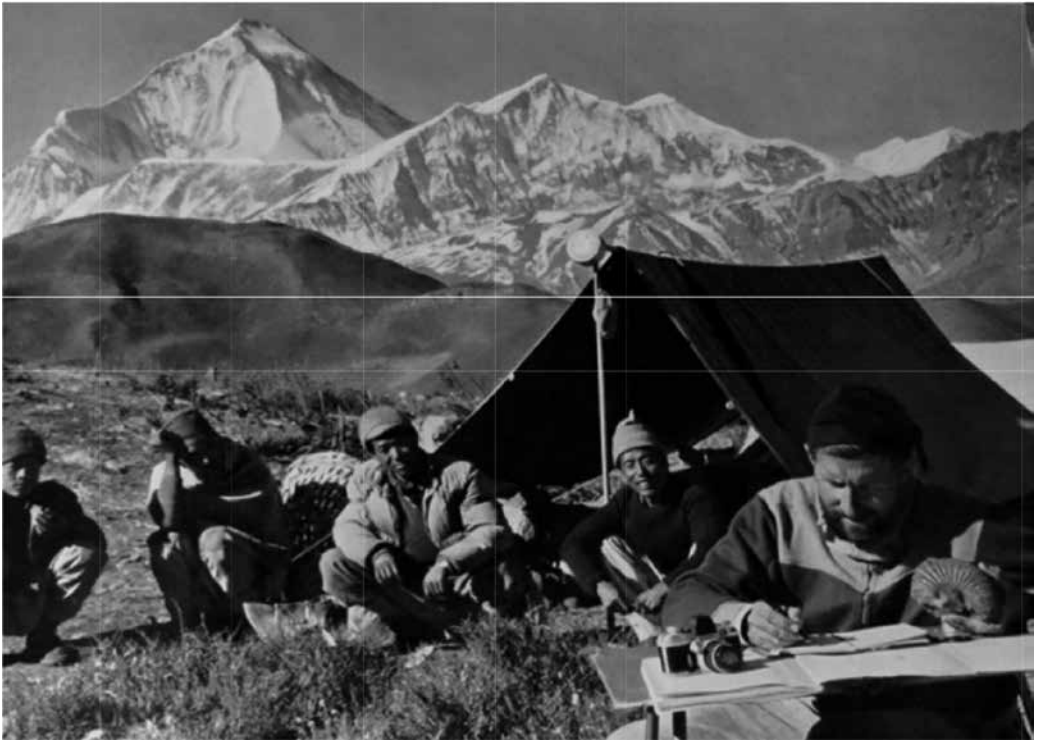
Size C :
6' 6" x 4' x 4' high.

These tents are fitted with inverted "V" Duralumin poles similar to the "Whympet", and have a sewn-in waterproof groundsheet of L.W. "Verreux".

Supplied complete with necessary pegs and packed in a bag.

	Size B	Weight	Size C	Weight
Price	£18 13 0	15 lbs.	£15 12 0	13½ lbs.
Extra for Shutter Window and Pockets	£1 14 0	8 ozs.	£1 11 6	8 ozs.
.. Sleeve Entrance and Snow Flap	£3 17 0	1½ lbs.	£2 14 6	1½ lbs.
.. Flysheet and Ridge Pole	£8 18 0	4½ lbs.	£7 4 0	4 lbs.

3



Toni Hagen was one of the earliest geologists to visit Nepal and he went on to write 'Toni Hagen's Nepal', a travelinspiration for many. Courtesy Toni Hagen Foundation.

internet!

Although there were no trekking agents as such there was an in country facilitator, Tek Pokhrel who ran a company called Trans

Himalayan Tours which would help with the logistics and generally handle all the administration required within Nepal at that time.



Ed Hillary instigator of Lukla Airport



Boris Lisanevich obtained the visas for the first group of tourists to visit Nepal



Lt Col Jimmy Roberts Mountain Travel, the first trekking company in Nepal

In the early 1960s Boris Lisanevich (1905- 1985) a Russian ballet dancer, ahotelier and restaurateur helped pave the way for tourism in Nepal, when he opened the country's first hotel, the Hotel Royal, and later when he created the Yak & Yeti Hotel and Restaurant. Nepal had never been considered a tourist destination but Boris saw a potential and persuaded the King to provide visas for an elite group of tourists that Boris had cultivated through his Club 300 in Calcutta.

The tourism industry was born.

Ed Hillary, who along with Tenzing Norgay, were the first to climb Everest, was instrumental in opening up the Everest region to trekkers when he set about funding and then



Rob Hall and Gary Ball after their first guided ascent of Everest 1992

building Lukla airport which opened to flights in 1964.

Then came Lieutenant Colonel Jimmy Roberts (1916– 1997) he was one of the greatest Himalayan mountaineer-explorers of the twentieth century; a highly decorated British Army officer who achieved his greatest accolade as "the father of commercial trekking" in Nepal. Roberts was posted to Kathmandu in 1958 as military attaché. He retired from the British Army in 1962 but by then he had also seen a potential market for wealthy clients to visit the country to enjoy the wonders that



ANNUAL INFLATION IN FY 2005-2017



Source : Nepal Rastra Bank (2017). *Current Macroeconomic and Financial Situation-Nepali* (Based on Annual Data of 2073/74). Kathmandu: Nepal Rastra Bank



make up Nepal. In 1965 he registered the first trekking and mountaineering company in Nepal, Mountain Travel Nepal and developed the concept and standards of 'adventure tourism', an industry that has since evolved worldwide. The first batch of trekkers consisted of three ladies who went for a trek to the Everest Base Camp.

By the mid-1970s Nepalese mountain workers associated with the Nepal Mountaineering Association had been trained in technical climbing so that they could continue to support foreign expeditions when their attention refocused on the large more technical faces of the Himalayan peaks.

Up to 1990 Nepal progressed in much the same way as it had in the preceding 50 years, development was slow and confined mainly to the Kathmandu Valley. Then as a result of political pressure the political landscape changed and some would say that for a while the development of Nepal went into decline or at least stood still. Outside Nepal, the world was also facing political and financial changes.

During 1991 the first commercial mountaineering expedition was introduced into the mix of adventure opportunities on offer. Some people increasingly had a certain amount of disposable income and high ambitions. Advertising hit the media and there were no

shortages of foreign organisations and local Nepali agents prepared to help those clients spend their hard earned cash to reach the Himalayan heights.

New commercial expeditions while still offering opportunities to those people with money, time and a sense of adventure were basically changing the game. In the early stages of 'adventure tourism' in Nepal the mountaineers would work as a team with their Nepalese staff, route and rope fixing was a joint effort and all would share the good and bad experiences. Trekkers would accept what they were faced with while far away from Kathmandu, the expectation was for 'enjoyment', 'adventure' and 'experience'. Today the term 'customer-care' is a significant element of life in Base Camp for the expedition leaders and senior staff and also for trek leaders.

Sadly, there are situations at the moment in the adventure and tourism sector that result in Nepal being caught between a rock and a hard place. Nepal is to a certain extent still regarded by many travellers as being a 'less expensive' tourist destination, whereas we know Kathmandu is now rated, as I believe, the second most expensive city in SE Asia and that in 2016 Nepal experienced an inflation rate of 10.5%, a lot higher than many of our Himalayan neighbours. The unexpected cost of living means trekkers often arrive in Kathmandu stay one night then set off on trek and often in an ill-prepared state.

Kathmandu also holds a reputation that all tourist-related commodities are up to be 'bartered' for, of no fixed price. There is a good reason why shop-keepers in Thamel do not price their goods! This situation and the misconceptions held by many tourists are compounded by the lack of transparency.

Over the last 30 years several trekking and adventure editors have published trekking guides, trekking maps have also been published to accompany the guide books. There are no end of shop keepers in Thamel, hoteliers and other related tourist personnel all offering advice on trekking routes in Nepal, some are easy, some are very serious undertakings, some

advice is sound while others are just anecdotal. However, there are still many trekkers lulled into a false sense of security because of the proliferation of all this advisory and informative material. Add to this the information available on the internet and Google Earth and you have a potential recipe for disaster.

Either in an effort to save money, reduce the overall costs of the ‘Nepal Experience’ or because people think they will be safe and don’t require a guide they travel alone. In the majority of cases they complete their journey safely. Along the way those with a guide will

Himalayan Rescue Association Nepal
Pheriche Aid-post
 Clinic Hours: 09:00-12:00 noon
 01:30-05:00 pm
 Emergencies seen at any time
 Altitude talk at 3:00pm Daily
 (For the Maintenance & Continued Function of the Clinic a fee is charged for Consultation/Services)

chat to those without and the conversation will often follow the line of ‘what have I got from the additional cost of hiring a guide?’ Trekkers still set off solo fashion unaware of their vulnerability if things go wrong.

Many trekking areas now boast first aid and health posts and those at the honeypot areas have medical posts specifically providing support for trekkers and run by the Himalayan Rescue Association (HRA). At Everest Base

Trekkers in 2018 are far more informed than they ever were



And on top of all the maps and guide books that are available there is the INTERNET

Camp, 'Everest ER' has established the medical post which had, by early April 2018 administered assistance to 21 patients but once the season gets really underway and the expeditions get into full swing then these numbers will increase multiple times.

The many publications, maps and guide books as well as the internet are now playing a huge role in not only informing prospective trekkers and mountaineers of their options but in providing a false sense of security as well as providing technical knowledge on routes, lodge accommodation and of course the hundreds of Agencies based in Nepal and all fighting for the same clients.

Now if wifi is not available in the chosen lodge trekkers will demand ‘move onto the next wifi connected lodge’. This has created a certain connectivity ‘dependency’. Already this season there have been occasions when the weather and other issues have prevented some trekkers reporting into their families back home and this lack of communication has raised un-necessary safety concerns and anxiety levels for home based family and friends.

The options for people to come to Nepal and do a trek or climb a mountain are endless and providing they have the money it now seems they don’t necessarily need to have the experience. Many visitors are looking for something different and those people now undertaking treks, trekking peaks and even Everest often have little in terms of mountain experience or understanding, the Himalaya are not the European Alps. With many foreign



expedition leaders spending most of their 'mountain time' trying to please their clients and at the same time telling them how good their operation is and how successful it's been in getting people on 'the summit' they pamper to the clients, the very people who keep the expeditions and companies functioning. But the expeditions would not function without the porters and other mountain staff and Nepalese guides. It now appears to be a situation unfortunately of 'us' and 'them' the continental element of an expedition and the Nepali element, not in all cases but in many the joint 'team approach' is not what is used to be.

So where does that leave the trekking guides today? We have considered the situations of the past when mountain trekkers had experience, understand and a certain level of expectation. We have reviewed the issues of the present where trekkers have first rate equipment, technical navigational equipment as well as fully illustrated guide books and other reference material, but often little knowledge or experience in the mountains. What do we need to do to be mindful of, and to meet the challenges for the future?

In past generations local Nepalese people saw an opportunity to earn money to help them



escape the poverty situation by 'leading' tourists in the mountains, the trekkers, with little information on Nepal were happy with that. However we should now consider the fact that despite all the information on the trekking routes clients engage a guide because either, they want to learn more about Nepal, they don't know what they are doing, they don't have the skills or the time to put their own trip together or because by Nepalese law (restricted areas) they have to have a guide.

How does the wealth of information found in printed matter, on the internet and on social media all impact on the future challenges facing trekking guides of the future?

It is all about EXPECTATIONS, not only of the clients but also of all the other people involved in mountain tourism.

In the 1960s mountain guides received technical training to help them meet the expectations of future technical climbing expeditions venturing onto the high mountains of Nepal. In the same way today we have to focus on providing specific training for trekking guides in readiness for leading already well prepared, fit and informed trekkers but often who have little real mountain experience. Client expectations vary according to the trek they have chosen, however there are common expectations that all clients have.

- Value for money
- A knowledgeable guide
- Safety

While the value for money element sits primarily with the agent every other aspect of the trek is the responsibility of the guide.

For many clients a trek in Nepal will have been a long held ambition and they will want to get the maximum from it. They will have, in many cases, trained hard for their trek putting in the miles back home and maybe spent time on walks carrying a heavy rucksack. Our guides need to keep fit and ready to hit the start of the season in the height of personal fitness or they will be walked into the ground by the trekker clients.



Many clients would require more than basic accommodation

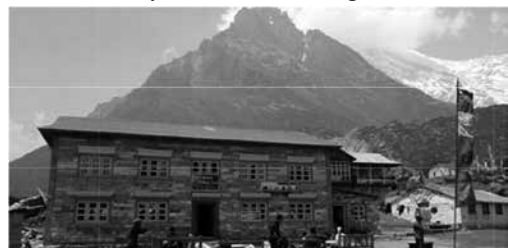
Above all the clients will want information, who was the first person to climb the main mountain around which the trek is based, by which route, how long did it take and when. They will want the names of other geographical features within the valley/area, the peaks and rivers and information about communities, ethnic groups, customs and cultures.

There is a whole list of issues the trekking guides should now be trained in. It might even be worth considering a 'specialism' for the guides to study, for example to gain in depth knowledge about the 8000m peak treks, Kangchenjunga, Makalu, Everest and the Khumbu peaks, Manaslu, Annapurna and Dhaulagiri, flora and fauna. Clients will not be happy to hear such things as 'it's not my job' or 'I don't know'. This will only cause dissatisfaction in the client

In my opinion the Nepalese trekking guides have great strength of knowledge when it comes to the mountain safety issues but their general knowledge of the trekking districts is, in general, weak compared to client expectations. A trekking guide is no longer just a leader, he or she is a 'tour guide of the mountains' and as such should have a good command of all the relevant facts related to the trekking area in which they are to operate.

Despite the fact that until the time the clients arrive in Nepal they will have dealt with the local Agents once on trek it is the guide who becomes the face of the company and represents that company. Any slight failure to meet client expectations will result in a dissatisfied client. As part of the Agent's risk assessment there should be the question, 'Is the guide knowledgeable about this area', not just simply 'does he know the way and is he or she safe?'

Training guides in historical, geographical and local cultural and ethnic knowledge is not the final solution. At the moment the local communities, realising the short fall of their situation, are taking matters into their own hands from opening new routes to building new lodges. Sadly a lot of the new development is not architecturally in keeping with local culture. Many of the new lodges would not



Many lodges rebuilt after the earthquake have up-graded their facilities

look out of place in foreign resorts. Another ‘x’ against client’s list of expectations!

The government should, as a matter of today urgency, devise a plan to audit all the trekking areas and then to ensure new construction is in keeping with local traditions and continually monitor the situation.

The responsibility for the future development of adventure tourism does not depend solely on infrastructure and training. With so many freelance trekking leaders and trekking agents it is increasingly difficult for clients to distinguish between those leaders and agents of quality as opposed to the rest. One bad apple and the box will soon become rotten.

Alongside all the marketing Nepal needs to develop a quality standard for providers. All agents should be legally required to sign up to a national quality organisation that then regularly monitors the agents to ensure they operate in a transparent manner. All trek leaders should also belong to their own association, an organization that provides training, assessment and on-going professional development leading to a national Nepal Trekking Guides Award.

There are several national training bodies in Nepal and many private ones, and in the main, they are all following a similar training syllabus, however Nepal has failed to structure a National Trek Leaders/Guide Award. To organise this would be simple if the interest bodies would only be prepared to cooperate. In all other adventure destination around the world there is a national safety benchmark, a line that foreigners accept as being a professional and safe standard. By implementing this Nepal could reinforce its focus on safety, virtually shut down all unscrupulous traders and so called trek leaders and generally raise the standard of service in the trekking sector.

There needs to be a total overhaul of Tourism thinking and maybe, just maybe the new ‘think tank’ will come up with the goods. In industry a new machine will be designed and the training of manpower will take place to meet the modern needs and requirements of the

customer or clients, they do not keep producing the same old machine and train to the same old standards and simply tell the customers they need to readjust to that old technology.

To summarise, I think the Nepal Government, the Ministry, the training institutes and the NTB should focus on the following issues:-

1. Fully understand why tourists in all sectors visit Nepal and what their expectations are.
2. Devise a new Tourism Development Plan that not only addresses visitor expectations but also plugs the gaps that already exist in the existing plan.
3. Implement the Plan with appropriate support and monitoring at all levels to avoid any existing weak links.
4. Work closely with the local administration to ensure that local and appropriate development meets the needs and expectations of the visitors as well as conforming to Government policies
5. Strengthen the role and position of the Ministry in monitoring trekking agents and withdraw operating licenses if bad and corrupt practices are uncovered.
6. Develop a national advanced trek leader award to a nationally agreed safety standard
7. Implement the policy that all trek leaders should hold this award before going above 3500m or into remote areas.
8. Broaden and deepen trek leader training to include more local, geographical, and general knowledge of specific trekking areas.
9. Market a ‘quality national training scheme’ and its associated members.
10. Creating a totally transparent tourism system so as to develop trust and confidence in the Nepal Tourism industry.



Under a Female Leadership

Lakpa Phuti Sherpa*



Dream becomes reality if we put our hearts and minds to it and NMA is that dream for me!

My journey at the Nepal Mountain Academy (NMA) commenced as a member for 2 years. I didn't get major prospect to remarkably contribute then. It was only when I took up the position of the Executive Director at the academy, the genuine deal began for me. To take up the position was not an accomplishment in itself but to make the most of it was. With a lot of familiarity and experience in the mountaineering sector, I had my specific visions and apparitions but to lead a government institution was novel for me.

So, I had to firstly, craft a structure for the smooth execution of the organization and it was a learning by doing course. I was determined to take up the leadership even more so as a woman. Due to the instable political situation, there were hardships to build a quality network and give a good impression in the mountaineering sector for NMA back then. As time passed by, me and my team commenced edifying the institution brick by brick.

The various projects that were initiated during my tenure were and still are very special to me. The Master Plan for the construction of Mountaineering campus at Garma of Solu in

3000 ropani of land is one amongst them. Similarly, the development of syllabus for 10+2 with academic focus towards mountaineering which has now become a reality is also equally distinct. The development of syllabus of Bachelors in Mountaineering Studies (BMS) was then felt as necessary to start an academic background in the field of mountaineering as I strongly feel and advocate that Nepal is the accurate domicile for such studies. With this focus in mind, various consultations with experts of the respective fields to develop the syllabus of BMS were held. Formulating the syllabus was not enough. Creating an institution with authorized licensed program was felt. So, the thought of initiating the academy as an educational institute was generated.

For this purpose, NMA formed collaboration with the Education Ministry and a relevant committee was created upon the request of the institution and affiliation from Tribhuvan University was acquired. These process while describing is very fluent and smooth but in reality it was the supreme challenge for me as the Executive Director. Different levels of lobbying with several agencies and concerned authorities for this purpose was done by me and the team which was obviously physically, mentally and emotionally straining.

Regardless of the challenges, I knew that if we don't start now, some other country might take the initiation of starting mountaineering education before us as I really felt that it was the right provided to us by our nature. Hence, I intensely pursued the vision to take NMA forward academically and for scholastic advancement. Various international experts in

* Ms. Lakpa Phuti Sherpa is the former Executive Director of Nepal Mountain Academy. At current, she is the Managing Director of Adventure Sisters Trekking and Expedition.

this regards gave their constructive feedbacks and many universities had reflected their keen interest to provide affiliation to the program. However, we were determined to take the affiliation from the Tribhuvan University under the School of Management. So in this way, a scientific syllabus was developed which took almost 2 years to get the affiliation from the University after the completion of all the progressions.

Another such explicit initiative is the Ski training with international collaboration from Swiss and France. I myself have many years of experience of skiing at different mountains around the world. Therefore, I have seen immense prospects in the Western Himalayas of Nepal. At that time, it was a perilous attempt but it seems all worthwhile at present-day.

Female Trekking Guide training is also one of the imperious endeavor for me as it has enabled a lot of young women to pursue sustainable career in tourism and trekking. Not just delivering the training, but NMA also acquired the authority of issuing license to the trainees. Mountaineering orientation and conflict management training is another milestone with a syllabus of 8 days. Weather forecast has been successfully run that has added one more feather to the cap of NMA.

Now, I have high hopes for the Masters in

Adventure Tourism. This is probably one of a kind in the world for which I as a part of the institution and former Executive Director take tremendous pride in. The stable political situation has also opened up a lot of possibilities for the academic development of the Mountaineering sector under the initiative of NMA.

So, my gratitude and thankfulness categorically goes to all who have abetted me to accomplish my visions in these reputes. Such has been an enriching journey for me personally and also for the institution. I was and am still focused towards development of academic platform of national value, pride and importance.

Therefore, the focus of the institution now should be towards mounting and also upholding an international eminence. Though I am not physically present at the institution at current, I shall persistently be committed towards uplifting this institution even externally. I am very much gratified with the progress of NMA which is an upshot of solidarity of those who have been involved. Engendering skilled and academic human resource is subsequently large facet for the academy that the adjoining future holds. My best wishes are forever with the NMA team and kudos to the prodigious journey that the academy has been pursuing.



Understanding the Mountains

Pemba Gyalje Sherpa*



Mountaineering in Nepal is a cosmic playground with prodigious scope that has appealed global curiosity. However, if we start from the foundation, the exploration and analysis of this sector has not been adequate due to varied factors such as marketing and promotion, political instability, infrastructure development, quality workforce and human resource, lack of implementation and well-timed revision of the rules, regulations and policies in our country. Further, it can also not be denied that lack of proper ethics, unhealthy competition, and political influence in mountaineering are other domineering dynamics. As a result, the mountaineering sector has sometimes been disparaged by media worldwide. Therefore, for a better and steady future, good planning and stronger profile-raising approaches along with governmental stability and stouter guidelines is vital.

While talking about my professional experience, I have seen a lot of alterations within the time frame of around 25 years. Some major amongst them are opening of many peaks, commercialization of mountaineering related products and services, rise in the number of professionals. Yet, this is not a

joyous scenario as upholding of high standards is still a gigantic morsel to master. Having said that, the prominence of mountaineering has been deliberately comprehended as it has become technologically advanced, accessed by road transportation. Minimization of human fatalities in such areas and air rescue service have come to the highlight. But once again, I would like to remark the fact that upholding of culture with proper governance should be in place. Hence, it can be implicitly understood that there are a lot of things happening in this sector but without a resilient system.

The role of youth in this regards is imperious. Nepalese youth have realized the value and prospects of mountain tourism to a great extent. They are certainly aware about it but they are still not confident to pursue it as a career because of various lagging elements that I have mentioned earlier. Mountaineering therefore, should fall under national priority and national investment with correct strategies. This shall be the stepping stone towards eradicating the skeptical nature of youth towards this sector in terms of future and security. Nevertheless, till date there has been a notable partaking of the young people with huge interest. This year itself, 17 young Nepali women successfully climbed the Everest. This sort of participation is extremely reassuring.

The academic induction of mountaineering studies is a moral initiative and a major requisite of today. Academy aimed towards developing mountaineering as the chief product of tourism is crucial as much of the classical and traditional style are slowly becoming superseded. Research based findings should be encouraged to bring new and ground-breaking transformations in order to make sure to not

* *Mr. Pemba Gyalje Sherpa is an international mountaineer and an expert resource person for practical courses of Nepal Mountain Academy.*



paralyze the industry. Mountaineering is not only ascending and descending but also about culture, environment, physiology, lifestyles and economy of different areas, therefore, academic knowledge is a must.

Consequently, a decent educational model for mountaineering will ensure excellence in human resource and mountain tourism entrepreneurs with largescale scope. Our mountains are our playground and we should develop them as research centers for the upcoming scholars and researchers to develop the national expertise. As a country with the best and tallest mountains, a standardized

program is undeniably obligatory. Our people are going around the world such as the Rocky mountain of America and Swiss mountains for learning only because we lack capacity and resources. Geographically and culturally our mountains are unique, varied and rich. Outsiders have researched Nepal's mountain and have acquired academic merits. Knowledge production therefore is important for us. Overall the mountaineering sector should be developed not just as a business but also academically and rationally.



The Mystic Mountains of Nepal

Yubaraj Nayaghare*



Mountains are the priceless creation of the nature.

Especially for Nepal, mountains are highly imperative resources. Due to this inimitable resource, Nepal is identified as a unique, exclusive and distinctive country in the globe. Mountains essentially are the blessings for Nepal as they have inordinate value and importance and are special in numerous respect. 8 out of 10 highest peaks in the world lies within the boundary of Nepal.

Mountains are not merely related to the snow and the land but it is connected with many other aspects of the nature. Not just geographically and topographically indispensable, the mountains of Nepal also identify themselves as one of the most important constituent of the world environment and the nature.

The mountains of Nepal are mostly known to be magnificently tall, adventurous and audacious. Along with it, mountains are also the domicile for other living creatures, vegetation and environmental possessions. Along with these, the mountains of Nepal are also emphasized from the cultural, religious and social respect.

In the past, the mountains were considered

to be mysterious and challenging terrains to ascertain. As mountains are considered to be the adverts where gods and goddesses reside, many people are still of the belief that mountains should not be climbed or stepped up on by the humans.

Reversely, in regions like Europe, America and other places of world the snowcapped mountains and their challenging geographical features are used as a very good source of income generation. In the context of Nepal, there are significant mountains ranging from Mt. Kanchanjunga to Mt. Api Saipal. However, still research and study in the field of the geographical, cultural and environmental aspects are in deficient and there are no substantial measures that have been taken.

Our thought about the mountains is very one dimensional. We perceive them as snow laden and tall structures. The Nepali society and Nepal as a nation is still unaware about so many dimensions associated with the mountains and its glory. People are so emotionally connected to the mountains that they are yet to realize its importance, study about its sustainable utilization.

The mountains of Karnali region are still under the shadow. They are mostly perceived as the mountains located in the rural most parts and are inconvenient to be accessed. There are very limited mountains that have been highlighted in the forefront due to promotion and marketing. There are many mountains that are yet to be discovered and explored in Nepal. The nation therefore, must be thoughtful about such a tragic situation.

The mountains of Nepal are the providers and origin to many rivers, lakes and rivulets. These resources have a lot to contribute to the

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daily lives of the people from the Terai, Hills to the high Himalayas. These resources are also the home to many living and non-living organisms which still have not been deliberately considered as a subject of research.

Mountains in Nepalese context are known as Himalayas. Literally, "Him" means snow and "Alaya" means home in Nepali. Therefore, mountains are understood as the place of snow or where snow is found. This sort of understanding about the mountains is very narrow, insufficient and constricted.

Mountains are a different world in themselves altogether. We can learn, take and absorb many things from our mountains. Mountains are synonymously used as the professional field of Sherpa community in Nepal. It is true that the contribution of the Sherpa community is immense for the development and promotion of our mountains. However, there is a serious need of opening of the prospects related with them to the rest of the people of Nepal.

Most of the lively mountains which are accessed for climbing and other related purposes lie in the Khumbu region including the Mt. Everest and others. Due to the climatic harshness, such as avalanches, storm and heavy snowfall, people are unable to sufficiently utilize even these accessible peaks and mountains at present.

The cultural, social and traditional aspects of our mountains are extraordinary. If we develop our capacity to keenly scrutinize these aspects, we can attract many international tourists to visit our mountains and create great possibilities then after. Along with these, the

environmental studies and researches should also be considered. It has been heard that other countries have established different equipment around the Everest region to learn and gather and sell the information the climatic conditions and the weather. As such are we truly lacking the interest and concern towards our own mountains?

Our mountains are awake for 6 months and asleep from another 6 months every year. During the active periods, many climbers and tourists visit our mountains which also contribute greatly to our national economy. But during the period of off season, we neglect our mountains.

We consider our rivers as our gold but our mountains are also white gold for us. To utilize such precious resource proper policies, visions and strategies should be formulated and implemented.

As such, the mountains of Nepal are very valuable which should be extracted socially, practically and economically which will also lead towards the prosperity of the nation with sustainability at the core of everything else.

Therefore, awareness regarding the importance and the scope of our mountains amongst the general people is the need of the day. Behind every mountains be it Kanchanjunga, Dhaulagiri, Ganesh or Annapurna, there are a lot of knowledge, facts and verities that are yet to be explored. Hence, the upcoming generation should gain this sort of knowledge that has ample amount of scope in the field of Mountaineering studies and adventure tourism.

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Mountaineering Training in Nepal

Nepal Mountain Academy came into existence to fill the gap between training and academic valuation

Vinaya Shakya*

Days back in the history of mountaineering in Nepal, Nepalese climbers were not aware that they need training techniques to climb the mountains. They assumed, they were climbers by birth. They can climb any mountain if it had not been for religious values.

It was in 1979 that Nepal Mountaineering Association (NMA) established a mountaineering school in Manang, Nepal. In the beginning, NMA invited trainee climbers from its registered member trekking agencies and it was free of cost for Nepalese climbers and a nominal cost was charged for foreign beginners. Only 20 trainees took part in the first training of mountaineering.

Most of the instructors were from former Yugoslavia at that time who had contributed financial support to establish the mountaineering training school in Nepal. The training that was

started then has been continued till date. In 1981, two years later after the beginning of basic mountaineering training, NMA got another support from French Alpine Club to initiate an advance mountaineering training in Nepal.

As both trainings had foreign instructors, Nepalese climbers got the opportunities to exchange the technologies from their countries and experiences. They were able to get latest knowledge on mountain gears and equipment.

The trainees were able to lead the group with confidence after they got the training from NMA. Furthermore, these trained climbers and mountaineers were also eligible for further advanced training as mountain leaders, aspirant mountain guide and further for Instructor trainings depending upon their interest and passion towards the profession. Otherwise,

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they also have the option to opt for the international mountain guide training.

NMA runs various trainings such as Basic Rock Training, Advance Rock Training, Trek Tour Leader Training, Junior Basic Training, Mountain Rescue Training, Female Training, Instructors' Upgrade Refreshment Course, PETZL Training(Mountain Leader Course), Aspirant Guide Training, Mountain Guide Training, Ice Climbing Training, Heli Marshalling and the list goes on.

Though there were various trainings in Nepal, they had no academic valuation. That was the main problem faced by the Nepalese climbers and mountaineers. Now, Nepal Mountain Academy has come in order to existence to fill the gap between training and academic prosperity of the field. Hence, the academy has just started Bachelors in Mountaineering and is now preparing up with Master in Adventure Tourism. This is the first of its kind in mountaineering history of the world's mountaineering activities.

Till today, mountaineering has been constrained only as an adventure sport. In a time span of few years, it will have academic essence with the benevolent effort from Nepal Mountain Academy.



The Sherpa

Uttam Bhattarai*



With the intent of entertaining 20 lakhs tourists in the year 2020, the government of Nepal has designated the year as Visit Nepal 2020. According to the data provided by the United Nations World Tourism Organization (UNWTO), it definitely comes as a huge challenge for Nepal to ensure the increment of gross domestic product by the tourism industry from 7.5% to 25% along with an increase in the number of tourists by three times by the end of 2020. In order to celebrate 2020 as the Visit Nepal, the year 2019 has been nominated as the campaigning year for which various activities and events have also been set up.

In this regards, the role of the Sherpa community and especially those who have embraced tourism based professions is huge and their contribution is colossal for the preservation and promotion of the tourism sector of Nepal. It is a well-known verity that the Sherpas are known all over the world due to their bravery and honesty.

The world's tallest mountain, Sagarmatha with a height of 8848 meters from the sea level is the jewel for our nation. It had gained its popularity as a field of study and as a challenging mountaineering destination since the 19th century after being successfully ascended for the first time on May 19, 1953 by Tenzing Norgay Sherpa and Sir Edmund

Hillary. Since that time, it was the efforts of a Sherpa due to the assistance of whom, Hillary was able to successfully climb the Everest for the very first time. Similarly, it was only after 1949 that the Government of Nepal opened up 414 mountains and peaks for climbing purposes. However, not all the peaks have still been ascended by the climbers.

The Himalayan region of Nepal consists of beautiful landscape. The Nepalese residing in such areas are courageous and also popular for climbing the mountain both nationally and internationally. To climb mountains and peaks is definitely a mighty as well as a risky undertaking. The Sherpa people from the Himalayas climb the steeps and slopes like terrains with snow and rocks. The weather and climatic conditions in the region is also extremely perplexing and it is very cold especially in the mornings and the evenings.

Therefore, to climb the mountains is a challenging tasks but even more responsibility comes when one has to assist and guide others to climb the mountains. The scorching heat during the afternoons and extreme cold during the mornings and evenings make the challenge even more precarious. In such unpredictable weather conditions and the geographical extremities, high chances of missing out on the ways and being lost in the mountains lies as a huge possibility.

The risk of tripping and falling into the crevasses is equally terrifying. Along with the damage and casualties that can occur due to the occurrence of avalanches, mudslide, occasional hurricane level winds and many other mountaineering related disasters add up to the risk level. As such, it is the Sherpa climbers who can and display the will to risk their own lives in order to fulfill their responsibilities of guiding his/her member to climb the mountain.

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They reflect extreme discipline and self-restraint while at the field with their family in their heart and their professional responsibilities up on their shoulders. In this manner, the Sherpa climbers have been at all times maintaining and upholding the prestige of the nation through their benevolence.

They consider the mountains to be holy and only climb the mountains after their sacred rituals and proceedings with holy leader Padhmasambhava Guru Rinpoche in their hearts. So, climbing a mountain to the Sherpas is much more than technically climbing as it is associated very strongly with the cultural and religious beliefs in the community. This is why, the Sherpas are dedicated from their body and also from the soul to make every climb a successful one. Every time after a successful climb, they thank their holy deities.

Because of such sentiments, they risk their own lives to make every climb by guiding their members a efficacious one. During the journey, sometimes they have to encourage their members, sometimes they have to provide them courage to not give up and sometimes they also have to guide them and protect them like a guardian. While performing all such varied roles, they also have to ensure the comfort of the members as in the Himalayas it is very difficult to obtain good food and other basic necessities are in scarcity. They are at all times concerned about the conditions of their members, their appetite, their stamina and their strength to name a vital few. Hence, the effort that the Sherpas put at the field continuously is a prodigious deal which is somehow also synonymous to the role of an army officer in the battlefield considering the difficulties and hitches throughout their journey.

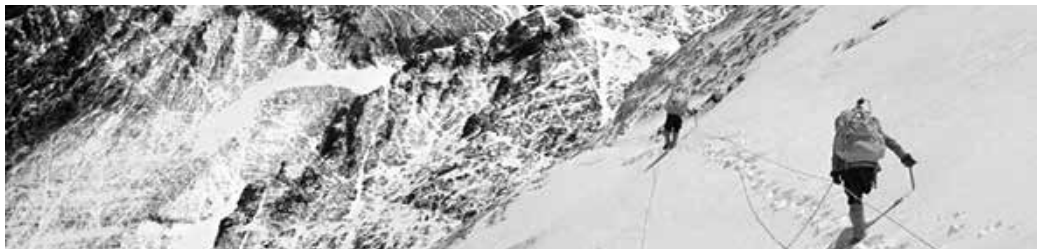
However great the efforts and contributions

of the Sherpas may be, a serious issue to ponder upon is that are we giving due credits to their efforts and efficiency? Or are the Sherpas being appreciated enough for the kind of work that they have been doing to in fact uplift the tourism sector of the country at an international level?

It is also a fact that due to the risks that pertains in the climbing sector, many climbers have lost significant parts of their bodies such as the hands, legs and eyes. Some even have lost their lives. Bearing in mind for this fact, it can be said that the life of a Sherpa is definitely not an easy and a relaxed one. In case of such mishaps and casualties, their family members have to suffer and many of them have also not been able to receive the necessary assistance making their livelihood a problematic one.

Therefore, it is an absolute necessity to rightfully honor the contributions of the Sherpa guides in the mountains and provide the assurance to uplift and secure their and their families' livelihood from the community, state and national level. To make these professionals and future generations skilled and educated is the need of the present in order to produce better and efficient human resource in this sector. An environment that is conducive for them to work, earn and live a respectful life is very much important. This will also ultimately help in achieving the goals that have been set for the year 2020 and 2030. The Sherpas are the ambassadors of tourism sector in Nepal and they have been promoting this sector at various platforms nationally as well as internationally.

Salute to their never ending will and courage for uplifting the mountain tourism in Nepal!



To the Prospective Students

Ashok Nepal*



in order for him/her to make a solid career based choice. Like every student who wants to pursue a good career option, I was also seeking for a similar opportunity. Because I have always been interested in adventure and adventure based activities, I wanted to pursue a tourism related course. However, one big question that was hovering in my mind was as to what kind of course will help me fulfill my wishes of pursuing an adventure based career in tourism?

I knew about some of the institutions that have the courses on Travel, Tourism and Hospitality but I also discerned that these courses will not lead in the direction of my passion towards adventure. This was a huge dilemma for me to come over with.

One day it so happened that I was scrolling through some social media page and in the newsfeed read about the Bachelor in Mountaineering Studies (BMS). Upon exploring it better, I realized that it was shared by my teacher of travel and tourism from +2 and it was then that I came to know that the course had been newly launched by the Nepal Mountain Academy (NMA). After reading the contents displayed, I went through the official website thoroughly and called my teacher for further information. He then recommended me to consult with the academic advisor of NMA. I was definitely excited about the subjects that are incorporated in the course along with the practical trips in each semester. By that time, I had finally decided to take up Bachelors in Mountaineering as the subject of my choice. To get the admission and fulfill the criteria, I filled up the CMAT form from the college and subsequently passed the test. CMAT test was followed by a round of interview after which

After completing my +2 exam, I took a break for quite some time before deciding on the course to join for my Bachelors as it is the major turning point for any student at that stage

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the final results for the admission was published in which I found my name.

I was quite clear in my mind that the main objective of mine to study the BMS course is to become an academically sound professional mountain expert as I know that in our country Nepal, there are very less number of professional mountaineers, mountain guides and mountain experts. As such, the country is in the need of more qualified human resource for mountaineering. Therefore, I want to be an academically trained expert in the field of Mountaineering and Adventure.

At current, I am in the second semester and my experience till this time has been fairly good. The course has been steered as per my expectation and anticipation. As the course is affiliated with the Faculty of Management of the Tribhuvan University, subjects like English, Principal of Management, Business Statistics and Maths, etc. are widely incorporated. These subjects sometimes tend to become challenging nevertheless shall be the foundation for our tourism based entrepreneurial skills in the days to come. The faculty members are also very welcoming and approachable. They are the highly reputed lectures and professors of tourism in Nepal.

Recently, we completed a 7 days introductory rock climbing training session as a requirement of the practical training trip for the first semester. This particular session was very exhilarating for all the students as we learned many techniques, ideas, knowledge and useful gears about climbing. This training has strongly made me feel that doing practical and trainings along with the classroom lectures is the best way of experiential learning.

The superlative part of this course is that it has been designed to deliver quality knowledge to the students about tourism, mountaineering and academia. I have found this course to be very practical and realistic. Not only the efficiency in terms of teaching and learning, but the students by the end of the course become real mountaineers as the final few practical requirements include climbing mountains of 6000-7000 meters. Hence, this

course is unique in design which provides a platform to study, observe, learn and experience the very genuine facts about the mountain tourism and its possibilities in the national as well as the global context. At this point, I am content and gratified that Nepal Mountain Academy is the first educational institution in the world for the Mountaineering studies and I consider myself to be very fortunate to be the part of Nepal Mountain Academy.

I also believe that the scope of this course is wide stretched as even though Nepal being one of the best adventure seekers' destination in the whole world, the country has been lagging behind in the global tourism map because of domination of the experience based industry.

As the first course, there are many loops in management that can still be worked upon. It is also quite a challenge to run such a course. For instance, the time management to keep a balance between the lecture sessions and the practical sessions, the climatic adversities, the availability of qualified instructors are some of them. Similarly, infrastructural limitations is persistent at the present for the Academy as a result of which it is soon to be shifted to a suitable location.

Finally, in the current situation of Nepal where the educational intuitions are mostly centralized to Kathmandu valley, Nepal Mountain Academy is distinctive as it has categorically initiated to lay its college's setup also in the lap of Himalayas in the beautiful village of Garma, Solukhumbu where it aims to deliver various essential academic and technical knowledge based activities to provide quality mountaineering and professional learning experiences to the scholars, academics and students. Therefore, I would like to express my sincere appreciativeness towards the Ministry of Culture Tourism and Civil Aviation of the Nepal Government for equipping Nepal Mountain Academy to run Bachelors in Mountaineering Studies followed by soon to be launched, Masters in Adventure Tourism.



When in Poland...

Pasang Nuru Sherpa*



Traveling abroad for professionally was one of the great learning opportunity for me as I recently got an amazing prospect to take on for a business trip from the trekking and expedition organizing company that I am associated with. Further, academically, I knew it would be an educationally knowledge laden one for me as a student of Bachelor in Mountain studies (BMS) at the Nepal Mountain Academy. The event was held in 2 different cities of Poland: Zdansk and Lodz on 27th May and 28 May 2018. Therefore, I was informed on 17th of May to apply for the Poland visa asap. As

such, I had a very less time to organize everything so I started collecting all related documents.

I had a flight around 9 pm from Kathmandu I checked in at the airport and received my boarding pass from the airlines and headed towards immigration section, I was asked many questions by the immigration officer about my travelling to Poland. They literally had me held for about 30 mins and also informed me that they need to talk with the head of the department about my departure. The head then had a good look at my passport and remarked, "Let him go, he is a Sherpa, he will return to Nepal". At that moment, I was impressed and proud to be a Sherpa and of course it was the best part of the entire travel.

The flight from Kathmandu to Doha and then Doha to Warsaw was 12 hours of tiring journey. After a safe and happy landing at Warsaw I was welcomed by the perfect warm sunny day. In my mind, I thought it was the perfect time to travel to Poland. I was picked up from airport by my Polish friend and he dropped me to the railway station where I took a train to Zdansk city which was one of the best city with many historical site of world war II. I checked in to my hotel and got some much needed rest for the event the next day.

The main purpose of my visit to Poland was to promote Nepalese tourism in the Polish market, to get more polish people to visit Nepal and experience the hospitality of Nepal and Nepalese. The event helps polish tour operator and incentive agencies like us to meet tourist companies from around the world. I did realize that the people of Poland do not know much about Nepal that it is one of the most diverse countries on earth.

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I am very content that I was also capable of halting the allegory that Nepal is a country of mountains only. I did give an in depth information about the Terai region that it's diversity in over 100 languages, countless spiritual traditions, and many different kinds of landscapes from mountains to jungles to lowlands. I also highlighted upon the element of the existence of many different species of animals and plants in the Nepalese land. I was also able to explain that Nepal is not a poor country, instead it is rich of the natural beauty, fertile soil, resources and cultural heritages and its prospect for tourism.

After the event I decided to take a round around the Zdzanski City. The city is famous and rich in history of Europe. During the 10th century, it was colonized by Nazis. I saw many pictures of the old city after the war which was completely devastated and only few monuments later persisted. After comparing the pictures of the old cities with the new one, I was actually surprised and impressed to know how the Polish people were dedicated to reconstruct the city again. The city of Zdzanski, its people and the Government I felt has so much to teach to everyone around the world and particularly the Nepalese. Gdansk, once again became the biggest Baltic port and regained its former

appearance. It was also once more successful to draw the attention of the whole world, as it has become a synonym for the liberation aspirations of Poles and a very magnificent touristic destination.

My 5 days' trip was very efficacious in terms of learning, business as well as self-refreshment in Poland and good for me that my company has already started getting inquiries from Poland.

The success and final upshots from this trip did require a lot of guidance and support from many people and I am extremely privileged to have got it all till the very end of my trip. Hence, I would like to thank my company and also my sponsor for the trip, Expedition Himalaya. Many thanks to my friend Peter who picked me up from the airport at Warsaw, thanks to Mr. Gilberto for assisting me during the event sharing his experience and knowledge regarding tourism activities and acknowledges to Miss Ewa for organizing a great event. Lastly, my heartfelt gratitude towards the Nepal Mountain Academy for providing me with a very genuine recommendation and granting me the leave days to avail this wonderful experiential learning and sharing opportunity.



The Rock Climbing Experience

Pranjal Pokharel*



Climbing mountains embodies the thrills produced by testing one's courage, resourcefulness, cunning, strength, ability, and stamina to the utmost in a situation of inherent risk. So, Mountaineering, to a greater degree than other sports, is a group activity, with each member both supporting and supported by the group's achievement at every stage. For most climbers, the pleasures of mountaineering lie not only in the "conquest" of a peak but also in the physical and spiritual satisfactions brought about through intense personal effort, ever-

increasing proficiency, and contact with natural grandeur. Knowingly or unknowingly people used to climb the rocks in the past. Some peoples used rock climbing as a way to show ones daring ambitions by climbing difficult peaks. according to Hindu mythology the wind god Pawan stands up on a tall cliff and blows everywhere from there, the Hindus climb off a tall cliff to see and vow or pay homage to the rising sun, the sun god. Honey hunting is one of the best ways to show rock climbing applications. Either as fun or work or even for war, people used to climb rock. By the late 1880s climbing began to evolve into its very own sport. This age old practice has now taken form of an essential and vital sport for one's physical, mental and social wellbeing. Rock climbing is a unique sport that has grown in popularity in recent years due to a combination of advances in climbing equipment and techniques, changes in consumer behavior, the increasing trend towards activity holidays and the arrival of new climbing destinations around the world.

Today rock climbing is considered as one of the most important and adventurous sport throughout the world and is growing rapidly. It is estimated that Tokyo Olympics 2020 will officially introduce rock climbing as an Olympics sport for the very first time.

Rock climbing may be natural rock or cliff ascending or artificial wall ascending. Wall climbing is the first step to rock climbing. One cannot start from an unknown natural rock. He/she should learn and start from the basics which is provided by artificial wall.

A combination of developments accelerated the growth of the sport during the 1960s, such as the introduction of lightweight

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climbing boots, better equipment design and artificial climbing aids. There are many peoples who contributed in the development of rock climbing. In 1950, John Gill led the development of Bouldering for which he is cited as the father of Bouldering. The first ascent of Mont Blanc is often regarded as the start of modern mountaineering era but it took another century for the adequate use of bolts, rappels and slings properly. Likewise

The first solo attempt of Napes Niddle by Walter Perry Haskett Smith is considered as the major benchmark of rock climbing history. And after the invention and development of modern gears, rock climbing grabbed the attention from all over the world and grew up as an individual sport.

But in context to Nepal, there was not much popularity of rock climbing since the 2000s. It doesn't mean that there was nothing related to climbing in the past because we have evidences of the honey hunters who used to climb many technically difficult peaks for collecting honey of wild honeybees. Religious sites locally named Devithan are still situated away from the residential areas which involve some kind of climbing to reach and pay homage to goddess. This proves climbing was practiced somehow in Nepal as well but it wasn't identified as an sport for decades. There were not much natural and artificial climbing sites before 2000s but today Kathmandu especially Thamel has become a major natural rock and artificial climbing hub for national and international climbers.

Rock climbing, like hiking, is a widely practiced sport in its own right. It is widely growing famous adventurous outdoor sports. However, it is today becoming popular indoor – outdoor sports. The essentials of rock climbing are often learned on local cliffs, where the teamwork of mountaineering, the use of the rope, and the coordinated prerequisites of control and rhythm are mastered. The rope, the artificial anchor, and carabineer (or snap link, a metal loop or ring that can be snapped into an anchor and through which the rope may be passed) are used primarily as safety factors.

Three points of contact with the rock are usually kept, either two hands and a foot or two feet and a hand. Jumping for holds is extremely dangerous because it allows no safety factor. Rhythmic climbing may be slow or fast according to the difficulty of the pitch. Rhythm is not easily mastered and, when achieved, becomes the mark of the truly fine climber.

The harder the climb, the more the hands are used for support. They are used differently in different situations. In a chimney, a pipe line, nearly cylindrical vertical shaft, they press on opposite sides in opposition to each other. On slabs, the pressure of the palms of the hand on smooth rock may provide the necessary friction for the hold.

Climbing down steep rock is usually harder than going up, because of the difficulty in seeing holds from above and the normal reluctance of climbers to reach down and work their hands low enough as they descend. The quick way down is via the doubled rope in the technique called rappelling. Rope handling is a fine art that is equally essential on snow, ice, and rock. Sufficient rope for the pitch to be climbed and of sufficient length for rappelling is needed. As a lifeline, the rope receives the greatest care and respect. A good rope handler is a valued person on the climb. The techniques involved are not easily learned and are mastered primarily through experience. Rope handling is a fine art that is equally essential on snow, ice, and rock. Sufficient rope for the pitch to be climbed and of sufficient length for rappelling is needed. As a lifeline, the rope receives the greatest care and respect. A good rope handler is a valued person on the climb. The techniques involved are not easily learned and are mastered primarily through experience.

This sports develops endurance, builds self-confidence, increases concentration power, as well as efficiency in working with the team. As a sport that is still evolving, rock climbing deeply connects people to nature allowing them to learn and upgrade modern techniques and sense required in challenging vertical terrain, interact and experience local culture and form bonds with fellow compatriots.

Various rock climbing events at regional and global level are held annually and it has been incorporated as a competitive event in summer Olympics of 2020.

Rock climbing is open to all age group and gender and participants can enjoy climbing simultaneously. The sport is proper norms and regulations since the athletes directly interact with the nature. It is one of the best exercises to remain physically, technically and mentally fit while enjoying the nature for a gratifying experience.

However, rock climbing can be a dangerous activity and knowledge or proper climbing techniques and use of specialized climbing gear is crucial for safe completion of routes.

Rock climbing has been separated into several styles and sub disciplines. Today, rock climbing has been gained significant mainstream attention

There is various rock climbing sites in Nepal. Among them some of the major rocks climbing sites are Balaju Rock Climbing Site (Nagarjun Forest), Hattiban Rock Climbing Site, Thame Rock Climbing Site, Bimal Nagar Rock Climbing Site, Kakani and Nagarkot. These sites have their own features and climbing routes so on this basis the fee structure is determined for those who wants to train themselves and for enhancing one's own knowledge in the arena of mountaineering.

Whereas, Bouldering, Aid climbing, Free climbing, Solo climbing, Lead climbing, Top rope climbing, and Speed climbing are the various types of rock climbing that are being in practice.

There are various equipment needed while climbing on a rock for the safety and protection of the climbers. Among them the essentials equipment needed while climbing are: Rock climbing helmet, Harness, Rock climbing shoes, Carabineer, Climbing rope, sling, Belay device (Reverso, Grigri), Chalk powder, Quick draw, First aid kit, Pitons, Spring loaded camming device, Hex, Bolt

There are various statistical rating for the analysis of rock like of Australian, Brazilian,

French, Yosemite decimal system and UK system but among them the most famous system used for rating of rock is French system which starts from 1 to 9b+. Basically, rock climbing starts from the rating of 6 which is termed to be the easiest of rock climbing whereas 9b+ is the hardest one. However, in context to Nepal we have only up to 7c+.

It is very essential to have technical knowledge of how to climb on a rock before climbing on it. Basically, it is hard to overstate the good techniques but the following technical knowledge is helpful for the climbers, they are:

1. Always Warm Up and Stretch before climbing.
2. Get in the habit of previewing and learning to read the route before you climb it. Developing this skill will help us to get in the right position to make moves at the crux.
3. Use only the degree of strength on a grip as necessary to steady balance. As grip is often the first to go, save forearm strength as much as possible.
4. A finely developed sense of balance will help to make difficult static and dynamic moves.
5. By keeping body close to the wall and keeping center of balance over center of mass and relieve pressure on the grip is helpful.
6. Use of legs to hold weight, not your arms because legs are much stronger and will carry further.
7. Use arms for balance and shifting weight, not holding weight. When doing moves and sequences that require a great deal of upper body strength, move quickly through the sequence.
8. Developing the technique of dynamic movement should be done by using momentum to peak at the dead point.
9. Combining both static and dynamic elements of climbing technique will determine the speed of climbing.
10. The right rock climbing techniques

combined with building the right muscles give a climber a huge advantage.

11. Developing a skill at finding rest opportunities while climbing which will greatly extend endurance of the climbers.
12. Taking a fall correctly is one of the most important techniques to learn how to do safely, which will build a confidence to push climbers in a limit.

Finally, watch and learn from other good climbers. Practice good rock climbing technique every that will enhance and improve climbing performance.

Team work is one of the essential parts of climbing. One can be belayer or climber and support your partner or team. A person can be volunteer and can motivate the team.

Injuries in rock climbing are mainly sports injuries that occur due to falls or overuse. Injuries due to falls are relatively uncommon. Most affected body parts are fingers, elbows, and shoulders.

Safety measure- Accident can be minimized by using such types of safety measures:

- a) Update checking harness
- b) Always check knot
- c) Always wear a climbing helmet
- d) Always climb with the rope over your rope
- e) Always properly clip the rope
- f) Always use safe anchor

The climbing community was once a small, esoteric group, free to do as they pleased because the general public brushed them off as a bunch of crazies. Today this has been changed with the significant growth of climbing gyms and celebrity climber during the past decade, the mainstream has noticed out impact. What we do individually reflects on climber as a group. So, we need to lead by example and educate our rank if we want to continue to enjoy our current level of freedom and maintain the quiet calm of outdoor climbing. So, the following are the best rock climbing ethics and practices:

- a) *Leave no trace* : After session check the surrounding for trash and spread a few handfuls of pine needles, rocks, leaves, twigs etc over the landing area to restore a natural look.
- b) *Remove your chalk* : With toothbrush and water you need to leave the rock in natural way as it was before use.
- c) *Encourage vegetation* : Leave the saws and pruning shears at home and bring some duct tape or string instead. Flexible shrubs and small tree or tree limbs can be temporarily taped or tied out of the way to enlarge the landing zone.
- d) *Be few* : Limit your group size and “zone of impact” and around boulders. Keep your gear together and, where possible, place it on hard surface.
- e) *Show respect* : Never boulder on, or near, cultural resources such as pictographs, petro glyphs, milling surface and historical structures.

Firstly with the walk of about 20 minute of uphill though despite of tiredness I felt really very good and all those tiredness changed into energy when I see the climbing site. I had that compassion, aim and confidence on me that I can climb that tall mighty rock. After a while, I started wearing the gear of safety like: harness, helmet etc and started to study the routes to reach to the top of the rock. Before I started to climb I have consulted with my instructors and friends about some tips for climbing routes. But when I started climbing the things doesn't go well. I was not able to find the actual route to reach up to the destination. By that time I was getting more nervous and afraid but my instructor and friends motivate and encourage me not to fall down as I can do with this I gained little of confidence and I tried my best and again started to climb. Finally that dreams of mine come true I succeed to reach the point where I aimed at. I was really very happy and proud of being myself at that time. I stayed for few minutes on the top of the rock and satisfied from my own achievements because it was the first experience I have got in my life as his was

possible only after studying the course of Mountaineering. Then after, I said my belayer to “lower me down” so that I can land safely on the ground.

So, it was really a good experience and at the same time it was a very good way of learning about climbing on rocks that I have gained it through practical way. And I come to know that nothing is impossible when you desire to learn something new.

In conclusion rock climbing is one good outdoor sport that develops the muscles even it is dangerous. It gives benefits like fat burnings, muscles developments, and survival skills as well as helps in mental fitness. Rock climbing can also teach us some survival skills. Skills learned after practicing this sport could help in real situations. For instance, Imagine yourself in a situation where there is no food and you have to climb a mountain where there is some food, and you know how to rock climb, then you start to climb and food is easy to get.

So, Rock climbing is a physically and mentally demanding sport, one that often tests a climber's strength, endurance, agility and balance along with mental control. It can be a dangerous activity and knowledge of proper climbing techniques and use of specialized equipments crucial for the safe completion of routes. Because of the wide range and variety of rock formations around the world, rock climbing has been separated into several different styles and sub-disciplines.

Despite this fact Global warming causes thawing of permafrost and retreat of glaciers and snowfields. More rocks get exposed to the air, reducing their stability and increasing the chance of rolling or falling. After, permafrost degrades, freezing and thawing in cracks and crevices start to alternate. Every time water freezes, it expands and lets the cracks grow slowly until the rock breaks. Higher temperatures lead to more instable rocks, increasing the risk of falling. So we need to be aware about the problems that might occurs and various measures while climbing need to be taken to avoid such risk.

For enhancing the sectoral development of the rock climbing sites as well as being the student of mountaineering studies for broadening one’s own knowledge the following recommendation is made:

- It would be more fruitful, if the various studies / previous studies discussion were conducted on how to climb on the rock, difficulties to be faced. Although it was practical for us but theoretically if we were made clear on the viability, economic status of that site it would be more beneficial for us.
- Secondly, for the development of this site as a tourism area, infrastructural development and such road and to maintain hygiene toilets should be made. Also the proper resources of drinkable water should be provided



Embellishing the Career: Female Trekking Guides

Sahara Mishra*



A regular, round the dock calendar of 10-5 schedule is autonomous and hectic for all. However, this is what generates the daily bread. Now, how about spicing your life up with a little bit of adventure, friendship, exposure to the pristine Nepali nature and culture? My Answer: Sure! But my pocket is not loaded. So, how about you do all these for free and in addition, you have your pocket filled and international exposure as well? My Answer: What!! It's Super Awesome!

That was my first impression after I joined the class of 5th cohort of female trekking guide training from NMA. The second being that I will surely learn a lot from this training for the mentors were the experts of tourism. The third

impression was the addition of another career option because of the license. The fourth was seeing the efforts of our government to empower women. Hence, these impressions increased my interest in this training and enthusiasm in grasping the necessary knowledge as much I can.

Thirty dynamic ladies hunted down from the selection process of interview, we, all were determined to be labelled as a "Licensed Female Trekking Guide". The cohort had been the mixture of different backgrounds. Some were marathon runners, tough like Mira Rai, some were the conservationists, some were students, some were fresh graduates, some were the admin personnel of travel and tours, some already a trekking leader but without the license and some had trekking as their family rooted businesses. The heterogeneity in the cohort had made the journey of 35 days really exciting and full of fun. Struggling to wake up early to attend the class at 6:30 AM from Godavari to Nepal Tourism Board has been one of the memorable parts of this journey for me. I presume I was the only one travelling from that far in this cohort. I was always in a Zombie mode en route to NTB and then the tired mode



* Ms. Sahara Mishra is the trainee of 5th Female Trekking Guide Training of Nepal Mountain Academy.

in the class but with active senses.

Whenever I looked around in the class, I used to feel bad for my friends who looked nice, fresh and even used to have make ups on but literally, I looked like deforested land. Even one of the “deedees” from the cohort managed to ask me, “Why you don’t come smart? You are young.” It was an awkward and unexplainable situation for me to tell her that I’m a sleeping machine and I struggle to wake up at 4:30 AM to catch the bus at 5:30 AM and attend the class at 6:30 AM, daily.

Being an avid mountain lover, passionate photographer, researcher and trained in Environment, Climate Change and Disaster Risk Management for 11 months (2017/18) at UNDP, while I filled the form for this training, I had already conceived my career approach in tourism linking with the Climate Change and Disaster Risk Management. So, in this training, I’ve been a fan of one of the mentors, whose classes were always interesting to me because of the style of their deliverance and expertise. I had a breakthrough of ideas and questions spinning in my head as I am an Environment graduate...

We thirties were very different, with varied lifestyle, background, culture and most importantly, the physical fitness and stamina. However, all of us also successfully completed the 7 days practical trekking trip to Ghorepani-Poonhill.

In this training, we did not just learn about

the geography, wildlife, history, culture, lifestyle of Nepal but also to read and use the map correctly, usage of compass, life-saving approaches through basic first aid knowledge, sanitation, conflict management, use of Gamow Bag, wall climbing and much more. The training has not only given me the knowledge on the aforementioned list but also has identified my strengths and weaknesses. I am delighted for I am aware of them so I can polish my strengths and improve my weaknesses. I am privileged to find a group of humble and cool friends from the corners of Nepal. I am sure that this training will have a good outcome in each of our lives.

Not necessarily, we all might be a trekking guide in future after the training but I am confident that all of us trainees can be the ambassador to the world from our own professional pathways, with the knowledge and skills we have gained. Surely, we shall be contributing to the nation in some way as it has invested in us through our skill development and enhancement. It is a matter of pride for me that the Government of Nepal is thoughtful and are using the best resource persons so that the aspiring Nepali women can extract best from them and implement in our profession and contribute to the nation. I am cordially thankful to Nepal Government, Ministry of Culture, Tourism and Civil Aviation and Nepal Mountain Academy for this wonderful opportunity.



Tourism as a Profession in Nepal

Nimlekee Sherpa*



In general Nepal is considered as a poor, underdeveloped and land locked country. I personally feel that this sort of definition fits those who don't dare to explore Nepal and its scenic beauty through its geographical, cultural, social and ethnic diversity. If we go through the reality and talk about Nepal, it has always been a unique and rich country to those who travel anywhere around the country. Despite of the fact that Nepal has been listed as one amongst the least developed country, it cannot be denied that Nepal is very unique in the world. However, very few people consent to this fact in order to turn it into reality. So, with regards to this unique reality, tourism as an industry is diverse than others in the context of Nepal. It has its own unique features and sorts for the overview which helps people to have a vigorous and a life time experience.

Tourism profession is a prestigious job but it has been slowly realized and in some parts, yet to be realized. There is a definite absence of proper governing and managing system which has generated a lot of clutter within this industry and profession. There also exists a huge gap between the formulation of tourism related policies and its implementation to a large extent. Regardless of everything mentioned prior to this, it is also a verity that the condition of the tourism industry has been progressively improving.

There exists many unique and rich destinations in Nepal. In order to peddle such uniqueness and to generate a sustaining livelihood out of it, professionalism is very significant. Firstly, it should be assured that the tourists arriving to Nepal at all times abide by the rules and regulations of the country to avoid any sort of mishaps that can otherwise have a negatively ripple effect towards the entire tourism industry in the international arena. In the context of Nepal, tourism industry has reconnoitered Trekking, mountaineering, rafting, jungle safari, Elephant safari, city sightseeing, cycling, jeep tour, heritage site tour, mountain flight, paragliding and so on. Due to these reasons, Nepal is one of the popular tourism destinations for the tourists



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who want to have a range of experience within a short span of time, absolutely favored by the dramatic variations of weather, climate and geography. The Topographical settings, climatic conditions, historical and cultural factors ensure a significant locus with amazing features that definitely holds a lot of prospect for the professionals who want to pursue their career in tourism.

Nepal is landlocked country. It lies in south Asia at the lap of central Himalaya. It has been divided into three major physiographic divisions on the basis of topographic altitude: The Himalaya region, The Hilly Region and The Tarai Region. It is land of the Lord Buddha's birth birth place and the highest mountain Mt. Everest, the biggest white mountain Mt. Daulagiri and deepestgorge Kaligandaki , Highest place lake Tilicho and is also renowned as the Gurkha's land. Along with these, there exists 9 very important places in Nepal which are all enlisted in world heritage site such as Boudhanth, Swoyambunath, Phusupatinath, Kathamandu Darbar Square, Patan Darbar Square, Bhaktapur Darbar

Square, Changunarayan, Sagaramatha National park and Chitwan national park. The existence of such richness and diversified man made as well as natural resources clearly indicate the wide range of scope that tourism possesses.

Therefore, even though small in the size, Nepal is definitely a beautiful destination to the people who want to make their trip very memorable. Nepal is also known as an open museum for the people are inquisitive to know about culture, religion, geography, flora and fauna, mountains, vegetation to name a few touristic components.

With such established memos, the tourism profession is undeniably challenging as well as enriching, not just only in the front line but also at organizational, entrepreneurial, regional as well as national level. This field has the capacity to generate competitive human resource with dynamic vision. Hence, as a female trekking guide, the women who aspire to become professional in this very field can definitely guide to serve the clients and most importantly serve our Nation.



Study on Search and Rescue (SAR) of Adventure Tourists in the Mountains of Nepal

Consultant : Gyaneshwar P.S. Mahato & Kashi Raj Bhandari

1. Introduction

1.1 Background of the Study

Nepal is the world leader in adventure and mountain tourism. Every year thousands of mountaineers and trekkers visit Nepal to push further the frontier of human endurance, to explore the natural beauty and enjoy the natural sceneries and to immerse themselves in the unique natural splendors. The adventure tourism activities are the most popular in Nepal and help create income and employment, mostly in the remote and rural areas of Nepal. According to the statistics of Ministry of Culture, Tourism and Civil Aviation the Annapurna region attracts the largest number of adventure tourists followed by the Everest, Humla and Langtang regions. A total of 3354 mountaineering teams visited Nepal and generated 287.5 million NRS in Royalties. Total number of adventure tourists in Nepal was 66,490 in 2016*.

However, the extreme geographic terrain, unpredictable climatic conditions and recurring natural disasters in the high altitude of the Himalayas pose a serious threat to the safety of these adventure enthusiasts. Avalanches, storms, flood, landslides and sudden and prolonged flight cancellations etc. create crises and challenges to them. Although multiple agencies are involved to ensure the safety of these visitors and manage the disaster therein, crises have occurred in several occasions resulting in deaths and injuries to the visitors. Deadly avalanches in Manaslu in September 2012, Cyclone Hudhud in the Annapurna region in October 2014 and the avalanches triggered

by the earthquake in April 2015 in the Everest and Langtang regions are only a few instances of natural disasters in the Nepal Himalayas. Despite its long experience in tourism, Nepal witnessed less than satisfactory search and rescue efforts of the visitors who were caught in such crises. This could be due to poor coordination among the relevant agencies, lack of researches and information on trends, seasons and the black spots of crises and lack of financial and technical resources.

Considering this situation, recently Nepal Mountain Academy has been entrusted by the Ministry of Culture, Tourism and Civil Aviation to commission a study in connection with the search and rescue issues related to the mountaineers, trekkers and Nepali support staff in the Himalayas of Nepal. Therefore, the Nepal Mountain Academy has assigned the study team as Adventure Tourism Consultant to review the past issues, analyses the outcomes of the past efforts and recommend mitigating measures for more effective and efficient Search and Rescue (SAR) mechanism and operations in the days to come.

Search and rescue (also referred to as SAR) is a term often used to describe the “search” for people in distress or imminent danger and the associated “rescue” by emergency response agencies. There are actually several categories of SAR, depending primarily on geography or terrain (e.g, mountain rescue, air-sea rescue over water, terrestrial rescue), but the general concept is the same emergency teams are dispatched to locate, assist and rescue people in crisis situations.

The study on SAR of the visitors during

* *Tourism Statistics 2016*

the crises in the Himalayas is expected to highlight the lessons learned from the past efforts paving the way for more pragmatic and responsive operations in the future. Towards this end, Adventure Tourism Consultant has been given the Terms of References (ToRs) and is expected to cover the following issues;

1. Brief accounts of tourism related natural crises in the mountain regions of Nepal in the past,
2. Public and private agencies involved in the search and rescue efforts,
3. Desk research to identify the nature, trends, seasons and the black spots of tourism related crises in the mountains of Nepal,
4. Major challenges related to search and rescue of the tourists in the mountains of Nepal,
5. Best practices of Crisis Management and SAR operation of tourists in other destinations,
6. Exploration of the latest technologies in search and rescue of the visitors such as more accurate weather forecast system, GPS etc.,
7. Role of Nepal Mountain Academy in search and rescue of the visitors in the mountains of Nepal,
8. Recommendations for more effective and efficient search and rescue mechanism and operations in future.

In line with the given Terms of References of the assignments, the study report has been prepared to address the major issues of search and rescue operations, best practices in other countries, modern technologies available and role of Nepal Mountain Academy in search and rescue operation in the Himalayas of Nepal. However, before discussing these issues, it is appropriate to look into the theoretical aspects of search and rescue efforts which have direct relevance to crisis or risk management.

1.2 Understanding the Crisis and SAR

Crisis

Crises have often been considered interchangeably with risks but all the risks are not crises. Risks are ventures taken that can be good or bad and if risk is not managed properly it can result in a crisis situation, but risks in themselves are not crises. Effective risk management can prevent the risk from escalating into a crisis.

PATA defines a crisis as an event or set of circumstances which can severely compromise or damage the marketability and reputation of a tourism business or an entire tourism destination region. Similarly according to UNWTO, a crisis is an undesired, extraordinary, often unexpected and timely limited process with ambivalent development possibilities. It demands immediate decisions and counter measures in order to influence the further development again positively for the destination and to limit the negative consequences as much as possible.

Authors such as Faulkner (2001) and Moreira (2007) try to distinguish between a 'crisis' and 'disaster', with the key differences being that crises tend to be more predictable, caused by anthropogenic action, evidencing an observable build-up, and of longer duration; while disasters tend to be more sudden, less predictable, caused by natural forces, and generally shorter in duration. Disasters are likely to give rise to emergencies, in other words rapidly evolving incidents requiring an immediate response. Whatever their general differences are, they have one feature in common: they adversely affect the ability of tourism enterprises or destination in safety and service delivery.

Search and Rescue (SAR)

Search and Rescue is a term often used to describe the "search" for people in distress or imminent danger and the associated "rescue" by emergency response agencies.

There are actually several categories of SAR, depending primarily on geography or terrain. (e.g, mountain rescue, air-sea rescue over water, terrestrial rescue), but the general concept is the same—emergency teams are dispatched to locate, assist and rescue people in crisis situations.

Search and Rescue begins once the type of crisis or area of distress is identified. In order to carry out effective and efficient search and rescue operation, a thorough understanding, the type and nature of crises is crucial. Further, search and rescue is also an integral part of overall crisis management, therefore, this study explores the issues in crisis management in depth.

Crisis Management

Crisis management is a framework of strategies, processes and measures that are planned and implemented to prevent and cope with crisis. Crisis communication is an integral part of crisis management and is the process of communicating, once a crisis has started, to minimize its negative consequences for the organization and the stakeholder that the organization organization is responsible for. It requires immediate decisions and counter-measures using all the communication tools at its disposal in order to influence and steer its development in as positive a direction as possible.

PATA has grouped tourism related crises in two broad categories:

Category 1: Crisis events which are beyond the control of management: These include natural disasters, acts of war or terrorism, political upheavals, crime

waves, epidemics and sudden global financial events.

Category 2: Crisis events which result from a failure of management or lack of contingency measures taken to deal with predictable risks. These include a business collapse due to management failure, inappropriate strategic management, financial fraud, loss of data, destruction of place of business due to fire or flood without adequate backup procedures or insurance cover, massive turnover or loss of management and staff.

PATA has identified six functions of crisis management and these are:

1. **Identify:** Identify crisis, risks, disasters or hazards before they become realities.
2. **Analyze:** Evaluate the probabilities, time-frames and potential impacts of each crisis and then classify and prioritize them.
3. **Plan:** Formulate contingency action plans for mitigating the potential impact of each risk.
4. **Track:** Monitor the likely effectiveness of these plans by reviewing evolving crises and risks.
5. **Control:** Revise the plans according to data from the monitoring stage.
6. **Communicate:** Ensure stakeholder buy-in and support in monitoring changes in the risk environment.

For better understanding of Search and Rescue (SAR) operation in the mountains of Nepal the framework of Crisis Management is explained in details below:

Table: 1 Crisis Management Framework

<i>No.</i>	<i>Phase</i>	<i>Principal strategies & actions</i>	<i>Key stages</i>
1	Pre-event	Contingency planning	Prevention, based on known information
2	Prodromal (onset of crisis situation)	Initiation of contingency plan	Response
3	Emergency	Protective actions during crisis	Response

4	Intermediate	Short-term needs addressed, clear communication strategy in place	Response
5	Recovery	Restoring infrastructure, facilities, and tourist attractions, coordinated and sustained marketing response	Stimulation of recovery in mid and long term
6	Resolution	Review of actions taken to feed into further contingency plans	Prevention, based on new learning

Phase 1: Pre-crisis Stage

The more detailed the pre-event planning for Search and Rescue operation in the mountains, the more likely it is that the outcome will be timely and effective. Establishing the relationships among the crisis coordination committee at the district as well as central level and the tourism stakeholders is a precursor to creating more resilient tourism systems in Nepal. Based on the historic data and experiences of the past, the possible crises in the mountains are identified, plans should be in place with pragmatic approach of resources mobilization. Since tourism, especially the incidents in the mountains are reported with exaggeration by the media a clear crisis communications plan should be available as a ready reference so that the damage from media is minimized.

The major pre-crisis management steps for the search and rescue operation in the mountains of Nepal can be outlined as:

1. Setting up a pro-active Mountain Tourism Crisis Unit within Nepal Mountain Academy which is linked to the crisis cell at NTB and the national disaster and risk management bodies under Ministry of Home Affairs. The unit shall look after the crises in the major mountain areas in Nepal.
2. Establish an Early Warning System and weather forecast and monitoring system in the mountains and give responsibility to Nepal Mountain Academy to operate the system. It should be able to warn the private and public agencies at the early stage of the event so that the visitors are evacuated long before the risk builds up into a full disaster.
3. Nepal Mountain Academy should be nominated as the focal point or as a crisis headquarters in the event of a crisis in the mountains of Nepal.
4. Designate a spokesperson at the Mountain Academy, who will work closely in the event of a crisis with the national bodies and committees to handle all crises related search and rescue efforts in the mountains. This will ensure the consistency of message
5. Maintain up-to-date intelligence on the distribution of tourists' in-country and key contacts with foreign embassies and consular offices in Nepal and trade associations.
6. Maintain knowledge of market trends and possible reactions to different types of crisis. Prepare an inventory of search and rescue equipment and resources with different organization which can be used at the time of crisis. Especially the expensive logistics such as helicopters and trained rescue personnel who can operate high-altitude search and rescue operations.
7. Cultivate good relations with the media, so that in the event of a crisis positive messages are more likely to be sent out.
8. Create warm relations with trekking

and expeditions operators' personnel and past and potential visitors. This will generate emotional and social capital and help create a supportive reaction to a crisis.

9. Train personnel in safety and security issues to enhance awareness amongst employees, and to minimize risks to trekkers and mountaineers and employees.

Phase 2: Prodromal Stage

Once an emergency situation in the mountains begins to develop, a competent and speedy response may prevent it spiraling into a full disaster. Not all stakeholders and government agencies will necessarily be immediately aware of the situation, so they will need to be warned. The principal actions in this phase are:

1. Increase frequency of communications between members of the tourism crisis committees, security forces and the relevant tourism stakeholders. The central and district crisis committees should disseminate all necessary instructions to the ground staff, especially the security forces who are involved in search and rescue efforts to stand by for action.
2. Finalize pre-prepared messages to issue to media and the public so that wrong and premature information is not disseminated.
3. Activate and operate a communications centre 24 hours to handle enquiries from relatives of people affected by the incident and mitigate damage to the destination's image.

Phase 3: Emergency Stages (immediate crisis response)

Key actions at this stage are to:

1. Ensure safety and welfare of the visitors by covering their basic needs, followed by evacuation to the safe areas or home country if necessary.
2. Ensure safety and welfare of staff by

transferring non-essential members outside the affected area.

3. Issue regular updates on the situation via the crisis communications center at Nepal Mountain Academy, with timely, transparent and accurate messages. Openness to enquiries is vital to restrict sensationalist and inaccurate reporting by the media.
4. Clear weather reports communicated by department of meteorology and hydrology and businesses with booked visitors to advice on the situation.
5. Prompt repairs of infrastructure in the mountain destination such as repairs of trekking trails, climbing camps and climbing logistics.
6. Coordination with the foreign diplomatic missions in Nepal so that they do not issue adverse travel advisory asking their countrymen to postpone or cancel their visit. Similarly, the NTO and business communities should be aware of negative spread of message on social media.

Phase 4: Post-crisis (intermediate, mid-term)

Efforts to ensure recovery should accelerate as soon as the emergency phase is over. Government commitment to the tourism sector and leadership is essential. Until repairs are made to the key infrastructure and facilities used by tourists in the mountain areas, efforts to promote the recovery of the destination should be limited to unaffected areas. Whatever the crisis, the optimal response is to provide timely information that is accurate, credible and transparent, enabling stakeholders to act on it and prospective visitors to make informed decisions and modify their travel arrangements to ensure their safety. Communications should be directed at the trade (tour operators, travel agents, conference organizers), at home and abroad and individual tourists.

Responses to crisis at this stage should include:

1. A coordinated response between public and private sector bodies, following the pre-prepared plan of the local or national crisis management committees.
2. Repairs to infrastructural damage in the mountains (such as to ensure normal functioning of tourism as quickly as possible).
3. Increased marketing, including familiarization trips to the international media and other promotional efforts, using optimistic messages which focus on positive aspects of the destination. If necessary, engage a specialist PR firm.
4. Circulation of businesses’ own information on the crisis and recovery to complement information being disseminated by the lead government agency and crisis management committees, and to counter the spread of “fake news” on social media.
5. Targeting of less crisis-sensitive markets and segments (e.g. domestic and NRN or Nepali diaspora) in order to ensure business viability.
6. Strengthened public/private partnerships and cooperation.

Phase 5: Post-crisis Recovery (long term)

The intermediate stages of crisis management will evolve into longer term measures in six key areas:

1. Plan for infrastructural improvements in the adventure destinations and dissemination of information to the media and social media.
2. Increase professionalism in adventure tourism, particularly to ensure that local people and personnel as well as training frontline personnel in safety and security procedures acquire necessary skill and capacity to mitigate

future search and rescue operation.

3. Enhance destination image through mainstream and social media about recovery, news of activities or festivals, familiarization trips for journalists and bloggers, or webcams in key locations showing that the mountain areas are safe to visit. Firsthand information from the media people will have positive impact on the future visitors.
4. Mountain destinations can develop new products according to the available resources and in line with market trends which are safer and less susceptible to future crisis.

Phase 6: Resolution

Both public and private sector bodies should review the actions taken in the previous phases for effectiveness and make adjustments, consistent with the resources available to them. This will build resilience into individual organizations and the wider tourism system through increased awareness of how to respond to crises and changing market trends, and ensure that future planning takes account of past successful (and less successful) strategies.

PATA has published a document on the concept of Crisis Management which introduced Reduction, Readiness, Response and Recovery or four ‘R’s. In the difficult terrain of the Himalayas, the concept of four ‘R’s is even more important because it will take a lot of time and efforts to initiate search and rescue operation at the last moment.

Table: 2 Four 'R' concept of Crisis Management

Reduction	1.1 Crisis Awareness
	1.2 Political Awareness
	1.3 Standard Operating Procedures
Readiness	2.1 Crisis Management Plan
	2.2 Tourism planning

	2.3 Health and safety measures
Response	3.1 Emergency response procedures
	3.2 Investigation
	3.3 Family assistance
	3.4 Communication
Recovery	4.1 Business Continuity Plan
	4.2 Human Resources
	4.3 Debriefing

According to the ASEAN crisis communication manual for the effective crisis communication and to avoid negative media coverage, the following “Golden Rules” are adopted by that destinations which have successfully managed the crises.

1. *Be the First:* Crises are always time-sensitive so communicating information quickly is crucial. The first source of information usually is the preferred and trusted source. When it comes to crises and search and rescue operation in the remote Himalayas, the news breaker always gets attention of the public.
2. *Be Right:* Accuracy establishes credibility. It is mandatory for information to include what is already known, what is not known, and what is being done to help fill in the gaps.
3. *Be Credible:* Honesty and truthfulness must never be compromised during crises under any circumstances. The NTOs or the focal organization for the crisis communication should disseminate the information only after verification and cross-verification of the new information.
4. *Express Empathy:* Crises creates harm, and the suffering should be acknowledged in words. This helps build trust between the destination and families of the visitors who live far away.
5. *Promote Action:* Giving people

meaningful things to do helps calm anxiety, restores order, and promotes a universal sense of control. Similarly, the actions ease away the tension of the friends and families who absorb every word from the media during crisis.

6. *Show Respect:* Respectful communication is of paramount importance when people feel vulnerable. For example, when the visitors are being rescued away from the disaster area in the mountains, the content of communication should show respect to the people being rescued. One wrong word of disrespect can ruin the image of the entire country.

There is another set of six pitfalls to avoid;

1. *Communicating too much or too little:* The destination dealing with crisis is advised not to provide an overdose of information if it is not relevant to the crisis. At the same time, the media should not withhold information important to the story.
2. *Judgmental:* Very often the media loves quick judgment. The focal agency for crisis communication should ask media not to air news and information without verifying facts from reliable source.
3. *Blame Game:* It is a human nature to seek credit of positive outcomes and to pass the bucket or pointing a finger at others when things go wrong. During crisis it should be strictly avoided at all costs.
4. *Lack of teamwork:* At all times there must always be one message and spokesperson. Teamwork is a must to stay on top of the message.
5. *Playing favorites with the media:* Providing exclusives to one media will create resentment to those left out and result in incorrect off-message stories elsewhere.

6. *Failure to act*: Failure to communicate in a professional and timely manner means you will lose control of the message and the story will develop in a totally wrong way.

The most common mistake is that of failing to plan before a crisis takes place. In the absence of a plan and adequate knowledge of the fundamental rules of effective crisis communications, there is a high possibility of serious errors during a crisis and which may hurt and damage the reputation of your organization.

Table 3: Crisis Recovery Time

<i>Crisis Category</i>	<i>Average Recovery Time (months)</i>
Political Turmoil	26.7
Terrorism	13.0
Pandemic	21.3
Environmental Disaster	23.8

The average recovery time for political turmoil is the longest because it usually takes a long time for the issues to brew and to settle the diverse interests of varied stakeholders. Interestingly, the recovery time from terrorism is the lowest, within 13 months.

Policy-makers at national tourism administration, managers at national tourism organization and the frontline stakeholders at the travel trade need to

understand the nature of crises, their likely development into a full scale crisis and possible magnitude. Faulkner (2001) proposed a six-phase framework for understanding the stages of a crisis and the responses necessary from stakeholders:

Even though, the crisis in normal tourism environment and in the mountains are not the same, both theoretical and practical aspects of crisis management are applicable in all situations. It should be noted here that Nepal should consider the framework more seriously as the pre-event planning, readiness and responses to the crisis, resource mobilization etc. are more urgent but time consuming in the remote areas of the mountains.

2. Brief accounts of Tourism Related Natural Crises in The Mountain Regions of Nepal

Being the youngest mountain chain in the planet, the Himalayas and hills of Nepal are vulnerable to recurring natural disasters such as earthquakes, avalanches, snow storms, landslides and floods. This study presents retrospective accounts of the major disasters that occurred in the Himalayas since the legendary expedition of George Mallory.

In addition to the above, there were several incidents that occurred in the Himalayas of Nepal, some of which resulted in unfortunate loss of lives of the visitors and support personnel.

Table 4: Major Disasters in the Himalayas of Nepal

<i>Year</i>	<i>Place of crisis</i>	<i>Brief Description of Crisis</i>	<i>Impact</i>	<i>Remarks</i>
1922	En route to the Mt. Everest	The vanguards of the expedition led by George Mallory caused an avalanches and the porters below were flushed into the crevasse	-Death of 7 Nepali porters	
1924	En route to the Mt. Everest	George Mallory and Andrew Irvin were lost while climbing the Mt. Everest	-Death of George Mallory and Andrew Irvin	

1969	Mt. Dhaulagiri,	While the climbers were attempting to cross a bridge made of wooden logs, to get over a gorge.	7 people are killed by an avalanche. One person escaped	
1970 April	Khumbu Icefall	A large avalanche swept into the Khumbu Icefall	- 6 Sherpas died	Japanese Ski expedition
1972	Mt. Manaslu	A large avalanche killed the climbers at the height of 6,500 m.	15 people died	
September 1974	En route to the Mt. Everest	Gerard Devouassoux, the deputy mayor of Chamonix led the expedition in August and swept by an avalanche		
November 1995	Everest National Park and Kanchenjunga	The storm was originated in the bay of Bengal and reached Nepal causing several avalanches and snowstorms	-63 deaths -550 people were rescued	
1996 May 10-11	During Everest Expedition	A blizzard and bad weather in the high altitude during the ascent and descent to Mt. Everest caused the disaster	-12 deaths	John Krakaur was inspired to write “Into Thin Air”
2005 October	Kang Guru Himal, Annapurna region in Manang District	French	-7 French climbers died -11 Nepali support staff also died	All climbers were from Chamonix and Albertville regions of France
2012	Mt. Manaslu	An avalanche that set off at 4.00 am in the morning sweeping away up to 25 tents at an altitude of 6,800 meters.	Death of 9 people	
October 2014	Mt. Everest Region	An avalanche swept across the Khumbu Icefall at about 5,800m), while the Sherpas were ferrying loads for the client climbers when the accident occurred.	-13 Sherpa died and 3 missing	
2014	Manang and Mustang in the Annapurna Region	A deadly snowstorm occurred due to the Cyclone Hudhud in October	-43 deaths -50 missing - 175 injured -400 people were rescued	

2015	Everest Base Camp	An earthquake, which hit Nepal in 25 April, 2015 killed several climbers at the Everest Base Camp	-22 foreign climbers killed	
2015	Langtang National Park	The earthquake of 25 April, 2015 left 200 dead, including 175 locals, 10 security personnel, and foreign tourists who came to Nepal for trekking.	-200 dead, including 175 locals, 10 security personnel and several foreign tourists	
2015	All over Nepal	-Fuel Crisis in Nepal that hampered the service delivery of private tourism enterprises in the mountain regions of Nepal.	-No casualties but it was a prolonged crisis for tourism as well as other economic sectors that negatively affected image of Nepal in the tourism source markets	

3. Legal Provisions and Agencies involved in the Search and Rescue Operations

Through the Disaster and Relief Act 2039, the government of Nepal has made necessary legal provisions to carry out all the rescue works in Nepal. The Ministry of Home Affairs and its agencies look after or coordinate all major search and rescue efforts and operation. However, there is no provision for rescue of international visitors to Nepal. Similarly, the Local Self-governance Act 2055 encourages the local bodies to seek resources and manage the disaster related works.

3.1 Legal Provisions for Search and Rescue Operations

- Disaster and Relief Act 2039
- National Strategy for Disaster and Risk Management 2066
- Guidelines to prepare Disaster Preplanning and Responses 2067
- National Disaster Response

Framework

- Operation of Prime Minister Disaster Rescue Fund Regulations 2063
- Rescue and Reliefs Standards to the Victims of Disasters 2064
- District Disaster Risk Management Planning Directives for 2069
- Local Disaster Risk Management Planning Directives for 2069
- Bird Flu Control Directives 2064, 2065, 2067
- Disaster Reliefs and Monitoring Action Plan
- Management of Mass Casualty
- Guidelines on Emergency Preparedness and Disaster Management for
- Hospitals

3.2 *Bilateral and Multilateral Treaties, Agreement and MoU signed by Nepal (Adapted from Disaster Management Manual 2071 of GoN)*

3.2.1 Nepal Risk Reduction Consortium (NRRC)

The Nepal Risk Reduction Consortium (NRRC) is a an arrangement to unite humanitarian and development partners with financial institutions to support the Government of Nepal in implementing mitigating measures to deal with the recurring natural disasters.

In February 2011, the Government of Nepal (GoN) launched the Nepal Risk Reduction Consortium (NRRC). The NRRC is a unique body that unites the GoN, the international financial institutions of the Asian Development Bank and World Bank, development partners and donors, the Red Cross and Red Crescent Movement, and the United Nations as members in the Steering Committee of the NRRC. The Government of India is a standing observer member of the Steering Committee.

Architecture and Membership of the NRRC

On 19 March 2010, the GoN formally established the NRRC Steering Committee, which is chaired by the Secretary of the Ministry of Home Affairs (MoHA). The Joint Secretary of the MoHA is the Member Secretary of the Steering Committee. A Secretariat was created to support the work of the Steering Committee and is comprised of the Joint-Secretary and Under-Secretary of MoHA and an NRRC Coordinator. The

Secretariat is supported by DFID, the International Strategy for Disaster Reduction (ISDR) and UNDP.

Table 5: NRRC Steering Committee Members

<i>Government Ministries</i>	<i>Partners</i>
Ministry of Home Affairs	Resident and Humanitarian Coordinator
Ministry of Finance	UNDP
Ministry of Physical Planning & Works	UNOCHA
Ministry of Federal Affairs & Local Development	ADB
Ministry of Health & Population	WHO
Ministry of Irrigation	DFID
National Planning Commission	IFRC
Ministry of Education	USAID
	World Bank
	AusAID
	ECHO
	DPNet
	NRCS
	Embassy of Japan

Based on Government priorities and inputs from over 30 national and international organizations, the following short to medium term disaster risk reduction priorities have been identified:

Flagship Areas:

1. School and hospital safety: structural and non-structural aspects of making schools and hospitals earthquake resilient. This area aims to seismically strengthen 1000 schools and many hospitals in the Kathmandu

Valley, as well as, raising awareness on constructing resilient structures.

2. Emergency preparedness and response capacity: Activities include institutional capacity building of first responders; disaster information, response and management planning; warehousing and stockpiling of food and non-food items for emergency response and; strengthening the preparedness for facilitation of international assistance
3. Flood management in the Koshi river basin: This flagship area will mitigate flooding through flood risk assessment; structural measures; flood forecasting and early warning system; strengthening institutional capacity.
4. Integrated community based disaster risk reduction/management: This flagship aims to conduct community based disaster risk reduction in 1000 communities, including developing community capacity for engaging in local level risk reduction action; and undertaking vulnerability reduction measures.
5. Policy/Institutional support for disaster risk management: Areas of focus include institutional capacity building; policy formulation & legislative enactment; orientation of financial mechanisms towards risk reduction and risk management; land use management planning; supporting of mainstreaming DRM and climate change adaptation into the development planning process at all levels.

3.2.2 SAARC Agreement on Rapid

Response to Natural Disasters

The members of SAARC have expressed their concerns at the increasing frequency and scale of natural disasters in the SAARC region and their damaging impacts and reiterated their commitment to develop an efficient disaster management system and strengthens emergency response system in the region in the SAARC Agreement on Rapid Response to Natural Disasters in 2011.

3.3 Central Agencies Involved in Disaster Management

The following agencies are involved in policy formulation, execution and coordination of crises management in Nepal:

1. Office of Prime Minister (PMO) and the Cabinet: The office of the Prime Minister directs and supervises policy and strategy formulation for disaster management and manages the Prime Minister Relief Funds. This is the apex body and it directs all the government apparatuses, mobilizes the resources and calls for international support at the time of need.
2. National Planning Commission: It formulates short-term and long term plans and programs and mobilizes the resources for rescue, reconstruction and rehabilitation works to mitigate the crises including the problems in the tourism sector.
3. Water and Energy Commission: It identifies the rivers with higher risks of natural disasters and recommends necessary precautions.
4. Ministry of Home Affairs: It mobilizes its own strengths and

coordinates with other government agencies to execute all the disaster related operators including preparedness, rescue, and distribution of relief materials, reconstruction and rehabilitation works. It also forms the central, regional and local disaster management committees, coordinates and oversees their functions.

5. Nepal Army: Nepal Army has structural strength, strategic presence and adequate logistical resources for disaster management and relief operations. Nepal's status as a developing country does not justify the high costs of maintaining a separate disaster management organization. Therefore, Nepal Army plays a pivotal role in providing emergency assistance at the time

of crisis to the needy people all over the country.

Nepali Army has historically provided vital relief during floods, earthquakes, avalanches, fires, landslides, air and other transportation disasters. The primary roles of the Nepalese Army in disaster relief are search & rescue missions, medical assistance & evacuation, air rescue and mass evacuation, flood control etc.

Some of important search and rescue works conducted by Nepal Army are presented in chronological order below:

Tourism Policy 2065 on Risk Management

Risk

In the context of the tourism sector contributing importantly in the

Table 6 : Major Search and Rescue Operation by Nepal Army

<i>S.N.</i>	<i>Year (AD)</i>	<i>Particulars</i>
1	1934	Nepal Army evacuated and housed thousands of people during the massive earthquake
2	1971	Nepal Army put out a massive fire in Singha Durbar
3	1988	Nepal Army rebuilt the 6km Lamosangu-Barhabishe section of Arniko Highway which was washed away by the rain
4	1988	Nepal Army helped the victims of earthquake in the eastern region of Nepal by evacuating the people, providing them first aid and relief materials and later with reconstruction works.
5	1993	Nepal Army helped the victims of floods and torrential rain, repaired the roads and built bailey bridges.
6	1995	Nepali Army pulled off a breathtaking aerial rescue operation on 15th May 1995, just above Camp 1 in Mt Everest. A helicopter evacuated two climbers of Everest Expedition from an altitude of 19200 feet.
7	1995	Unusually heavy rainfall in Manang caused landslides and avalanches that stranded hundreds of people. The Army was mobilized and along with the helicopters of some other airlines, rescued 538 people. A further 48 dead bodies, 26 Nepalese and 22 foreign, were recovered.
8	1998	A Twin Otter aircraft was lost on the way to Pokhara from Jomsom. Aircraft and ground troops of the Nepalese Army were successfully mobilized to locate the aircraft.

9	1999	An aircraft with 12 people on board crashed and the army helicopters were mobilized to recover the dead bodies.
10	2007	The Army successfully recovered the bodies of 16 people buried by heavy snowfall in the extreme altitudes of TyankeLek in Dolpa.
11	2007	A heavy rainfall resulted in wide spread floods and landslides in several districts and the army ground and air assets consisting of 2885 personnel were mobilized. Over 10,000 people were rescued and provided medical treatment.
12	2008	River Kosi flooded and the Nepali Army rescued 15,060 persons from the inundated areas. Of these 704 persons were rescued by helicopter and 356 were rescued by boat.
13	2010	A devastating earthquake hit Haiti. The peacekeepers of Nepal Army deployed there were effectively mobilized in search and rescue, provided medical assistance, provided security and escort in distribution of relief materials and assisted in management of displaced people.
14	2014	Snowstorms and avalanches have killed 39 trekkers on a popular hiking route in the Himalayas. After a fourth day of searches by Nepal Army 384 people have been rescued from the Annapurna trail, 216 of them foreigners.
15	2015	One in every 10 soldiers of Nepal Army was engaged in Search and Rescue operation during the massive earthquake of April 25, 2015. Nepal Army rescued some 200 climbers stranded by the earthquake in the Everest region. Nepal Army rescued trekkers and recovered more than 250 bodies of foreign trekkers and Nepali in Langtang region.
16	2017	2000 Nepal Army personnel undertook rescue operations in various flood-hit areas across the country and rescued over 1,000 flood-survivors and relocated them to safer places.

national development, an increase in the potential of this sector and a policy to develop tourism as a national priority sector, a risky situation may be created if the following matters are not given due attention:

- a) Increase in the network of international aviation services.
- b) Guarantee of peace and security.
- c) Improvement in environment and pollution management.
- d) Improvement in the relation between workers and entrepreneurs.
- e) Commitment not to hinder public services through activities like bandh and strike.
- f) Regular and reliable electricity supply system.
- g) Safe, reliable and regular services of national flag carrier air services.
- h) Healthy competition between entrepreneurs.

- i) Occasional incidents and economic fluctuation in the world.

Ministry of Culture, Tourism and Civil Aviation: Tourism Policy 2065 has envisaged a high level Tourism Crisis Management Committee as below:

1. Secretary, Culture, Tourism and Civil Aviation- Chairperson
2. Joint Secretary of National Planning Commission - Member
3. Joint Secretary of Ministry of Finance - Member
4. Joint Secretary of Ministry of Home Affairs - Member
5. Joint Secretary of Ministry of Defense - Member
6. Joint Secretary of Ministry of Foreign Affairs - Member
7. Rep. of Nepal Army (Colonel) - Member
8. Rep. of Nepal Police (DIG) - Member
9. Rep. of Armed Police Force (DIG) - Member
10. Director General of - Member
11. President of Travel Trade Associations as
12. Nominated by Nepal Government (Two persons) - Member
13. Chief Executive Officer - Member-Secretary

The Committee is activated when a crisis occurs in the tourism sector of Nepal. Its main objective is to mobilize the strengths and resources of the country for coordinated crisis management and search and rescue operation of the visitors in the need.

Central Natural Disasters Relief Committee: The Home Minister chairs this committee, which generally manages the anticipated

disasters from monsoon as well as other unforeseen crisis.

Other line Ministries: Ministries of Irrigation, Forest and Soil-conservation, Environment, Science and Technology, Health and Population, Local Development, Physical Planning and Construction, Industry, Education, Agriculture and Cooperatives, Energy are also involved in the disaster management and relief works.

Department of Hydrology and Meteorology: It collects, monitors, analyses, predicts and disseminates weather related data on a regular basis. Its functions become more imperative in providing timely weather forecast to prevent natural disasters related to climatic conditions.

Department of Water Induced Disasters Management: As Nepal ranks 30th in terms of water induced disasters in the world, this department conducts studies and researches on floods, landslides and soil erosion to prevent collateral damages from water induced crises.

Other departments: Department of Health Services, Department of Soil and Watershed Management, Department of Urban Development and Buildings, Department of Mines and Geology and many other departments are also active at the time of crises and disasters. Some of these departments collect, analyze and disseminate vital information on disasters.

District Disaster and Relief Management Committee: There are 75 committees in all the districts under convener ship of

Chief District Officer for disaster and crisis management.

National and International Non-Government Organizations (NGO and INGO): National and International Non-Government Organizations have been found active and effective at the time of disasters and crises as many of them can execute rescue works and mobile resources in delivery of reliefs promptly and efficiently.

Nepal Tourism Board: The national tourism organization (NTO) of Nepal has been entrusted to coordinate search and rescue of international visitors in Nepal. The idea of Media Center germinated after the hijacking of Indian Airlines flight to Kandahar that was flying from Kathmandu to New Delhi in 2000. Since 2001, NTB runs a Crisis Management Cell, which is responsible mainly for timely flow of information on the tourism crises, coordination among the frontline agencies, minimizing the negative impact of the crisis and positioning Nepal as a crisis responsive tourism destination.

Under NTB and its CEO a

‘Tourism Crisis Response Action Unit’ has been formed consisting of all major stakeholders of non-governmental tourism organizations and representatives of army and police.

To manage the crisis in tourism, NTB in conjunction with Himalayan Rescue Association (HRA) have formed local level action units at various tourists’ hubs except in Kathmandu.

To tackle day-to-day situation NTB and HRA run a Tourist Crisis Cell with a dedicated phone number 4442555 and 9751044088 to respond to any crisis that may occur. Most organizations are unaware of this except when there is strike. People (tourist or non-tourists) call this number to know about vehicle movement to and from the airport.

National Strategy for Disaster Risk Management, 2009 is another national framework to harness the integrated efforts of national and international bodies to protect, prepare and respond the disasters and crises. This document has been drafted on the basis of Hyogo Framework for

Table 7 : Major Crisis Related Work Carried Out by NTB are Listed Below

<i>S.N.</i>	<i>Year</i>	<i>Description</i>
1	2001	Operation of shuttle bus service from TIA to various places in Kathmandu
2	2001	Operation of Crisis Cell 24 hours in the aftermath of Royal massacre
3	2007	Operation of shuttle bus and running of Crisis Cell during 19-day long curfew imposed by the then HM Government of Nepal and strikes called by seven political parties
4	2009	Operation of shuttle bus during one-week long strike called by the then Nepal Maoist Party
5	During Nepal Banda	NTB organizes shuttle bus to and from TIA during Nepal Banda and the Media Centre communicates with the relevant agencies and visitors in need

Action (HFA) 2005-2015 where Nepal is one of the 168 signing countries. The long-term vision of this National Strategy for Disaster Risk Management is establishing Nepal as the disaster-resilient community. It has laid down five prioritized activities and 29 strategies ranging from creating appropriate institutions to identifying and minimizing the causes of crises and educating local people. However, the document does not say anything about search and rescue (SAR) for international visitors.

The Strategy has proposed to establish the following institutions to address the entire cycle of disaster management as the existing mechanism is aimed only to respond once the crisis occurs.

- 1) National Council for Disaster Management (NCDM): Rt. Honorable Prime Minister will head the council and several ministries and head of security forces will serve as the members. But here again no institution looking after tourism affairs is represented. The National Disaster Management Authority (NDMA) will be the secretariat for NCDM.
- 2) The National Disaster Management Authority (NDMA) will be the national focal point to carry out the strategies, facilitation, coordination and monitoring of disaster and crisis management activities. It will look after the entire cycle of disaster management eg. Preparedness, response, recovery, reconstruction and rehabilitation works.

- 3) Regional, district and local level disaster management committees: Similarly the strategy document has proposed to form regional, district and local disaster management committees to execute all the crises management related works more effectively and efficiently.

3.4 Private Agencies

In addition to the public government agencies, there are several private agencies that coordinate the search and rescue efforts for the international visitors.

3.4.1 Himalayan Rescue Association (HRA)

The Himalayan Rescue Association (HRA) has been contributing towards making the Himalayas of Nepal safe for tourism activities for the last 43 years. One of the most important tasks of HRA is to try to prevent deaths from Acute Mountain Sickness (AMS) that confronts the foreign trekkers, mountaineers and support staff who are primarily the Nepali people. Currently it runs a small aid post in the Khumbu village of Pheriche at an altitude of 14,343 feet and another post in Manang. Apart from these permanent posts, HRA operates aid camps in the busy tourist seasons in Everest Base Camp, Thorong Phedi, Rolwaling and Gosaikunda. HRA also mobilizes volunteer doctors to provide medical services to the trekkers, trekking support staff and local communities.

3.4.2 Nepal Mountaineering Association (NMA)

Nepal Mountaineering

Association (NMA) was established in 1973 and has been working for the promotion and development of mountain tourism by providing climbing trainings, disaster reliefs to the victims of families of trekking guides and support staff, creating awareness on mountain safety and initiating national and international discourses in mountaineering issues in national and international fora. It is also deeply committed to working for the welfare of mountaineering expedition workers, their families and communities.

3.4.3 Trekking Agencies Association of Nepal (TAAN)

TAAN organizes mountain safety and rescue trainings and workshops to the trainings and stakeholders. TAAN mobilizes funds from Trekking Information

Management System (TIMS) and render reliefs and support to the needy trekking guides, porters and their families. TAAN also coordinates search and rescue operations at the time of crises by rendering necessary technical and other resources.

3.4.4 Helicopter Companies

In addition to the above private associations, there are number of helicopter companies, which are involved in search and rescue operations of the international visitors. However, their services come at a hefty cost, which can only be afforded by the government or should be covered by insurance policy.

Currently, services of the following helicopter companies are available for search and rescue operations:

Table 9 : Helicopter Companies and Aircrafts Available for Hire

S.N.	Name of the Company	Type and number of aircrafts
1	Fishtail Air	Two Ecureuils One Bell Jet Ranger 206 BIII
2	Simrik Air	Three AS 350B3e Ecureuil One Bell 407GXP
3	Air Dynasty	One AS350b3e Two AS 350 FX II One AS 350 BA One AS 350 H125
4	Manang Air	AS350 Écureuil (Squirrel)
5	Sree Airlines	Five MI-17 One AS 350B3e
6	Mountain Air	One AS350 B2 One AS350 B3e One EC130B4
7	Kailash Helicopter Services	One Astar B3E One AS350 B2
8	Prabhu Helicopter	Five Robinson R66
9	Altitude Air	Two AS350B3e

Source: CAAN Annual Report and websites of the Helicopter companies

4. Existing Technical Capacity to Cope with Disaster

The study team has also briefly analyzed the existing capacity of these institutions to cope with the disasters and crises in general. The findings below are the results of desk research by the study team.

Table 8 : Existing Technical Capacity of Public Agencies

<i>S.N.</i>	<i>Agency</i>	<i>Capacity</i>
1	Department of Mines and Geology	1:50,000 scale geographic maps of the country, 1:10,000 scale geo-engineering maps of most of big cities, a network of 21 earthquake stations which can measure earthquake above 2 Richter scale
2	Department of Survey	1:25,000 and 1:50,000 scale geographic maps of the country, digital maps of all VDCs, municipalities, aerial photographs of various regions, networks of GPS and updated satellite maps
3	Department of Hydrology and Meteorology	Offices and stations of Hydrology and Meteorology throughout Nepal, monitoring, forecast of weather related information
4	Department of Water Induced Disasters Management	Research and modeling capacity of rivers, filed stations to study landslides, flood and soil erosion and execution capacity to implement mitigation measures to control water induced disasters
5	Department of Urban Development and Buildings	Research on buildings, disaster-proof designs, trainings, building codes and trainings to civil engineers and architects
6	Ministry of Local Development and District Co-ordination Committee (DCC)	All the DCCs are focal point for disaster management, network of disaster information management system of all the districts
7	Academic Institutions	Research and trainings on natural and non-natural disasters
8	Security Forces: Nepal Army, Nepal Police and Armed Police Force	25 Medical First Responders and 150 Collapsed Structure Search and Rescue personnel, drills and rescue equipment, emergency store-rooms, vehicles, fixed and rotary aircrafts and other logistics
9	Hospitals (public and private)	Regular drills, trained personnel and facilities for emergency rescue and evacuation
10	Municipalities	Trained manpower of artists, disaster management committees in some wards and logistics
11	Ministry of Home and Disaster Management Committees	Trained personnel and logistics to carry out response and recovery works
12	Ministry of Health and Department of Health Services	Rapid Action Health teams to address bird flu and emergency teams to tackle the health related epidemics and disasters

5. Specific Crises to Tourists in Nepal

UNWTO has broadly categorized the tourism crises into the following five groups:

- 1) Environmental, including geological and extreme weather events, and human-induced situations such as climate change and deforestation
- 2) Societal and political, including riots, crime waves, terrorist acts, human rights abuses, coups, violently contested elections
- 3) Health-related, such as disease epidemics affecting humans or animals
- 4) Technological, including transportation accidents and IT system failures
- 5) Economic, such as major currency fluctuations and financial crises

However, the crises and disasters in each country in the planet are different in terms of type, frequency and magnitude. A report by World Bank categorizes Nepal as one of the countries where crises and disasters occur more frequently. In case of Nepal, the specific crises and disasters in the tourism sector of Nepal that affect can be classified into natural and non-natural as below:

5.1 Natural

5.1.1 Avalanche

Avalanches are a rapid movement of snow and debris flowing down through the slope or flanks of mountains. It can be triggered by natural factors like slopes, thickness of snow or human activity. They have the capacity to carry massive masses of snow and associated debris that make them one of the most destructive elements of hazards. The high mountainous region having the rugged and steep slopes topographically is susceptible to avalanche. A number of cases of

avalanche with destructive nature have been reported in Nepal. Unexpected Seti River Flood of 5th May, 2012 at Kaski district could be an example of this type of hazard.

5.1.2 Altitude Related Problems

Every year Nepal receives hundreds of thousands of trekkers who traverse through the rugged Himalayan terrains in Everest, Annapurna and Langtang etc. regions. Altitude sickness while trekking in the high Himalayas can affect even the most experienced climbers and trekkers. Physical training or fitness of the climbers or trekkers has little to no impact on altitude sickness predisposition and flying directly into high-altitude airports like Lukla or Jomsom aggravates the intensity to high altitude related problems with no time for our bodies to acclimatize and result in altitude related problems. In its most severe forms, altitude sickness is a life-threatening problem and must be treated immediately by descending to a lower altitude or seeking immediate medical help.

Altitude related sickness may take three forms: Acute Mountain Sickness (AMS), High-altitude Cerebral Edema (HACE), and High-altitude Pulmonary Edema (HAPE). Symptoms of AMS include headache, fatigue, loss of appetite, nausea and occasionally vomiting. Symptoms may lessen if the affected trekker remains at the same altitude to acclimatize or descends to lower altitude. HACE and HAPE are more severe conditions and the trekkers feel lethargic, confused and/or shortness of breath. The permanent

residents in the high Himalayas are less vulnerable due to thousands of years of exposure to the high altitude so the problem of altitude related sickness is mainly to the climbers and trekkers.

5.1.3 Glacial Lake Outburst Floods (GLOFs)

Glacial lakes are located in the high altitude areas particularly in the foothill of mountain. The lakes are formed due to damming in by moraines. These lakes contain huge volumes of water melting of glacier may lead to outbreak the lakes, called a glacial lake outburst flood (GLOF) with substantial capacity to cause great damage in downstream. 2,315 glacial lakes have, in total, been identified in Nepal and 14 GLOFs were recorded to have occurred between 1935 and 1991 in Nepal. At this background, 22 glacial lakes are found substantially dangerous in Nepal.

5.1.4 Earthquake

Nepal on a regular interval witnesses earthquake along the major active faults in east-west alignment. Historical data and ongoing seismological studies have clearly indicated that the entire region of Nepal is prone to earthquake and it lies in the active seismic zone V. It is evident that the seismic pattern has geographically divided into three clusters of events; viz: western, central and eastern Nepal. It has also pointed out that Siwalik, lesser Himalaya and frontal part of the Higher Himalaya are the most vulnerable zones. Historical data has shown that the country witnessed three major earthquakes in 20th century namely Bihar-Nepal earthquake (1934), Bajhang

earthquake (1980) and Udayapur earthquake (1988). According to Global Report on Disaster Risk, Nepal ranks the 11th position in terms of earthquake risk as earthquakes have often occurred in Nepal.

According to historical evidence, Nepal has experienced nine major earthquakes during the last 700 years. Recurring earthquakes during the 20th century claimed more than 23,000 lives. In Addition to the deadly earthquake of April 25, 2015, other prominent among them is the Nepal Bihar Earthquake in 1934 measuring 8.3 to 8.4 on the Richter scale. About 8,500 people lost their lives, thousands were wounded, 20% of the valley's buildings were destroyed and 40% damaged including a large number of temples and monuments. In 1988, an earthquake of magnitude 6.6 on the Richter scale hit eastern Nepal with the epicenter in Udayapur. More than 700 people were killed, about 6,500 were injured, 22,000 houses collapsed and approximately 56,000 houses were damaged.

(Sources: related pages on the internet).

5.1.5 Landslide

Landslide is one of the very common natural hazards in the hilly region of Nepal. Both natural and human factors such as steep slopes, fragile geology, high intensity of rainfall, deforestation, unplanned human settlements are the major causes of landslide. The risk of landslide is further exacerbated by anthropogenic activities like improper land use, encroachment into vulnerable land slopes and unplanned

development activities such as construction of roads and irrigation canals without proper protection measures in the vulnerable mountain belt. The hilly districts of Nepal located in the Siwalik, Mahabharat range, Mid-land, and also fore and higher Himalayas are more susceptible to landslide because of steep topography and fragile ecosystem.

5.1.6 Storms and Blizzards

The great Himalayas range affects air and water circulation systems impacting the weather conditions in the region. Due to the high altitude of the range the weather is often extreme, precarious and unpredictable.

The extreme weather creates snowstorms and cyclone in the high Himalayas which are just another form of deadly crises that affect the trekkers in Nepal. Although the recorded evidences of loss of human lives in the Himalayas date back to the expedition of George Mallory and his team in 1924, the recent major accident took place in 1995 when several trekkers died. Snow blizzards and storms are common in the Himalayas but only few are as deadly as the trekking disaster in 1995 and Cyclone Hudhud that claimed more than three dozen trekkers in the Annapurna region in 2014.

5.1.7 Floods

Flood is common in the rainy season in Nepal, and has been most frequent, highly damaging and wide spread natural hazards. It is estimated that more than 6,000 rivers and rivulets are in Nepal flowing from north to south. Among these, snow fed rivers,

such as the Koshi, Narayani, Karnali, and Mahakali, are perennial rivers. They originate from the Himalayas and snowcapped mountains and pass through the hills to the Terai plains. During the monsoon (June-September), these rivers swell and cause damage to the villages, crops lands, and people and livestock which remained within the river basins. Historical data has shown that Nepal witnessed major flood in

The above table shows that there were around 735 fatalities from 90 aircraft accidents which include domestic and international airliners and helicopter companies. There were three jetliners accidents that killed several people, two jetliners met only minor accidents and most of the other were either small fixed wings aircrafts or helicopters. Apart from these accidents there were several instances when the tourists were stranded at airports in remote areas for several days because of flight cancellation due to bad weather.

5.1.8 Rafting Mishaps

Nepal is the top-of the-mind destination for those who seek the thrill and adrenaline rush in the rapids of white water. However, the snow-fed fast flowing rivers have witnessed several mishaps and deaths of foreign as well as domestic rafting enthusiasts.

5.2 *Anthropogenic Or Non-Natural Disasters*

5.2.1 Aircraft Accidents

Having a mountainous terrain, Nepal has a sketchy records when it comes to aircraft accidents. The European Commission has not

removed 18 airlines companies of Nepal including Nepal Airlines from the Air Safety List.

The first air accident took place in Nepal when a Douglas Dakota of Royal Air Force overran the runway while attempting to land at Simra in May 7, 1946. However, there was no casualty from this

accident. The most recent air mishap occurred when the ill-fated cargo single-engine Cessna Grand Caravan of Makalu Air crashed in Humla in May 16, 2018, killing both of its pilots.

A brief overview of air accidents in Nepal is presented below:

Table 10 : List of Major Air Accident in Nepal

<i>S.N.</i>	<i>Date</i>	<i>Aircraft Type</i>	<i>Operator</i>	<i>Place</i>	<i>Fatality</i>
1.	May 7, 1946	Douglas Dakota	Royal Air Force	Simara Airport	None
2	March 3, 1955	Douglas DC-3	Kalinga Air	Simara	2
3	May 15, 1956	Douglas DC-3	Indian Airlines	Kathmandu	14
4	March 24, 1958	Douglas DC-3	Indian Airlines	Patnebhanyang	20
5.	November 5, 1960	Douglas DC-3	Nepal Airlines	Bhairahawa	4
6	August 1, 1962	Douglas DC-3	Nepal Airlines	TulachanDhuri	10
7	July 12, 1969	DC-3D	Nepal Airlines	Hetauda	35
8	27 February 1970		Nepal Airlines	Panchkhal	1
9.	May 14, 1973	DHC-6/300	Nepal Airlines	Lukla	None
10	March 31, 1975	PC-6 (Single engine)	Nepal Airlines	Bouddha, Kathmandu	5
11	December 27, 1979	Allutte-III	VVIP	Langtang	None
12	October 30, 1981	PC-6(Single engine)	Nepal Airlines	Biratnagar	10
13	December 22, 1984	DHC-6	Nepal Airlines	Cheklatidanda	15
14	May 2, 1986	DHC-6	Nepal Airlines	Sanfebagar Airport	None
15	August 19, 1987	DHC-6	Nepal Airlines	Dolpa	None
16	June 9, 1991	DHC-6	Nepal Airlines	Lukla	None
17	July 31, 1992	Airbus-310	Thai Airways	Ghyangphedi	113
18	September 26, 1992	Y-12	Nepal Airways	Lukla	None
19	September 28, 1992	Airbus-310	PIA	Bhattedanda	157
20	February 8, 1993	Y-12 II	Nepal Airways	Jomsom	None
21	March 27, 1993	Bell-206	Himalayan Helicopter	Langtang	None
22.	July 31, 1993	DO-228	Everest Air	Solighopte	18

23.	January 14, 1995	DHC-6	Nepal Airlines	Kathmandu Airport	2
24.	July 15, 1995	Y-12	Nepal Airways	Bharatpur	None
25	January 24, 1996	MI-17	Nepal Airways	Sotang	None
26.	April 25, 1996	HS-748	Nepal Airlines	Megghauli	None
27.	December 23, 1996	Y-12	Nepal Airways	Dolpa	None
28	September 30, 1997	As-350	Karnali Air	ThuptenCholing	1
29	December 13, 1997	MI-17	Gorkha Airlines	Kalikot	None
30	January 4, 1998	Bell-206	VVIP Flight	Dipayal	NA
31	November 24,1998	AS-350B	Asian Airlines	MulKharka	3
32	November 20, 1998	PC-6/B2-H4 (Single engine)	Nepal Airlines	Phakding	1
33	January 17, 1999	C-208 (Single engine)	Necon Air	Jumla	5
34	April 30, 1999	AS-350B2	Manakamana Airways	Lisunkhu, Sindhupalchow	None
35	July 7,1999	B727	Lufthansa	Bhasmasur Hill, Kathmandu	5
36.	September 5, 1999	HS-748	Necon Air	Thankot, Kathmandu	15
37.	December 25, 1999	DHC-6	Skyline Airways	Burjo Lake, Makwanpur	10
38.	February 26, 2000	DHC-6	Nepal Airlines	Bajhang	1
39.	July 27, 2000	DHC-6	Nepal Airlines	Jogbuda, Dadeldhura	25
40.	November 3, 2000	DO-228	Gorkha Airlines	Lukla	None
41.	November 19, 2000	DO-228	Cosmic Air	Tumlingtar	None
42.	April 5, 2001	DHC-6/300	Yeti Airlines	Tumlingtar	None
43	September 11, 2001	MI-17	Air Ananya	Mimi	None
44	November 2, 2001	AS-350B	Fishtail Air	RaraLake,Mugu	4
45	May 12, 2002	AS-350B2	Karnali Air	Makalu Base Camp	None
46.	July 17, 2002	DHC-6/300	Skyline Airlines	GadgadeDanda, Surkhet	4
47.	August 22, 2002	DHC-6/300	Shangrila Air	Pokhara	18
48	September 30,2002	MI-17	Asian Airlines	Sholukhumbu	None

49	May 28, 2003	MI-17 IV	Simrik Air	Everest Base Camp	2
50.	April 21, 2004	B 1900D	Buddha Air	TIA Airport	1
51.	May 25, 2004	DHC-6/300	Yeti Airlines	Lamjura, Solukhumbu	3
52	January 4,2005	AS-350 BA	Air Dynasty	Those, Ramechap	3
53	June 6, 2005	MI-17	Shree Airlines	Everest Base Camp	None
54.	June 30, 2005	DO-228	Gorkha Airlines	Lukla Airport	None
55	May 7, 2006	MI-17 MTVI	HeliHansa Service	Dhawalagiri Base Camp	None
56.	June 12,2006	DHC-6/310	Yeti Airlines	Jumla Airport	9
57.	July 3,2006	DHC-6/310	Yeti Airlines	Bajura Airport	None
58	August 8,2006	MI-17	Karnali Air	TIA	None
59	September 3, 2006	AS-350BA	Air Dynasty Heli Services	Dhawalagiri Base Camp	None
60	September 23,2006	MI-17	Shree Airlines	Ghunsa Taplegunj	24
61	November 13,2006	MI-17	Simrik Air	Raralihi,Jumla	None
62	June 29,2008	AS-350	Fishtail Air	Annapurna Base Camp	None
63.	October 8, 2008	DHC-6/310	Yeti Airlines	Lukla Airport	18
64	November 15, 2009	MI-8	Manang Air	Rudikot, Humla District	1
65.	August 24, 2010	DO-228	Agni Air	Sikharpur, Makawanpur	14
66	November 7, 2010	AS-350B3	Fishtail Air	Annapurna Base Camp	
67	November 29, 2010	AS350B	Fishtail Air	Solukhumbu	None
68.	December 15,2010	DHC-6/300	Tara Air	Okhaldhunga	22
69					
70.	September 25,2011	Beech 1900D	Buddha Air	Kotdanda, Lalitpur	19
71	November 21, 2011	C208 (Single Engine)	Makalu Air	Talcha Airport	None
72.	May 5, 2012	DO-228	Agni Air	Jomsom Airport	15
73.	September 28, 2012	DO-228	Sita Air	Manohara, Bhaktapur	
74.	May 16, 2013	DHC-6/300	Nepal Airlines	Jomsom Airport	None
75.	June 1, 2013	DO-228	Sita Air	Simikot Airport	None

76	June 19, 2013	AS 350 B3	Fishtail Air	SimikotMuchu	1
77.	February 16, 2014	DHC-6/300	Nepal Airlines	Masinelek Arghakanchi	18
78	March 8,2014	AS 350 B3	Fishtail Air	Sindhupalchowk	1
79	March 4, 2015	A330-300	Turkish Airlines	TIA	None
80	June 2, 2015	AS 350 B3	Mountain Helicopter	Yamuna Danda	4
81	June 22, 2015	AS 350 B3e	Simrik Air	Samdo,Gorkha	None
82.	February 24, 2016	DHC-6/400	Tara Air	Dana, Myagdi	20
83.	February 26, 2016	PAC750XL (Single engine)	Air Kasthamandap	Chilkhaya, Kalikot	2
84	March 17, 2016	AS 350 B3	Fishtail Air	Langtang	None
85	August 04, 2016	C208B (Single engine)	Makalu Air	HeldungKhola, Humla	None
86	August 8, 2016	AS 350 B3	Fishtail Air	Betani, Nuwakot	7
87	May 27, 2017	LET 410	Goma Air	Lukla	2
88	March 12, 2018	Bombardier Dash 8	US-Bangala Airlines	TIA	49
89	April 20, 2018	Boeing 737	Malindo Air	TIA	None
90	May 16, 2018	Cessna 208 B	Makalu Air	Humla	2

5.2.2 Stranded Tourists

There had been several incidents in the past where the tourists were stranded in places like Lukla in the Everest region and Hilsa in Humla. When the weather suddenly turned unfavorable for flights between Kathmandu and Lukla the trekkers were stranded in Lukla for several days. The anxious visitors were seen running after the helicopters, which landed despite the bad weather. It was reported that the helicopter companies and the local agents exhorted high price to bring these stranded visitors to Kathmandu.

Similarly, a large number of Indian pilgrims flock to Mt. Kailash and Manasarovar via Hilsa in Humla between May and September. The pilgrims face frequent problems of helicopter

flight cancellation between Hilsa and Simikot. Due to high altitude and flight cancellation several incidents of death of the pilgrims were reported in the past. Lack of basic facilities in Hilsa further aggravates this situation.

5.2.3 Strikes

Following the popular movement of 1990, Nepal went through several political and general strikes which intensified more around the Royal massacre in 2001 and second popular movement of 2006. Following the Royal massacre of 2001, the number of arrivals to Nepal hit rock bottom with only 275,000 international tourists visiting Nepal. Similarly the tourism industry of Nepal also suffered from curfews, strikes of trade union and other organizations which severely hampered the

movement of tourists in Nepal.

Nepal Tourism Board in close association with travel trade industry and security forces, operated shuttle bus service from and to the airports in Kathmandu during these strikes easing the impact of the strikes to some extent. The crisis cell within NTB operated 24 hour emergency services in close association with Tourist Police.

5.2.4 Civil war and conflicts

Nepal witnessed a decade long civil war in the form of Maoist insurgency until the country was declared a republic in 2007. Many international visitors were deliberately attacked by the Maoists guerillas asking for monetary donation in the trekking areas. Some of them were seriously injured from physical attacks and needed rescue and treatment.

5.2.5 Epidemics

Although there has been no epidemic breakout that is germinated from Nepal so far, tourism here suffered occasionally from international crises such as SARS, bird flu and H1N1 viruses. However, no incident or crisis has been reported so far that severely challenges or affects the tourism sector's ability to operate normally, and the destination is perceived as unsafe in Nepal.

6. Major Challenges for Search and Rescue of the Tourists in the Mountains of Nepal.

The tourism related crises and disasters in the Himalayas of Nepal are as old as the history of tourism in Nepal. With increase in the number of visitors to Nepal especially the adventure enthusiasts, invention of new adventure sports and

opening of new areas for tourism activities in the remote areas of the country, the challenges to mitigate the crises have also augmented quantitatively and qualitatively.

On the flip side, there are new and modern technologies available that make the search and rescue works much easier. However, managing the crises in tourism sector in a more effective and efficient manner are full of challenges for Nepal. Generally speaking and on the basis of past experiences the followings issues are identified as the major challenges for search and rescue efforts in Nepal:

- 1) Lack of willingness and planning in the part of the public agencies in connection with forecasting of crisis, planning and preparedness,
- 2) Lack of resources to install modern technologies (e.g. early warning and satellite system) and to buy logistics (adequate equipment, aircrafts etc.) for search and rescue operation,
- 3) Lack of skilled human resources to carry out search and rescue operation,
- 4) Lack of coordination between the state apparatus or Ministry of Home and tourism sector. This could be because of lack of legal and institutional provisions for search and rescue operation for the international visitors. As a consequence almost all search and rescue efforts for the tourists are carried out on ad hoc basis,
- 5) Remote and rugged mountainous terrain of the country,

Recently, though the regulatory agencies seem completely oblivious, the phony rescue operations by trekking agencies and helicopters are on the rise.

It has been learnt through informal conversation with a few worried trekking operators that some trekking companies and trekking guides are making money out of the insurance companies by organizing fake rescue operation for the visitors.

This will seriously tarnish the image of Nepal in the tourist source markets, as the insurance companies sooner or later will learn of such dishonest practices and refuse to provide insurance coverage to the tourists visiting Nepal. This will also create problems for bona fide search and rescue operations.

7. Best Practices of Crisis Management and SAR Operation in Other Destinations.

The study team has conducted a desk research on how some popular tourism destination had successfully managed crises and how the tourism recovered from the recurring negative events.

Similarly, similar research on search and rescue operation in tourists' destinations reveals that there are different institutional mechanisms in place in different countries.

While there are voluntary or not for profit organizations that are involved in some tourist destination (eg. Mountain Rescue Association in Colorado, Mountain Rescue Service of Italy etc.), there are dedicated government agencies involved in other countries (eg. Mountain Guards in Austria, Guardia Civil's of Spain, Parks Canada etc.).

7.1 Destinations which Successfully Recovered from Crises

This study presents experiences of Sri Lanka, Thailand and Turkey, which faced devastating crises in tourism but recovered by adopting right strategies;

Sri Lanka

Sri Lanka is extremely rich in natural, cultural and heritage based resources. Sri Lanka's tourism sector suffered severely during the war, which lasted for almost three decades. While the recovery after the tsunami was swift, further growth, was hindered by continued fighting.

Shortly after the 2004 tsunami the

government took several actions as a response to the disaster. It introduced The Disaster Management Act, the National Council for Disaster Management, and the Reconstruction and Development Agency. It also replaced several existing ministries by three new ones to deal with the crises, namely: the Ministry of Resettlement, the Ministry of Nation-Building and Estate Infrastructure Development, and the Ministry of Disaster Management and Human Rights.

Specifically in terms of tourism, in 2005 the government introduced Tourism Act. No. 38 which reorganized the management of the tourism sector. It came into effect in 2007 with four organizations, namely: the Sri Lanka Tourism Development Authority (SLTDA); The Sri Lanka Tourism Promotions Bureau (SLTPB), which handles marketing and promotion of tourism; the Sri Lanka Institute of Tourism and Hotel Management to manage the human resources and Hotel Schools, and the Sri Lanka Convention Bureau.

Putting these new structures in place meant that immediately after the end of the conflict in 2009, tourism in Sri Lanka was well placed to build on its recovery. International arrivals recorded a compound annual growth rate of almost 20% between 2009 and 2016 and a compound annual growth rate of about 31% in foreign exchange earnings over the same period, while in terms of direct employment, jobs in tourism have almost tripled from 52,071 in 2009 to 146,115 in 2016.

The six-year Tourism Development Strategy (2011-2016) emphasized diversification of the tourism offers and development of the infrastructure, improving services and human resources, promoting domestic tourism, enhancing industry

professionalism, and conserving the environment.

In order to regulate future tourism development projects, the government announced 45 tourism zones, with each zone having a specific theme for marketing purposes. These zones were intended to attract foreign investors in the high-end market including hotels as well as recreational and sport establishments, shopping centers and light aircraft services (Buultgens et al, 2016). It also announced a Unit for National Investment in Tourism, the 'One Stop Unit (OSU), as a centralized contact point for investors seeking information on the tourism industry, including help with all formalities.

Thailand

Thailand has been popular with tourists since early in the 20th century. The industry was given legitimacy amongst Thais by the royal family who not only travelled throughout Europe and thereby gained an understanding of the modern tourism industry, but also took seaside holidays in their own country, which gave momentum to the domestic tourism industry.

The Tourism Authority of Thailand (TAT) was established in 1979 and began a successful campaign of marketing the diversified tourism offer, starting with 'Visit Thailand Year' in 1980; international arrivals topped 2 million for the first time in that year.

In common with other Southeast Asian destinations, by 1990 Thailand was losing its reliance on the traditional source markets of Europe and North America as people from the emerging economies of East Asia started taking holidays abroad in greater numbers. By the mid-1990s tourists from Malaysia, Singapore, Japan, South

Korea, China, Hong Kong, and Taiwan formed two-thirds of international arrivals. In 2016, 28% of international arrivals were from China (9.3 million out of 33.2 million), and by 2020 it is expected that visitors from the Asia Pacific region will account for over 75% of international visitors.

By 2015 Thailand had reached 6th place in the world rankings of receipts from international tourism with US\$ 44.6 billion generated in that year, making it the 2nd largest tourism earner in Asia after China) and ranked 11th in terms of international visitor arrivals, with 29.9 million arrivals (UNWTO, 2016). It is projected that there will be around 40 million international arrivals per year after 2020.

Crises Affecting Thai Tourism

Apart from the general issues in tourism, several specific crises have affected Thai tourism in the last 15 years. These fall into the categories of political crises, economic crises, disease outbreaks and natural disasters.

2003: An outbreak of 'Severe Acute Respiratory Syndrome' (SARS) spread across East and Southeast Asia. Even though Thailand was barely affected by the disease itself, it was heavily affected by the decline in tourism generally across the region, with an overall reduction in visitor arrivals of around 7% compared to the previous year.

2004/5: A huge tsunami in 2004 struck coasts around the Indian Ocean, killing an estimated 10,000 people in Thailand including around 3,750 foreigners.

2006: A military coup – the first non-constitutional change of government for 15 years – caused anxiety amongst key markets, but civil unrest was limited in extent and there was no significant impact on visitor arrivals

overall.

2008: A political crisis included occupation and closure of the principal international airport for 8 days, leading to flight cancellations and knock-on effects such as cancellation of tours and hotel bookings.

2010: Civil unrest included demonstrations leading to riots in Bangkok, resulting in 90 deaths and considerable damage to buildings. A State of Emergency was imposed in much of the country. This did little to depress tourism, however.

2011: Serious flooding due to exceptionally heavy rainfall killed nearly 1000 people and left millions homeless. The governments of some source markets issued travel advisory warnings against non-essential travel to Thailand. *2014:* Another military coup resulted in the first drop in arrivals since 2009, with a fall of 7%.

2015: The bombing of the Erawan Shrine in central Bangkok resulted in the death of 6 Thais and 14 foreign nationals. A further 125 people (tourists and local worshippers) were injured. As a result, several source market governments issued travel advisories warning people to take extra care or avoid the country altogether.

A study on the tourism of Thailand demonstrated that policies implemented by managers to recover from crises fell into 5 categories:

1. A crisis management plan already in place which could be quickly tailored to different types of crises, e.g. economic, political, or disease outbreaks, with customer safety prioritized through information and ensuring their relocation to a place of safety, including evacuation out of the country if necessary.

2. Thorough understanding of markets and targeting of appropriate markets and market segments in different circumstances. So, during the global financial crisis, hotels in Phuket concentrated more on markets closer to home than on long-haul visitors.
3. Issuing special discounted rates or adding value to their products, using phrases such as “affordable luxury” to encourage a continued flow of visitors.
4. Collaborating with other providers along the supply chain in order to reduce negative perceptions and create value-added packages.
5. Reducing staff costs by measures such as giving staff reduced hours or unpaid leave: managers reported that these measures were reasonably well supported by employees if the situation was clearly communicated to them.

At a micro-level, a study of tourism enterprises in Phuket by Biggs et al (2012) concluded that informal enterprises (i.e. small-scale, self-employed entrepreneurs) were more resilient than formal ones (i.e. licensed, taxation registered businesses) and recovered more quickly from the decline in visitors occasioned by the tsunami in 2004 and the financial crisis in 2009.

Turkey

Istanbul has long been a popular tourist destination for its rich history, its natural beauty and its location linking Europe with Asia. The popular overland train linking Paris to Istanbul, which ran from 1883 to 1977, was known as the Orient Express. This along with other factors played a major role in promoting attractions to develop tourism in Turkey.

During the 1990's the region faced serious crises, namely the Gulf War (1990-91), a civil war in former Yugoslavia (1991-2001) and devastating earthquakes in 1999 in northwestern Turkey. Nevertheless, tourism in Turkey showed its resilience and continued its growth during most of these years.

In the first fifteen years of this millennium tourism in Turkey grew substantially. Between 2000 and 2005 the number of international arrivals increased from 9.59 million to 20.27 million. Arrivals reached a record high of 39.81 million in 2014, with foreign exchange earnings of US\$ 38.766 billion (UNWTO, 2015). In that year, Turkey ranked as the 6th most popular tourist destination in the world.

Turkey has experienced its problems partly from its location neighboring the conflicts in Syria and Iraq. This has led to a series of terror attacks and a failed coup in July 2016. In consequence, Turkey's economically vital tourism industry has been significantly depressed with arrivals falling from its peak of 39.8 million in 2014 to 25.4 million in 2016.

Research with European tour operators indicates considerable apprehension in the marketplace about travel to Turkey on the basis of personal safety.

Crises Affecting Turkish Tourism

Specific crises that have affected Turkish tourism over the last two decades fall into a range of categories including natural disasters, political unrest and disease outbreaks.

1999: Izmit Earthquake - This occurred in northwestern Turkey and affected a densely populated area, resulting in the death of over 17,000 people and rendering around half a million people homeless.

2006: Avian Flu - This global

pandemic had a significant impact on tourism to Turkey with international visitor arrivals declining by 7% to 18.9 million from the previous high point of 20 million in 2005. Tourism from European markets was badly affected, with arrivals from the Netherlands declining from 250,000 to 100,000 over this period.

2011 to Present: Syrian Civil War - The ongoing civil war in Syria is part of a wider wave of unrest starting from the 2011. Besides the problem of refugees that it has to deal with, the country recently was a victim of terrorism partly related to the Syrian conflict. Although Turkish tourism has proved resilience to several crises including social unrest and violence, the impact of repeated terrorist attacks and the upheavals of the last two years have proved to have a significant negative impact on tourism.

2015: Downing of Russian Warplane - In November 2015 a Russian Su-24 attack craft was shot down by a Turkish F-16 in the Turkey-Syria border area. Russia responded by applying economic sanctions on Turkey, including a travel ban to Turkish holiday destinations. However, the number of Russian tourists to Turkey in 2014 was 4.5 million, which is only 40% of the total decline in arrivals from 2015 to 2016, indicating that other factors such as the frequent terrorist attacks, the political uncertainty and the image of the country played a major role in the depression of the sector in 2016.

2015: Various Terrorist Attacks - In 2015 the number of terrorist attacks of various intensities and source had a direct impact on tourism in Turkey which extended to the following years. In 2015, the attacks were frequent, therefore the impact was felt with more than 30% fall in the number of

the European visitors who comprise over a half of the international arrivals to Turkey.

2016: Coup Attempt - A coup attempt by terrorists took place in Turkey on 15 July 2016.

The wider regional crisis has also had a cumulative (negative) impact on the image of Turkey in the country's main source markets, including its proximity to Syria. In particular, terrorist activities have raised concerns about safety and security generally.

To counter the decline, Turkey is intensifying its overseas marketing efforts and seeking to diversify its source markets with increased emphasis on the Middle East and Asian markets.

Specific Initiatives have been:

1. *Cooperative Marketing Plan:* Following the Avian Flu outbreak in 2006, a US\$ 50 million marketing campaign was organized in Turkey's key markets. The campaign was funded 50/50 by the government and the tourism industry. Marketing activities included

advertising in key markets, public relations campaigns, and incentive tours.

2. *Pricing:* The price of hotel rooms and holiday packages were reduced in the aftermath of the Avian Flu epidemic and other crises.
3. *Image Building* – Particularly since the outbreak of civil war in Syria in 2011, Turkey has engaged in a program of image building, comprising perception management in key markets through social media and familiarization trips for tourism trade and media representatives. Specific initiatives have focused on the cruise sector.
4. *2016 Action Plan* – In January 2016, the government of Turkey announced an Action Plan to counter the crisis impacting on the country's tourism sector, comprising a suite of interventions including:
5. *Direct Subsidies:* US\$ 75 million in direct subsidies to the tourism sector, including 'flight support'



for Group A certified travel agencies (US\$ 6,000 subsidy for a plane bringing 100 foreign tourists – i.e. US\$ 60 subsidy per capita). Initially, this subsidy applied to charter flights at certain airports but it has now been extended to a wider range of airports and some scheduled flights, and to cruise lines.

6. *Indirect Subsidies:* The accommodation sector has been supported by indirect subsidies in the form of bank credits and tax postponement (US\$ 85 million has been provided in indirect subsidies). 30% of Turkey's accommodation is on public lands for which owners/operators pay an annual lease/rent. This rent has been deferred for 3 years. In the south-east of the country, which is less developed from a tourism perspective, the government has postponed all taxes (including certification fees).
7. *Risk and Crisis Plans:* A number of larger Turkish tourism resorts and hotel groups have their own protocols to deal with crises. The Intercontinental Hotel Group, for example, has a Risk and Crisis Protection Team at its headquarters in London. Risk profile reports are consistently updated, and risk and crisis priorities are (in order of priority) to protect visitors/guests; protect the hotel brand and reputation; protect the investment. The intercontinental hotel group's Risk and Crisis protocols for Turkey are substantially the same as those for other countries.
8. *Communications:* With staff, partners and customers to constantly reassure trade partners and guests that Turkey is a safe destination.

9. *Diversification:* Though most international arrivals to Turkey come for sun/beach holidays, in recent years the country has become also known for cultural tourism, health tourism and spas, golf and other sports tourism, marine activities, and development of the MICE sector.

10. *Strong National Carrier:* Proximity to the main source markets of Europe, Middle East and North Africa and accessibility via good connections with most source markets, partly as a result of government investment in the national airline Turkish Airlines; this again is part of the prioritization of the tourism industry.

11. *New Markets:* In recent years, because of political and social developments in the MENA region including the developments from 2010, many Western countries have applied extra restrictions on visas to citizens of countries in the region. This means that Turkey is well placed to attract tourists from Middle Eastern and North African states because of its Islamic culture, excellent halal food and affordable prices. It has encouraged the Islamic market by abolishing visas for people from some countries, while easing the process by allowing online applications for others.

7.2 *Destinations, which have better SAR practices*

There is an international organization called International Commission for Alpine Rescue (ICAR) that brings together 98 members from 37 countries. Its main objectives are to provide a framework for research on rescue techniques, prevention or

standardization of equipment used. This international platform is designed as a place for exchanging ideas and consultation on mountain rescue with four commissions; earth rescue, air rescue, avalanches and the medical commission. HRA is represents Nepal at this international platform.

Depending upon the situation in each country the duty can be assigned to the Army, air force, police or other competent organizations. In our case, normally Home Ministry takes care in case of disaster. Our situation regarding tourist safety is quite unique as both private and public agencies are actively involved in search and rescue of the visitors in the mountains.

This study presents some examples or best practices on tourism crisis management and search and rescue operations in the mountainous destinations.

France

The French Alps are very popular among the mountain lovers as they are the largest mountain chain in Europe, extending for almost 1,000km with a surface area of 35,000km² in France alone. The highest peak of Europe the Mont Blanc stands tall at the height of 4810m in the French Alps. But it has also the highest rate of accidents and deaths of climbers among the European mountain peaks.

The French Alps have also faced several tragedies with huge losses of lives. For example, in 1970 two events; an avalanche in January claimed 42 lives in the northern French Alps and a landslide killed 71 people at the foothills of Mont Blanc in April. In 1998 nine young students were killed in Orres and in 1999 another 12 were killed. The latest disaster took place in May 3 this year when the deadly storm killed 12 people in the French, Italian

and Swiss portions of the Alps.

Scotland

For the search and rescue in the highlands of Scotland, there is an organization called Scottish Mountain Rescue which represents 23 volunteer Mountain Rescue Teams with over 800 volunteers. There are also an additional 3 Police teams and 1 RAF team. The organization is an independently registered charity and is administered by a volunteer Executive Committee, supported by two members of staff.

At the heart of mountain rescue in Scotland are volunteers: team members who give up their time to provide a free service to people who request assistance.

Mountain rescue teams are distributed across Scotland and deploy at the request of the Police to deal with a wide range of incidents. The core capability of any team is to carry out search and rescue operations in challenging and, at times hostile environments in all mountainous and upland terrain throughout Scotland.

Many teams also support their local community resilience plans and in periods of extreme weather will provide a range of support functions as required. Volunteers save lives and are available 24/7, 365 days a year, in all winter and summer conditions

Switzerland

Switzerland is one the most popular destinations for snow-based adventure sports. The highest mountain peak of Matterhorn alone sees roughly 2000 climbers per year. Air Zermatt located at the foothills of Matterhorn leads the search and rescue operation for the area encompassing an area of 2000 sq.km. It handles 1600-1700 rescue missions annually with the following logistical supports:

Number of Helicopters: 9

Number of Pilots: 6 full time, 5 freelance and 5 certified flight instructors

Engineer/technicians: 15

Administrative Center at call center: 15

Doctors: 32 (all volunteers on a rotating basis)

The average length to time per rescue is one hour from the call and Air Zermatt carries out around 24 rescues in a single day.

Canada

Due to the country's immense size, range of terrain and weather, the search and rescue tasks is a shared responsibility of government, military, volunteer, academic and industry groups. They all work together to provide SAR services across the nation. In addition to these there are several members of International Commission for Alpine Rescue (ICAR) which carry out several types of search and rescue operations:

- Avalanche Canada
- Canadian Society of Mountain Medicine(British Columbia)
- Canadian Ski Guide Institute(British Columbia)
- Canadian Ski Patrol
- Canadian Avalanche Rescue Dog Association(British Columbia)
- Canadian Avalanche Association (British Columbia)
- Parks Canada

The National Search and Rescue Program (NSP) is a Trans-Canada program that integrates organizations and resources involved in the provision of search and rescue services, including response and prevention. There is a central agency known as National Search and Rescue Secretariat

(NSS) which serves as the central coordinator for all search and rescue programs, working directly with federal, provincial/territorial as well as air, ground and marine volunteer SAR organizations involved in search and rescue activities.

Within Canada, search and rescue activities are allocated to different agencies:

- The Canadian Armed Forces are responsible for aeronautical incidents;
- The Canadian Coast Guard is responsible for marine incidents;
- Parks Canada is responsible within national parks; and provincial and territorial governments are responsible for searches for missing persons including those who are lost or overdue on land or inland waters - commonly known as Ground Search and Rescue (GSAR), and often delegated to the police service of jurisdiction.
- The Royal Canadian Mounted Police (RCMP) and other police forces also coordinate ground search and rescue (GSAR) operations, often using volunteer GSAR teams operating in specific districts under provincial coordinating bodies.

There are 15,000 specially trained air, ground and marine SAR volunteers who provide response assistance to the authorities to help minimize the frequency and severity of SAR incidents. The Search and Rescue Volunteer Association of Canada (SARVAC) assists police forces of jurisdictions for ground based SAR.

8. Exploration of the Latest Technologies in SAR of the Visitors

The goal of search and rescue is to locate, stabilize and extract individuals in distress.

That can mean mountain climbers trapped in the remote corner of a mountain route or camps or trekkers stranded in a snow blizzards or an adventure enthusiast falling prey to AMS. Each area of SAR needs techniques and equipment specific to the circumstance and country. In the following paragraphs the study presents some of the best technologies and equipment for search and rescue operation in the mountains;

8.1 Communication Technology

There are very expensive and powerful satellite technology such as COSPAS SARSAT but they are more for maritime search and rescue and used by ships COSPAS is a Russian acronym for Cosmicheskaya Sistema PoiskaAvariynyhSudov(Space System for the Search of Vessels in Distress) and SARSAT is an acronym for Search and Rescue Satellite-Aided Tracking). However, for the search and rescue in the mountains the following equipment are adequate if handled properly.

Personal Locator Beacons (PLBs)

Personal Locator Beacons (PLBs) can be carried and used to issue a distress alert via satellite and overhead aircraft in the event an emergency occurs in the mountains. They are sometimes referred to as Emergency Position Indicating Radio Beacons (EPIRBs) though this type of beacon is intended for Marine Use.

The features of PBLs are as below:

- Waterproof and have long-life batteries which last 5 to 7 years.
- APLB with a GPS is recommended to improve location accuracy
- Non-HAZMAT type batteries can be safely carried on commercial airlines

However,

- PLBs are a one-way device. The flashing red light when activated indicates the beacon is transmitting

but does not confirm that activation has been received.

- PLBs cannot be hired in Nepal
- Cannot be used for tracking progress or sending custom messages.

Mobile Telephones

Mobile phones can often be used for communications in the remote areas. In case of Nepal Ncell has good network coverage even in the mountain areas than other network providers. It is recommended that visitors carry at least one mobile phone when travelling to the remote areas with the following points in mind:

- A phone battery that only lasts a day is a major limitation so the battery life of the phone is very crucial for communication.
- Keep the phone turned off when its not needed. Mobiles operating outside of network coverage will keep “polling” for a base station and will use more power. You can also put the phone into “flight mode” which turns of the network connection.
- Turn off Bluetooth, WiFi and GPS functions if they are not needed to conserve power.
- Inbuilt GPS and/or location services which can be used for reporting the location of the person in need. The GPS in some phones relies on the mobile network to render maps, while some phones have maps stored inside them.
- A waterproof or splash proof phone is highly desirable for outdoors use.
- You can dial 000 from a locked phone
- Phones can use any available network to place the Triple Zero

call but callers may not be able to reach the rescuer if the particular provider's network is not available. If this is the case, the person in distress is not able to place calls or send SMS to other phone numbers.

- Phone without network coverage is useless. Several network operators service mainly cities and urban areas and have poor or non-existent coverage in remote areas.
- If the person in need doesn't have reception it is worth walking onto a ridge or further onto a summit.
- SMS messages use less power than talking; if battery is low, sending information via SMS is better
- You can also install apps for tracking and reporting your location although this will only work when you have network coverage.

Satellite Phones

- Satellite phones (sat phones) can be very useful for emergency communications – when they are able to connect via their satellite network. The following points are worth noting,
- The major advantage of a sat phone is that it has two-way communications and can convey information about the situation by voice or SMS and respond to requests. Unlike a PLB or Spot device, one can get confirmation that the message has been received,
- Most sat phones also now support email,
- Most Sat phones now include a GPS that can be used to insert your coordinates into an email or

sms,

- SMS and email communications can be cheaper than voice communication,
- Some sat phones have a dual mode and can operate via a mobile phone network if it is in range.

However,

- A satellite phone must be acquired from the phone's network provider for it to function. Can be slow to acquire satellites and may not work under a dense tree canopy,
- Calls to and from Sat phones can be very expensive,
- The phone cannot send a distress message (like an EPIRB/PLB can) that is picked up by commercial and search and rescue aircraft

Handheld Radios

Handheld UHF CB radios can be very useful for communications between members of a group. They are cheap to buy and no license is required to operate them. The two modes of operating and handheld UHF CB are:

- Simplex: Direct communication between handsets – restricted to line of sight.
- Duplex: Utilizes a radio repeater to rebroadcast a message sent on a particular channel to get wider coverage.
- Handheld radios use the ultra-high frequency (UHF) band and provide 80 channels.
- Channels 1-8 and 41-48 are reserved for Repeater Output channels, with corresponding channels 31-38 and 71-78 for Repeater Input
- Channel 5 is reserved for Emergencies, with 35 reserved for corresponding Repeater Input

- Handsets with 2W power output is a realistic minimum for remote area usage. 5W handsets provide better range.

8.2 Helicopters

Although there are several helicopter companies in Nepal, they have multipurpose helicopters such as Ecurelis and AS 350s and Bell. There are customized and all-weather helicopters which are designed to cater to the demands of current search and rescue needs.

S-92 SAR Helicopter

The S-92 SAR helicopter is a highly versatile all-weather helicopter produced by Sikorsky Aircraft. The S-92's cockpit integrates an Automatic Flight Control System (AFCS) including weather radar, thermal imagers and other search sensors including an auto-hover capability which allows the helicopter to fly to a geographic waypoint. The S-92 SAR version accommodates 10 passengers on side facing seats, 21-man life rafts, and emergency flotation system.

The spacious cabin of the S-92 accommodates SAR equipment and

systems such as forward looking infrared radar (FLIR) operator console, digital map, optional auxiliary fuel tanks, and dual rescue hoist with spot light, one or two triple NATO-standard litter kits, wire strike protection and cargo hook.

The helicopter can rescue two survivors at a range of 380km and ten at 334km when flying on standard fuel. The average cost per unit is around USD 90 million.

S-70i Search and Rescue Helicopter

Derived from Black Hawk helicopter, the S-70i SAR is specifically designed to meet the requirements of challenging SAR missions.

The state-of-the-art cockpit of the S-70i SAR is equipped with dual automatic flight control system integrating fully-conjugated SAR modes. The helicopter incorporates FLIR, SAR direction finder, underwater beacon and external electric rescue hoist.

The helicopter can be fitted with Nights searchlight, color weather radar, personnel locator system, emergency locator transmitter and



distance measuring equipment. It can fly on a SAR mission within a radius of about 250 km for nearly three hours.

AW101 SAR Helicopter

The Augusta Westland AW101 has a long flight range of over 1,300km and can accommodate 30 plus survivors, 16 stretcher patients or a payload of 5,000kg.

The AW101, designated as CH-149 Cormorant, serves as a dedicated SAR helicopter for the Royal Canadian Air Force (RCAF). The helicopter was also been selected to meet the requirements of Norwegian All Weather SAR Helicopter (NAWSARH) in December 2013.

The helicopter can integrate search/weather radar, Electro-Optics system, large rear ramp and sliding door, electric rescue hoists and hover trim controller, fast roping/abseiling kit, searchlight and loudspeaker, cargo hook, emergency flotation gear and two 14-man life rafts. The average cost of a AW101 is estimated at around USD 102 million.

AW189 SAR Helicopter

The AW189 is a new helicopter being configured to fulfil the requirements of present and future long range, high endurance SAR missions. The helicopter has been used by the UK Department for Transport to execute SAR missions for 10 years.

The unmatched combination of range and payload offered by the AW189 suites long range SAR missions. The unobstructed cabin houses rescue crew, stretchers and mission consoles to perform SAR duties. The helicopter can carry one or two pilots and 16 to 18 passengers.

The AW189 SAR helicopter offers seating for eight survivors and integrates multiple stretchers, FLIR/TV, steerable search light, dual rescue

hoist, Honeywell mapping system and multiple communication systems. The helicopter has a maximum range of 370 km when carrying 12 passengers and costs around USD 15 million.

AW139 SAR Helicopter

The high cruise speed and payload capacity of the AW139 together with superior OEI capability ensure mission success even in the harshest environments.

The SAR helicopter integrates search/weather radar, FLIR / low light television (LLTV) system, four bag floatation system, two optional 17-man external life rafts, searchlight, external rescue hoist, and ice detection and active protection system. The four-axis autopilot allows auto hover, SAR mode and search patterns.

The AW139 SAR variant can carry one or two pilots and 12 passengers. It can reach a distance of 927 km while carrying maximum load. The maximum endurance of the helicopter at 6,000ft altitude with 1,654kg fuel (no reserve) is 5 hours and 56 minutes and costs around USD 12 million.

EC225 Super Puma Helicopter

The EC225 Super Puma helicopter from Airbus Helicopters is configured as an all-weather high capacity SAR helicopter.

The helicopter is integrated with sensors, inertia reference system, and FLIR and radar systems for all-weather SAR capability. The unique features such as <1m hover accuracy, fully automatic changeover to hover and automatic fly-away ensure reliability during complex missions.

The EC225 configured for SAR can house six seats and includes an option for a medical wall with up to three stretchers. It carries two pilots, an operator for console and winch, a paramedic rescue diver and an

attendant. The helicopter, when fitted with standard and central tanks plus pod, offers a maximum range of 1,135km and endurance of 5 hours and 36 minutes. Per unit price of a aircraft is around USD 28 million.

EC725 Helicopter

The EC725 helicopter from Airbus Helicopters is a multi-role rotorcraft suitable for SAR and Combat Search and Rescue (CSAR) missions. It is capable of operating from vessels and onshore to conduct missions in complex environments.

The cockpit incorporates four-axis dual duplex digital AFCS, and flight management system with Doppler, GPS and SAR modes. The helicopter is fitted with a range of SAR equipment including search and weather radar, TV/IR camera, eye-safe laser telemeter, double hoist, emergency floatation system, casualty carrying installation for stretchers, personal locator, loud speaker and searchlight.

The SAR range of EC725 can be increased with the integration of 990L rear jettison able fuel tank. The helicopter has a maximum range of 1,339km and can endure airborne for 6.5 hours without aerial-refueling. An EC725 helicopter costs more than Euro 20 million.

8.3 Others

Drones - UAVs (Unmanned Aerial Vehicles)

Unmanned Aerial Vehicles - also called (UAVs) or drones - will be important to the future of technology supporting search and rescue incidents because they have the ability to decrease the time to locate a victim, aiding responders where they are often hampered by rough terrain. The UAV can fly above rocks, trees, valleys and mountain peaks with payloads using thermal imaging technologies. UAVs

can also fly in search patterns with onboard resources to locate the victim(s) quicker giving a “bird’s eye” view of the terrain.

By configuring drone platforms to locate cell signals will allow rescuers to be much more efficient and effective during the crisis in the mountains. Other communication capabilities include video, voice, SMS, MMS, and more. By equipping unmanned aerial vehicles with radio access, the operator will be able to geo-locate victim(s), team members, extend coverage and provide data and communication services where no coverage currently exists.

9. Role of Nepal Mountain Academy in SAR of the Visitors in the Mountains of Nepal

Ministry of Culture, Tourism & Civil Aviation (MoCTCA) has instituted The Mountain Academy as a Development Board by an executive order of May 30, 2002 with the following aims and objectives:

- To provide dedicated mountain education and training programs to produce required human resources for the development and promotion of mountain tourism in Nepal,
- To carry out studies and researches on mountain tourism,
- To conduct educational programs to produce high-skilled human resources for mountain and adventure tourism,
- To promote, develop and expand mountain and adventure tourism,
- To organize environmental and cleaning programs
- To avail consultancy, technical services training and instructions programs on mountain tourism, and
- To develop necessary infrastructure for the development of mountain tourism in Nepal.

The study explores the practice of SAR activities in Nepal and other countries by reviewing relevant literatures and a thorough desk research. It has been observed that Nepal's crisis management framework has not considered for a separate search and rescue operation for international visitors.

Currently MoCTCA leads and coordinates any search and rescue involving crises in the tourism sector including search and rescue of the international visitors. HRA, TAAN and NMA are the lead private sector agencies that are involved in the crisis management and search and rescue for the visitors. The crisis cell at NTB is made activated during any crisis and coordinates the efforts of the government and private sector.

However, it utterly lacks the logistics and expertise that are required for search and rescue of the visitors in the need. Hence, its role is limited to run shuttle buses from and to TIA and get information from the security forces that are involved in the operations and to communicate to the media at home and abroad. Both MoCTCA and NTB are not members at the disaster management committee at the central level which makes the crisis management in the tourism sector and search and rescue of the visitors more difficult.

So far, Nepal Mountain Academy has not actively participated in crisis management and search and rescue of the international visitors. As there is a wide gap between the need and the existing search and rescue provisions, Nepal Mountain Academy may step in as the government's focal point to coordinate all the search and rescue operations on behalf of international visitors in the future.

This study recommends the following provisions before assigning the job of government's focal point to coordinate all the search and rescue operations on behalf of international visitors:

1. Amendment in the executive order from the government in order to assign Nepal Mountain Academy as the government focal point to coordinate search and rescue operations in the Himalayas of Nepal,
2. Allocation of sufficient resources for Nepal Mountain Academy to acquire or manage the required logistics needed for mountain search and rescue operation. Similarly, there should be sufficient resources to provide reliefs to the persons in need,
3. The study has observed that the mountain search and rescue operations are generally funded by charitable donors and sponsors. The volunteers and community members can be mobilized to fulfil the need of human resources, who are doctors, mountain guides, mountaineers and local youths.
4. Nominating Nepal Mountain Academy in the Central Disaster Management Committee under the Home Ministry,
5. Provision of search and rescue of international visitors in the legal framework of disaster management in Nepal,
6. Nepal Mountain Academy should initiate academic courses and practical trainings in crisis management, search and rescue operation, and mountain medicine and satellite communication. It should foster learning academic and operational excellence by working with researchers, educators, academic institutions and service providers to create a safe, fulfilling, and academically rich program.
7. It should be able to harness the strength of private sector organizations such as HRA, TAAN and NMA to coordinate the search and rescue operation in Nepal.
8. It is recommended that Nepal Mountain Academy obtain membership of international fora such

as International Commission for Alpine Rescue.



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Bhrikuti Peak (Sail) 6361m.

Feasibility Study

June 24- July 5, 2018



Study Team :

Mr. Tshiring Jangbu Sherpa - Trip Coordinator, Ski Instructor (2nd from right)

Mr. Ang Dawa Sherpa – Mountain Guide, Skier (3rd from right)

Mr. Riten Jangmu Sherpa – Mountain Guide Skier (1st from right)

Mr. Suraj Paudyal – Trip Reporter

Mr. Lakpa Sherpa – Expedition Cook

Mr. Wangel Sherpa – Support Staff

Organised by:

Government of Nepal

Ministry of Culture, Tourism and Civil Aviation

Nepal Mountain Academy

&

Nepal National Mountain Guide Association (NNMGA)

Introduction:

SKI LEVEL 3 and Research Program 2018 was Organized by Government of Nepal, Ministry of Tourism Culture and Civil Aviation, Nepal Mountain Academy and NNMGA, a 3-member expedition team started its 14-day adventure filled journey to Bhrikuti Peak area on June 24, 2018 from Kathmandu. This expedition highlights on the determinants of the development of tourism from the perspective of tourists engaged in ski adventure and ski tourism. An inclusive report justifies the prospect of ski in summer time despite snow melting conditions are at the highest level.

The continuous ski exploration in Nepal that started from 2013 has paid its dividend and proved that ski adventure in the mountains of Nepal is Possible. The recent ski expedition trip with three certified International Mountain guides to Bhrikuti Shail, a 14-day expedition in the summer of 2018 successfully completed Level three ski activities in the mountain slopes. Tshiring Jangbu Sherpa led the expedition in which Ang Dawa Sherpa And Riten Jangbu Sherpa were participants. All three of them are experienced mountain guides with multiple 8000m summit bids.

In series of training program from 2014 in Indian ski sloped of Manali and Gulmarg and in the slopes of French and Swiss Mountains in the European Alps, Tshiring and 30 other Mountaineers have been trained to ski. Tshiring has taken his ski to higher level and is one of the first few Instructors. Through his initiatives, the SKI program has transformed beginners to a much higher level in production of expert skiers. In this SKI Expedition, Tshiring, Ang Dawa and Riten were the three musketeers who proved the skeptics wrong when they successfully skied down the slope below the summit of Mt. Bhrikuti Shail.

Our expedition witnessed the ski possibilities in the Damodar mountains during monsoon and left us with impression that the sky is the only limit when it comes to prevailing ski conditions in winter, spring and autumn. The area gives opportunity to ski in the

permanent snow as well as fresh powders in summer.

Despite the monumental presence of eight highest peaks in the world out of ten and almost a million tourists visiting Nepal annually, Nepal's ski tourism does not officially exist to generate revenues. It is not a tourism revenue factor. It is time for Nepal's Tourism sector to put itself in position to understand the importance of socio economic development SKI tourism can contribute. Bhrikuti Shail area surrounding claims the presence of Mt. Bhrikuti (1,2 and Bhrikuti Sail), Saribung Peak and has vast terrain for favorable SKI trekking, ski touring and DOWN Hill skiing. The area extends all the way to Thorang Peak, Muktinath Himal and Tilicho peak. Skiing in this area gives plenty of chance for enthusiasts to experience the combination of interesting mountain culture and nomadic lives of Tibetan desert dwellers as well as skiing. Officially, Ski exploration in Nepal started in 2016. Ministry of Culture, Tourism and Civil Aviation's Nepal Mountain Academy, the department that supports and promotes adventure training activities as well as adventure sports has relentlessly Organize ski exploration in last few years. The department has been instrumental in creating trained ski manpower, mostly Nepali International Mountain Guides.

The Himalayas of Nepal is the Ultimate Adventure Destination. Diverse environmental conditions and cultural richness of the Nepalese Mountains, complimented by road transportation demands the emergence and development of many tourist centers that have to compete with each other on the market of tourist services. One of the possible ways of maintaining or increasing the role of tourism in the regional or local development is the diversification of the product based on the new types of tourism and SKI Tourism can play an important role. The consequences are the changes in the structure and types of tourism development, which create the possibility of attracting new customers. Therefore, feasibility studies have started for the development of ski tourism in the Bhrikuti Himal areas with the

already developed tourist function (trekking) in Mustang.

Area Facts:

The elevation of the Damodar Kunda is 4890 meters; it is cold and windy place. Damodar Kunda (Kunda means lake in Nepali) is a revered pilgrimage for Hindus and Buddhist. The Pilgrimage takes place to observe the full moon in August. The views from areas above Damodar Kunda are spectacular. Visitors can see the Tibetan plateau & Damodar Himal to the north and the Annapurna mountains to the south. There are 65 peaks in Damodar Mountain range including Damodar Himal, Muktinath Himal (6,706m), and Bhrikuti Peak (6,364m). It is normally a three to four days walk Northeast of the main Mustang trekking route & very close to the Tibetan border. In order to acclimatize better, it is wise to take an extra day rest in Yara Village and explore spiritual Luri Gumba, Ghara Village and the adjacent highlands for horseback ride and breathtaking views.

Mustang, formerly Kingdom of Lo, is a remote and isolated region of the Nepalese Himalayas. The Upper Mustang was a restricted demilitarized area until 1992 which makes it one of the most preserved regions in the world, with a majority of the population still speaking traditional Tibetic languages. Tibetan culture has been preserved by the relative isolation of

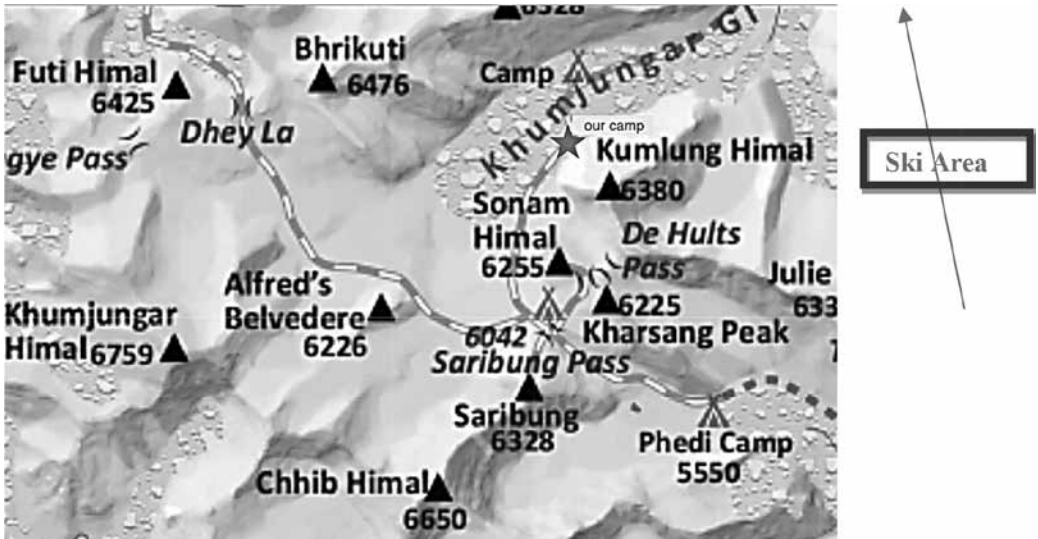
the region from the outside world. The Upper Mustang comprises the northern two-thirds of Mustang District of Dhaulagiri Zone, Nepal. The southern third of the district is called Thak and is the homeland of the Thakali, who speak the Thakali language, and whose culture combines Tibetan and Nepalese elements. Life in Mustang revolves around tourism, animal husbandry and trade.

Upper Mustang (north and northwest of Annapurna Circuit), located in Central Nepal surrounded by one of the best trekking area in the world with view of couple of 8000-meter mountains (Annapurna, Dhaulagiri) and many 6000-7000m mountains (Nilgiri, Tilicho, Muktinath Himal, Thorang Peak, Pisang Peak, Tukucho, Bhrikuti, Mustang Himal etc.). It is rich in Alpine forest, Meadows, Rolling Hills with all kind of terrain conducive to ski activities. Mustang is a district with an established position and brand because of the presence of revered Muktinath temple just at the western foothill of Thorang Pass. Areas on the banks of Kali Gandaki River and surrounding mountains inhabited by Multi Culture and Diverse communities of Thakali, Gurung, Tibetan Origin, Brahmin, Kshetris etc. Some of the oldest Buddhist Monasteries, Palaces, etc. still represents the history and heritage in existence for thousands of years which strongly emphasizes the role of tourism

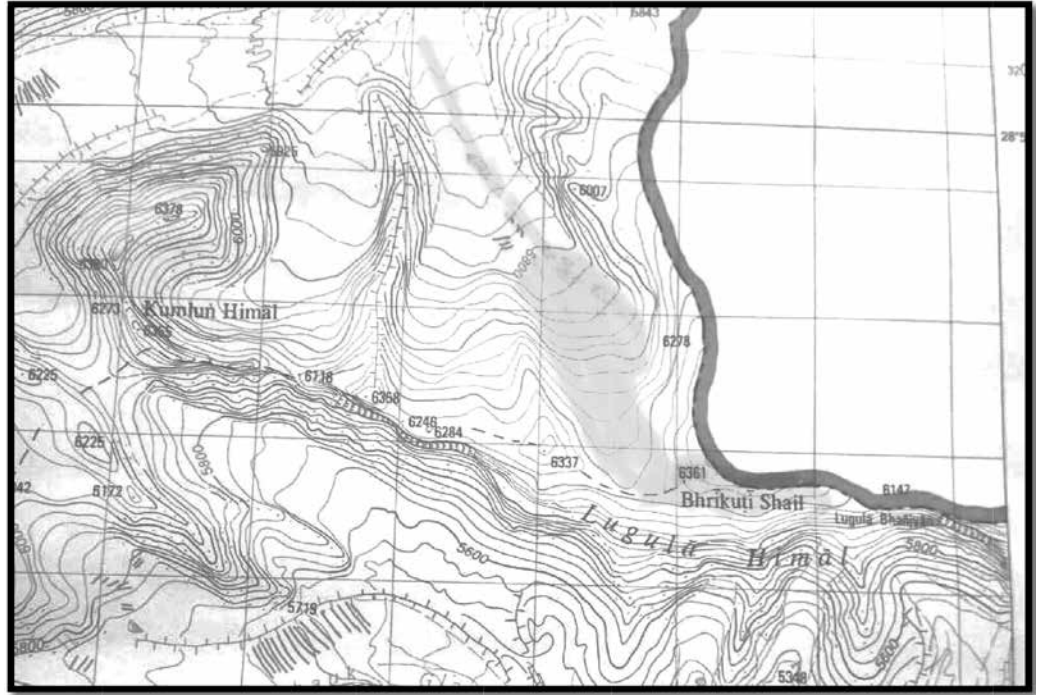
Google Map of the Damodar Himal Peaks



Ght Google Map Of Damodar Himal Range (Ski Area Circled)



Peaks in Damodar Mountain Range (Ski Area Marked)



Topo Map of Bhrikuti Area – Ski Area Highlighted in Green

in its local development strategy.

Slopes in Explored Bhrikuti Shail Area:

Bhrikuti Shail area boasts plenty of gentle as well as steep slopes. Those who can cope with altitude will not have difficulty to navigate the terrain. The versatile slopes offer multitude

of long term ski activities combined with ski touring, downhill etc. There are some dangerous slopes and the visitors should be careful in some stretches from Yara village to the Kunda. The trail and terrain are full of small rocks and pebbles. Lucky visitors may pick prized fossil

known as “saligram” throughout the adventurous trip. The slopes below the peak of Bhrikuti Sail is approximately 5km long and 1 km wide. There is a permanent snow here in summer and it is speculated that this slope may extend up to 15-20 km in winter. Nearby Mini Kailash and Saribung mountains are equally favorable for ski touring and downhill skill.

Climate:

The best time to Visit the Damodar Kunda and the surrounding Mountains is the spring, summer and autumn. The monsoon weather in June, July and August does not affect these areas but fast melting snow from the peaks and incessant rainfall in area below 5000m can trigger flash floods in the canyons. From late December to March, the winter weather forces many villagers (80% habitants of Mustang) to shift to Pokhara and Kathmandu and is considered off season for trekking and other adventures. Day time temperature ranges from 0-5 degree Celsius and -25 degrees at night. Only properly equipped adventure is recommended during these times. In the month of May, the area celebrated Tiji festival.

<i>Months</i>	<i>Temp in Celsius (Min/Max) - Day</i>	<i>Temp in Celsius (Min/Max) - Night</i>
March – April – May – June	16 to 22	-6 to -2
July – August – September	20 to 30	-3 to 10
October – November	12 to 20	-8 to -4
December – January - February	0 to 5	-25 to -20

Climate for Favorable Ski Condition:

While cold air, ice and snow are favorable for Ski and Snowboarding. Since these activities heavily rely upon weather conditions, the environment must suit the standards for wither snowfall or the snow making process.

Weather's Influence on the Slopes can make or break the timing of ski and snowboarding activities. The ski activities took place on June 29th and 30th for two days and the slopes below Bhrikuti Sail peak received about 10 cm of fresh snow favorable for ski. Above 5800m, the area hosts permanent snow. Though much of the area’s snow condition is not documented, the team leaves with impression that there will be a vast area for ski and snowboarding activities during winter time.

According to ACCU WEATHER, a site that predicts weather, the most ideal conditions for skiing, snowboarding and snow-making are below 30 degrees, but the colder the better. In ski parks where artificial snows are made to keep the ski areas for longer duration, most man-made snow is made at night. The quality of man-made snow improves as the temperatures get lower, according to experts. When temperatures get too high, the snow can turn to slush, making it harder for active skiers and snowboarders to control their turning movements.

The Dangers of Skiing and importance of Safety Guidelines:

When weather conditions aren't right, slushy snow and ice can be contributing factors to minor and serious injury incidents and even fatal accidents. Occasionally, even avalanches can occur at popular ski resorts during the winter months, increasing the dangers and the number of injuries that snow athletes endure. Although the number of fatalities is less, most people sustain injury from collision with an object, mostly trees. There is no imminent threat of Avalanche or presence of Crevasses in the slopes of Bhrikuti Shail Mountain, the area favorable for ski.

According to a research by Professor Emeritus at the Rochester Institute of Technology Dr. Jasper Shealy, most of those fatally injured are above-average skiers and snowboarders who are going fast on intermediate trails. Other serious injuries reported by the American National Ski Area Association (NSAA) include paralysis, a

broken back and severe head injuries, including traumatic brain injuries. Although loss of life does happen on occasion, the most common injuries for snowboarders are wrist and elbow injuries. For skiers, typically injuries occur with the knee. The number of injuries from skiing are less than those from swimming and bicycling, based on the number of people who participate in the sports, according to NSAA data.

In fact, the overall rate of reported skiing injuries has declined by 50 percent since the early 1970s, as stated by Dr. Shealy's research. The decrease in skiing accidents may be contributed to the skier safety regulations put in place state by state. The safety guidelines define the responsibilities of ski areas including, closing trails, putting up signage, warning death and participating in chair lift inspections.

These statutes are also imposed on winter athletes individually, as each athlete is expected to be responsible on the mountain by knowing and adhering to various rules, like the proper ability to use a chair lift, following all signage, skiing in control based on ability and yielding to other people on the mountain.

Tips for Ski and Snow Boarding Activities:

1. Be sure to stay in good physical condition.
2. Stretch routinely.
3. Eat and stay hydrated before heading out to ski, especially in areas with high elevations.
4. Look at the Ski Area's mountain Trail map before skiing or snowboarding to avoid dangers.
5. Familiarize yourself with the layout of the terrain.
6. Bring extra food, sport drink and water.
7. Take a break during the day for some food and water.

Infrastructure - Transportation and Lodging Facilities:

Lower and Upper Mustang is extensively connected by road networks. Almost 80% of

the villages are now connected by dirt roads making the journey shorter and accessible. Mustang has transformed from Camping trekking destination to Tea House Trekking. Major villages north of Jomsom; Kagbeni, Chhusang, Samar, Ghelling, Ghami, Tsarang and Lomanthang are situated in the main Highway and there are plenty of modern lodging facilities in these villages. There is electricity, telephone signals as well as internet throughout the big and small villages. Villages east and west of the main highway corridor along upper Mustang areas are also connected. Roads are being expanded and bridges are constructed in rivers that could swell at uncrossable level. The Last villages en route to Damodar Kunda area are Dhi, Surkhang, Yara, Ghara and Dhe. Dhe is not yet linked by road but all other areas are linked. Highly regarded Luri Gumba", a revered Buddhist Monastery situated just few kilometers from the main trail to Damodar Kunda is also linked by road. The area remains close in winter because of challenging winter weather and slipper trails in the high passes but are open throughout the year for prepared and planned visitors seeking adventure in the mountains. Yara and Ghara village have half a dozen of hotels and camp sites. This is the last road linked villages where supplies are carried by jeep and tractors. Beyond these villages, only camping/expeditions can be organized and goods have to be ferried by either porters or mules. They are available on hire. An advance planning would most certainly guarantee the availability of limited transportation facilities.

Investment Opportunities:

Once the BENI – KORALA highway is completed, there will large influx of visitors from the neighboring India and China. It will be a major alternate to reach Kailash Mansarovar. The temple of Muktinath already accounts for high number of religious pilgrims and trekkers traversing the Thorang La pass. The entire region is an open market for investment in Tourism Infrastructures (Hotel, Resorts, Ski Lifts etc). There is an ongoing construction of numerous hydropower stations

and road linking the areas. Bigger and better hotels are also being built. Mustang, the enchanting land of the Himalayas is going through an enormous facelift to transform the area as a major tourist destination. A well-developed ski area is generally supported by well connected road transportation, ski resorts and ski lifts. Also, a continuously running electricity is a must to produce artificial snow. Due to remoteness of the area and multiple high passes above 5000m, developing ski resort infrastructure poses challenge but is possible in future. For now, ski infrastructure can be made in Muktinath area through investments because the slopes favor ski activities for beginners. It also means opening a ski training facility.

Visitors can get to Yara and Ghara village by Jeep but roads are conditional and could be closed during monsoon because of erosion caused by flash floods. Yara and Ghara Village are the last villages with lodging and camping facilities. Better lodges can be built to accommodate more tourist as the current facilities cannot accommodate large number of visitors. Once the journey to higher areas start, there is no settlement besides the Dharmasala (Pilgrim Rest house) in Ghuma Thanti and Damodar Kunda. These rest houses were built to accommodate pilgrims but they do not have modern facilities. It can also serve as shelters if the snowfall is at a threatening level. Better accommodations should be built in different camps and local investors can learn from Everest Base Camp trek as modern lodging facilities are available throughout the trek up to Gorakshp situated at 5100m.

Stake Holders' Role:

For any project to succeed, it is very important to that everyone with stake and involvement have similar vision and intention to achieve the goal of that project. In this case, our goal is to put in place some viable ski areas promoting ski adventures in Nepal. Ministry of Culture, Tourism and Civil Aviation Nepal Mountain Academy as well as Nepal Tourism Board (NTB) do to Promote SKI Activities and Adventures in Nepal. The Government and

Nepal Tourism Board (NTB) play a crucial role in promoting adventure ski tours in the country. They can act as a catalyst in making adventure sports policies, allocating grants for developing infrastructure, nurturing talents and designing specialized program for overall development of ski tourism in Nepal. Nepal Tourism Board functions as the connection point for the development of tourism in the country. As such, the organization plays a crucial role in coordinating and supplementing the efforts of the Governments, catalyzing private investment, strengthening promotional and marketing efforts and in providing trained manpower resources. To kick start the project, a fee waived ski adventure campaign should commence in possible ski areas for next few years.

Recommendations:

Continuous SKI exploration will enable the Exploration team to discover suitable areas for ski adventures in Nepal which can create earning opportunities to the Government through Permits and add value to adventure tourism as Expedition organizers also gain financial opportunities. Our team was able to assess accessibility, feasibility, safety and security aspect for an economically viable prospect of ski adventure in Upper Mustang that not only attracts just the skiers but promotes tourism. Promotion of Ski Adventure will increase the flow of adventure seeking tourist in villages east of Tsarang and Lomanthang besides Pilgrims. Instead of charging high fees and time-consuming permit formalities, Government can waive fees for the first 10 years to promote ski activities. There are numerous hurdles and the main one is the permit processing time. Our team themselves experienced delays in getting the permits issued. Expedition leaders who can organize peak climbing can make profits by organizing ski tours during offseason. Ski adventure can add value to existing adventure tourism market. Additional jobs open and cooks, porters, Mule drivers can profit from extended work. Ultimately the prospect of SKI adventures benefits the country's overall tourism industry.

Concluding Notes:

The ski exploration in Damodar Kunda and Bhrikuti Shail Area was a huge success despite strong monsoon weather activities in the south of the Great Himalayas. The area favors expedition style ski trips in the western slopes of Mt. Bhrikuti Shail, Bhrikuti 1, Bhrikuti 2 and Saribung. There are no known human settlements beyond Yara and Ghara Village. Trails are easy for hiking and horseback riding throughout the journey to Damodar Kunda area. Damodar Kunda surrounding has vast areas suitable for Ski/ Ski Trekking activities with spectacular views for the adventurer seeking thrills in the high altitudes. Government should encourage and give continuity toward exploration, training and development to produce skiers. Initially government should also ease the permit process and waive fee to Nepali Skiers in an effort to gain Publicity of the area. The locals will benefit by keeping most of the generated revenues in the region enabling them to spend on better infrastructure, education and healthcare. In simple terms, ski activities and flow of adventure enthusiasts will make lasting contributions to our tourism market. For heli-skiing, the area is one of the best in Nepal.

While ski possibilities are still being explored in Nepal, our neighboring state of China and India has already developed ski areas as ski and snowboarding travel destination as spend their holidays. It is only in the last two decades; ski tourism was developed in India

and the socio-economic changes in and around Gulmarg and Manali had benefitted the locals and the tourist tremendously. Even though China's ski resorts are still relatively unheard of among foreign tourists, the ex-pat community living there, especially the British, Australians and Americans, have long since discovered that China not only has some decent ski slopes, but that the slopes are in fact a fun place to meet others with provision to rent ski gears in the resorts or on ski sites. We don't have to refer to the west anymore to understand snow adventures as our neighbors have already laid foundation for ski. We should however, materialize from their knowhow and start commercializing ski adventures. We should shift our focus on what we need to do and how can we get started soon. The longer we wait, the larger will be the scale of loss of opportunity, which is beneficial to the locals, tourist and the government with business revenues.

SKI Expedition Travel Timeline:

June 24 2018 (Kathmandu –Kusma):

The exploration team assembled in the morning and started the two weeks long journey to Damodar Kunda area. Team reached Kusma, the district headquarters of Parbat District and rested in Hotel Benju. Due to monsoon rains and ongoing constructions in the highway, the journey took 9 hrs.

June 25 2018 (Kusma – Chhusang):

In view of road closures because of the ongoing highway expansion project in Beni-





At Kaligandaki Crossing in Chhusang/Chaile

Korala Sector, the Ski team left early from Kusma and reached Chhusang in the evening. Expedition Supplies were stocked in Jomsom and Permit entry formalities were carried out in Kagbeni en route to Chhusang.

June 26 2018 (Chhusang – Yara Village):

The ski expedition team took off from Chhusang and drove to Yara Village situated at 3550m. This is a village settled by indigenous Nepali Tibetan whose ancestors found the area safe to build homes and cultivate grains. The culture of people in these villages combines Tibetan and Nepalese elements. Currently, life in Mustang revolves around tourism, animal

husbandry and trade. A very famous monastery “Luri Gumba” is just couple of hours of a worthy hike from the village. The road to Yara deviates just before Tsarang down to Kali Gandaki river where Tsarang river and Dhi Gandaki river makes the three-river confluence. The road follows the Dhi river to Surkhang Village and penetrated the canyon between Dhi Village and Surkhand Village toward Yara and Ghara village.

June 27 2018 (Yara – Lurigumba – Ghuma Thanti):

After a morning breakfast of Buckwheat bread (Faparko roti), supplies were loaded by



Yara Village



Luri Gumba – Top and Trail to Ghuma Thanti – Bottom

“Suke” the mule driver from Thini. After Yara, there are no known habitat thus all the supplies would have to be carried by the visitors. Skiers Tshiring, Ang Dawa, Tashi and Suraj paid a brief visit to the revered Luri Gumba (13th century Buddhist Monastery). Luri Gumba is two hours walk from Yara Village. Everyone offered prayers for the safety and success of everyone involved. The hike up to the first pass en route to Ghuma Thanti is a continuous uphill climb for several hours above Yara and Ghara Village. Trails are well maintained as Damodar Kunda is a revered Pilgrimage destination as well as it is situated on the trail to some of the most coveted mountain passes in the Mustang and Manang district. For those who prefer to

ride horse instead, the trail is safe. Ghuma thanti is a resting destination en route to Damodar Kunda and beyond and the ski team settled in the tents besides a rest house built for the pilgrims.

June 28 2018 (Ghuma Thanti – Damodar Kunda):

Journey to Damodar Kunda begins in the morning through some of the steepest terrains on a half day trip (5-6hrs). Physical wellbeing is important in these areas as the area is remote and isolated on the slopes above Kali Gandaki river. Damodar Kunda is the main source of Kali Gandaki River. This is an important site because of fossils that are widely available and revered by the Hindus and Buddhists.



Suke herding the mules with Expedition supplies



Revered Damodar Kunda (Damodar Lake)

June 29 2018 (Damodar Kunda – Bhrikuti Shail Base camp (5-6 hrs):

Three-member skier team accompanied by staffs and convoy of six mules and its driver Suke hiked above Damodar Kunda aiming to

reach Bhrikuti Shail base camp situated at an altitude of 5600m. They pitched tent in that area and rested. The team in the course of three day in the base camp area witnessed snowfall about 10cm. The areas above base camp had plenty of powder snow allowing ski activities.





Tshiring and Tashi Setting the Ski in their tent in Bhrikuti Shail Base Camp

June 30-July 1 2018 (Bhrikuti Summit and Ski Activities)

On 30th June, Tshiring Jangmu, RIten Jangbu and Ang Dawa set out from the Base camp to summit Mt. Bhrikuti Sail (6340m) and successfully stepped on the top with their ski. They returned to the snowfield Just below the top and skied down the slope of Bhrikuti sail. They continued the ski activity the next day. Bhrikuti Shai, Sano Kailash (Mini Kailas for its Mt. Kailash like Shape) and Saribung Peak are favorable for ski with vast runway type slopes that are long and wide. No Imminent avalanche or crevasse threats were discovered in the Mountain.

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Tshiring Jangbu and Riten Jangbu Maneuver their ski

July 3 2018 (Bhrikuti Shail BC – Damodar Kunda):

The Ski team wrapped their ski tour and headed down to Damodar Kunda traversing through the mountainside above Kali Gandaki River.

The enormous presence of Fossils makes the journey interesting for the visitors. The lucky ones can carry home souvenirs.

July 3 2018 (Damodar Kunda – Yara Village):

The Skiers hiked a long day, 10hrs) from Damodar Kunda and reached Yara Village. Yara village is a perfect base location to launch SKI activities in the higher areas as well as to visit Monasteries. One can also rent a horse to explore the plateaus south of the village towards the kali Gandaki river.



Descending down to Damodar Kunda area from BC



SKI Expedition members at the SARIBUNG hotel with the owner's family



Walking on the bank of Dhi River. Dhi river originates from Chhosar Area near Korala Border

July 4 2018 (Yara - Jomsom)

The Journey to Damodar Kunda Area ends at Yara Village and takes approximately 9-10 hours walk. It is mostly downhill and requires full day hike. Normally Yara is accessible by road but due to incessant rain, the roads were not conducive for jeep rides and Dhi river had swollen up. Our team walked to the confluence of Tsarang and Dhi River to catch the jeep ride to Chhusang. We reached Jomsom in the Evening. Yara to Jomsom takes 6 hours by jeep.

Our team took refuge in Jomsom Hotel. Jomsom is settled in the bank of Kaligandaki River and offers the best view of Mt. Nilgiri. It is also close to Marpha, the gateway to Dhaulagiri circuit for those who want to circle the mountain anti-clockwise. Throughout the trek, visitors will witness modernization as land transportation has made things possible and easier these days. Landscape is changing and so is the way people are living today. The opportunity to experience one of the most unique landscape in the planet combined with all sorts of ski adventure in Nepal could not find a better geographical location than the Landscape of Mustang.

July 4 2018 (Jomsom - Pokhara)

After a night in Jomsom, the return journey continued. We met occasional road interruption due to expansion of the highway. It took 16 hours to reach Pokhara from Jomsom. Once the road infrastructures are completed, the time for overall journey will be shorter.



Frequent Road Closures interrupted the travel along Beni – Korala Highway

July 5 (Pokhara – Kathmandu)

The 12-day SKI expedition concluded on 5th of July and the team returned back to Kathmandu after a successful ski expedition Damodar Kunda and Bhrikuti Shail.

Team Intro



Tshiring Jangmu Sherpa is a UIGM Certified International Mountain Guide with a strong resume of 8000m mountains. His SKI trip to Putha Hiuchuli in the spring of 2013 was the key moment of his SKI career. With continuous training and development in Nepal, India and Alps Tshiring has established himself as Ski Instructor and initiated the SKI training program in Nepal with Mountain Academy Nepal. He leads the Expedition.



Riten Jangmu Sherpa is a UIGM Certified International Mountain Guide. Besides his strong Mountaineering background, he is also a good skier. He was part of the Damodar Kunda-Bhrikuti Sail Ski Expedition.



Ang Dawa Sherpa is a UIGM Certified International Mountain Guide. Besides his strong Mountaineering background, he is also a good skier. He was part of the Damodar Kunda-Bhrikuti Sail Ski Expedition.



Suraj Paudyal has skied in the United States several times and contributed to Ski Exploration reports. He is also a free-lance educator with Mountain Academy Nepal.



Activities



Bachelors in Mountaineering Studies Orientation Session



Students of Bachelors in Mountaineering Studies of the 1st Cohort (2017)



Bachelors in Mountaineering Studies Orientation Session



Bachelors in Mountaineering Studies Orientation Session



Class Room



Library



Participants of the 5th Female Trekking Guide Training at Ghorepani



Closing and Certificate Distribution Ceremony of 5th Female Trekking Guide Training and Ski Training Level 2 and 3



Closing and Certificate Distribution Ceremony of 5th Female Trekking Guide Training and Ski Training Level 2 and 3



Closing and Certificate Distribution Ceremony of 5th Female Trekking Guide Training and Ski Training Level 2 and 3



Honorable Minister of Culture, Tourism and Civil Aviation, Mr. Rabindra Adhikari at the Closing and Certificate Distribution Ceremony of the Trekking Guide Training at Pokhara



Certificate of Honor of TAAN Sagarmath Pema Dolma Academic Award - 2017 to Nepal Mountain Academy for contributing and leading role in developing mountain/adventure tourism in Nepal Received by Acting Executive Director Mr. Uttam Bhattarai.



Participants of the Trekking Guide Training at Pokhara



37th Mountaineering expedition Liaison Officer 1 Day Physical Test Training, 2017



Closing and Certificate Distribution Ceremony of the Trekking Guide Training at Pokhara



Participants of the Ski level 2 Training at Swiss and France



Researchers of the Ski Level 3 Training and Research Program



Trekking Guide Training at Lukpa in Partnership with Khumbu, Pasang Lhamu Rural Municipality



Building of Mountain Training Centre at Garma, Solukhumbu under construction



Welcome Ceremony of the Newly Appointed Executive Director of Nepal Mountain Academy, Mr. Romnath Gyawali

Faculty



Prof. Dr. Ramesh Bajracharya

- Communication Expert.
- More than 30 years of Teaching.
- Freelance and Textbook Writer.
- Associated with Various National and International Universities as a Faculty of Communication and English.



Prof. Ratna Raj Niroula

- Specialist as statistician
- Associated with the Central Department of Public Administration, Tribhuvan University.



Mr. Sher Bahadur Gurung

- Faculty member of the Central Department of Geography, Tribhuvan University
- Has expert knowledge on Geomorphology, Research Methodology, Geographical Thought, Practical Geography, Field Survey and RS/GIS.



Prof. Dr. Ramesh Raj Kunwar

- Author of various books on tourism and anthropology.
- Visiting professor of tourism and anthropology at various universities.
- Former Dean of Faculty of Humanities and Social Science, Tribhuvan University.
- Former Dean of (the then) Royal Nepalese Military Academy, Kharipati, Bhaktapur.



Mr. Mani Raj Lamichhane

- Working as the Director of the Nepal Tourism Board and has more than 9 years of experience in the tourism sector.
- Part time lecturer of Tourism Management, Ecotourism and Tourism in Nepal at various institutions
- Former Counselor of Tourism Management Studies of Bachelors and Masters Level at IGNOU.



Mr. Anup Shrestha

- Head of the BBA-TT at the Apex College.
- Lecturer of the Principles of Management.



Mr. Rajendra Dhamala

- Lecturer of Financial Management
- Currently associated with various colleges and institutions including Sainik Awasiya Mahavidyalaya and Shanker Dev Campus.



Mr. Rajendra Man Shrestha

- Lecturer of Business Statistics and Mathematics



Mr. Roshan Regmi

- Lecturer of E-Tourism

Technical Department



Mr. Pemba Gyalje Sherpa

- Certified UIAGM, IVBV, IFMGA, NNMGA Guide, Instructor, Technical Consultant, Author and Motivational Speaker
- Awarded with Best Adventurer of the Year 2008 (Heroism Award) and Everest National Award 2009 amongst other prestigious awards for his significant contribution in mountaineering and tourism sector.



Mr. Tshering Jangbu Sherpa

- Experience of more than 15 years in the field of mountaineering and climbing.
- Successfully climbed Mt. Everest and other highest peaks of Nepal and abroad more than 17 times.
- Currently working as first aid trainer, mountain guide trainer, ski trainer to name a few.



Government of Nepal
Ministry of Culture, Tourism & Civil Aviation
Nepal Mountain Academy

Our Staffs

- Romnath Gyawali** : Executive Director
Uttam Babu Bhattarai : Admin Officer
Sampurna Acharya : Engineer
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Alok Khatiwada : Accountant
Pasang Sherpa : Sub-overseer
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