2016

CAAN Souvenir

18th ANNIVERSARY

CIVIL AVIATION AUTHORITY of NEPAL

31st December 2016

18th ANNIVERSARY 2016

KATHMANDU
NEPAL

The Prime Minister

Message

I am pleased to know that the Civil Aviation Authority of Nepal (CAAN) is celebrating Eighteenth Anniversary of its establishment. I would like to extend my congratulation to CAAN on behalf of the Government of Nepal and would also like to recognize its contributions to the development of aviation industry in the country.

CAAN has an immense responsibility in terms of air transportation. To a land-locked country like Nepal, air transportation plays a crucial role in providing most reliable means of connectivity to the outside world and remote areas within the country as well. Civil aviation is one of the means to provide integrity, prosperity to the people and the country. Network of well functioning airports across the country has played a significant role for the socio-economic growth of the people in the remote areas through promotion of tourism and transportation of essential goods.

The importance of aviation was observed in the post-quake rescue and relief operations in the aftermath of the devastating earthquake in April and May 2015. During that time air transportation was used to rescue people, carry sick and injured people, food, shelter and other relief materials.

Aviation has undergone through various technical advancements. Therefore, Nepal should speed up to meet the international standards in civil aviation. CAAN can play an instrumental role in facilitating the aviation sector to transfer right technology to Nepal for air safety. I hope it will have a tremendous contribution to the tourism industry too. I am confident that CAAN will perform its role perfectly in this regard in the future.

The government of Nepal is committed to developing aviation infrastructure including international and regional airports. I would like to note that CAAN is making progress together with international aviation bodies to make the air transport safe and standard.

I would like to express my best wishes for CAAN's every success in the days to come.

Prachanda

December, 2016

Pushpa Kamal Dahal 'Prachanda'

Hon. Jiwan Bahadur Shahi
Minister
Ministry of Culture, Tourism & Civil Aviation
Singhadurbar, Kathmandu, Nepal

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Message

I would like to express heartiest congratulations on the auspicious occasion of eighteenth anniversary of Civil Aviation Authority of Nepal (CAAN). CAAN has immense responsibilities in the field of air transportation together with increasing connectivity and booming economy of the country.

Aviation sector is an important to facilitate accessibility to remote areas. Definitely, it connects rural areas of Nepal that are not connected by road. The role of CAAN is appreciated for its commendable function in developing airport infrastructures to provide air transportation in Nepal.

Flight safety assurance and sustainability of civil aviation are the major concerns of CAAN. Nepal has strongly committed to comply the safety standards set by the International Civil Aviation Organization (ICAO). In this regard, CAAN has to work hard to resolve safety deficiencies identified during ICAO validation audit. Government of Nepal is committed to support the regulatory body to strengthen its safety oversight capabilities by facilitating through the required legal frameworks and policy guidelines.

Furthermore, aviation sector plays an important role even during natural calamities and humanitarian crises. During devastating earthquakes in April and May 2015, aviation sector played vital role. Because of our geographical topography, air transportation has prominent role to connect the world. I believe that CAAN will continue to work with aviation industry, international organizations and concerned stakeholders to ensure safe, efficient, reliable and punctual air transportation in the country.

I wish all the best for the organization's future endeavors.

(Jiwan Bahadur Shahi)
Minister

Indra Bahadur Baniya
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Message from Hon'ble State Minister of Culture, Tourism and Civil Aviation

It is my pleasure to extend hearty congratulations to the Civil Aviation Authority of Nepal (CAAN) on its 18th Anniversary.

As a regulatory body responsible for the safety and security of civil aviation in Nepal, CAAN has played a significant role in adopting international aviation safety measures and facilitating the air transport industry in the country. Safe and secure civil aviation system facilitates tourism development, economic upliftment of people and employment generation.

Nepal is struggling hard to develop aviation infrastructure, and Second International Airport in Bara is on the offing, and regional international airports in Pokhara and Bhairahawa are being constructed. Once completed, these airports will open new avenues for tourism, aviation and economic development in the country. SIA have the potential to a transit for the long haul international flight while Bhairahawa and Pokhara airports will help to carry tourists to the two most famous touristic destinations in the country – Lumbini and Pokhara.

I would like to appreciate the contribution of CAAN in the development and expansion of civil aviation in Nepal. I am optimistic that CAAN will enhance its capability with support from the government, ICAO and other concerned organizations to cope with emerging challenges facing the civil aviation sector. On the occasion of its 18th anniversary, CAAN should reflect its past performance and introduce new measures for improvement of aviation sector.

I am hopeful that the government, CAAN, aviation companies and other stakeholders will forge an effective collaboration and partnership at local, regional and national level for the development of aviation sector.

I would like to take this opportunity to express my sincere wish for the success of CAAN in its future endeavour.

(Indra Bahadur Baniya)
State Minister

Government of nepal
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Government of Nepal
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Singh Durbar, Kathmandu

Message

I would like to offer my sincere congratulations to the Civil Aviation Authority of Nepal(CAAN) on the occasion of 18th anniversary of its establishment. As a regulatory body of the aviation sector, CAAN has played a significant role in enhancing air safety and promoting air transport industry and enforcing air safety measures.

I am also delighted to know that CAAN has continued the publication of CAAN Souvenir and hope that it will be a useful publication for the aviation and tourism sector.

Aviation is a dynamic industry with rapid update and innovation of high-end technology and its application which calls for proactive approaches from regulator, airlines operators and Government. Collaborative efforts and sharing of knowledge among various stakeholders are needed for the sustainable development of the sector. The CAAN Souvenir can be a medium for sharing ideas, knowledge apart of being a tool of information dissemination.

CAAN should enhance its capability to keep pace with the changing scenario of aviation safety, security and its development. It is also urgency for CAAN to work on removing Nepal Airlines from EU safety list by the mid 2017. Moreover, the responsibility of CAAN is to set standards for the domestic and international airlines, aviation service providers, development of infrastructure and skilled manpower. It should facilitate the national carrier Nepal Airlines Corporation and other private sector aviation companies in technology transfer, deploying skilled manpower and ensuring aviation safety.

Meanwhile, initiatives to develop international and regional airports and upgrade domestic airports and adding more airplanes in the government and private sector aviation companies will have significant impact on the development of aviation and tourism sector in the country.

I extend my best wishes to CAAN on the occasion.

December 2016

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(Shankar Prasad Adhikari)
Secretary

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

Message to the Civil Aviation Authority of Nepal on

18th Anniversary

I am very pleased to learn that the Civil Aviation Authority of Nepal is observing its eighteenth anniversary on 31st December 2016.

On behalf of the ICAO Regional Office, Bangkok, please accept our congratulations. We are committed to support and work with CAA Nepal for strengthening international aviation security and safety levels, enhancing capacity and efficiency and promoting sustainable air transport.

Please accept my best wishes and assurance of our cooperation at all times.

Arun Mishra
Regional Director
International Civil Aviation Organization
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16th December 2016

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Message

Civil Aviation Authority of Nepal (CAAN) has completed 17 years of its existence and services successfully and is celebrating eighteenth anniversary on 31st December 2016. On behalf of CAAN, I feel privileged to extend my sincere felicitations and warm greeting to all our stakeholders, clients, valued travelers, organizations, donors and other concerned parties in Nepal and abroad. Without your continuous support and collaboration, CAAN wouldn't have achieved progress in the development and expansion of civil aviation sector.

Air transport is a crucial means for sustainable economy, business development and employment generation, and socio-cultural development. In the context of the mountainous and landlocked country like Nepal, civil aviation has become an integral part of the national life and has been playing an important role in better connectivity and socio-economic development. It has greatly contributed during natural calamities like flood, earthquake and landslide.

Air transport has mainly contributed as the critical infrastructure for tourism development, promotion of culture and access to the remote mountainous areas. CAAN has the responsibility to implement the national civil aviation policy, create enabling environment for the private sector airlines companies, introduce air safety measures and adhere to the ICAO principles – the Convention and its annexes. CAAN has been constantly contributing to the development of air transport in Nepal and serving as critical infrastructure for the development and promotion of tourism.

CAAN gives top priority to aviation and security and working to enhance the capability of its human resources and airlines operators, and to improve infrastructure across the country. We at CAAN believe that without proper infrastructure, skilled manpower, relevant policies and high-end technological support, air safety and security can't be achieved.

I would like to thank souvenir publication committee and the Anniversary Celebration Committee of CAAN for their valued contribution. I am also thankful to all members of organization, stakeholders, patrons and well wishers for their support.

I have the pleasure in presenting this special souvenir to our distinguished readers.

Allow me to wish you a ***Happy New Year 2017.***

Sanjiv Gautam
(Director General)

Editorial

Civil Aviation Authority of Nepal (CAAN), aviation sector regulator as well as a service provider in the country, has successfully concluded 18 glorious years since its establishment in 1998. Year 2016 is bidding adieu and we are impatiently waiting to welcome the New Year amidst the graceful serenity of the winter with joy and festivity.

On the last day of every year, the state agency responsible for the safety oversight of civil aviation in Nepal celebrates its anniversary with various activities. On this very remarkable day we have published 'CAAN Souvenir 2016' including articles, experiences and opinions from various aviation sector experts, engineers, former high government officials, professors, journalists and other stakeholders. We feel very proud and satisfied while presenting this publication in your hands. This is our noble effort to disseminate useful as well as technical and academic information with deeper understanding of the subject to the stakeholders and public at large.

With growing demand of aviation, shortage of large aircraft for long-haul destinations, single international airport and lack of other required infrastructure, aviation in Nepal has become a cross-cutting issue. The situation is further exacerbated by the placement of Nepal registered carriers in the EU Safety Watch List due to safety concerns tagged by International Civil Aviation Organization (ICAO) Audits. But, we at CAAN have been working day and night to meet the aviation infrastructure deficit and address the loopholes in Air Safety management.

However, the future is still challenging. To cope with various problems that have been hunting Nepalese aviation for the last couple of decades, and challenges created due to the insufficient infrastructure, approaches in management and decision making system need to be reviewed. CAAN has the responsibility to implement the national civil aviation policy, create enabling environment for the private sector airlines companies, introduce air safety measures and adhere to the ICAO principles. But, without proper infrastructure, skilled manpower, relevant policies and high-end technological support, air safety and security can't be achieved.

In this glorious moment of CAAN's 18th Anniversary, we would like to express our utmost commitment to apply innovative approaches in aviation sector regulation and infrastructure development and management as per the ICAO Guidelines and national policy for we know that opportunities originate from challenges. Development is a process which is achieved by pinning small achievements together. We feel that this is the moment to retrospect the aviation sector development in the country and introspect to our past performance, strengths, achievements we have made so far and our weaknesses as well.

The Souvenir Publication Committee would like to express its sincere gratitude to writers and contributors, and other individuals for their invaluable support and suggestions.

Wish you all a very happy and prosperous New Year 2017!

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Table of Contents

Regulatory Reform in Civil Aviation

Rajan Pokhrel
Dy. Director General, CAAN

Introduction

In the early days of civil aviation, States were heavily involved in the development of aviation infrastructure and operations of air transport system. States were operating airlines, airports, air navigation services and other aviation activities. Safety oversight system was not conceptualized as there was no arms-length relationship between the regulator and the regulated entity. Chicago Convention had not envisaged the independent oversight agency except for the independence of accident investigation process. In many countries, a government department was responsible for the overall development, operation of aviation activities including the accident investigation. In due course of time, airlines were corporatized. After the introduction of liberal economic approach, aviation activities like airport operations and air navigation services were also transformed into the corporate entities. Regulatory bodies were established as separate autonomous authorities.

State civil aviation system

Pursuant to the Assembly Resolution A32-11, the ICAO Universal Safety Oversight Audit Programme (USOAP) was launched in January 1999 to assess the safety oversight system of Contracting States. After this initiation, the concept of safety oversight system evolved in its mature form. These days the civil aviation system in a State can be broadly categorized into two audience groups: State and service provider organizations. Civil Aviation Authority, Accident Investigation and other regulatory bodies represent the State whereas the aircraft manufacturer, airlines, maintenance organizations, Aviation Training Organizations, Aerodromes, Air Navigation Services etc. are regarded as the service provider organizations. It is the obligation of the State to implement the Safety Standards, policy, guidance of ICAO and industry best practices as applicable to that State. Service provider organizations need to deliver the services in accordance with the regulatory requirements of the State. Still there are States, including Nepal, that are running the civil aviation system in an environment of 'conflict of interest'.

Conflict of Interest

Conflict of interest encompasses a broad sphere of personal and organizational performances inconsistent with the standard operating principles. This is a situation that has the potential to undermine the impartiality of a person because of the possibility of a clash between the person's self-interest and professional interest or public interest.

Article 7 (4) of United Nations Convention Against Corruption, 2003 states "Each State Party shall, in accordance with the fundamental principles of its domestic law, endeavor to adopt, maintain and strengthen systems that promote transparency and prevent conflicts of interest."

The safe and orderly development of international civil aviation requires that all civil aviation operations be conducted under internationally accepted minimum operating standards, procedures and practices. Article 12 and 37 of the Convention require States to collaborate to the highest degree to achieve standardization and harmonization in regulations, rules, standards, procedures and practices. It also follows that a Contracting State should establish and implement a system that enables it to satisfactorily discharge its international obligations and responsibilities to develop and conduct civil aviation in a safe and orderly manner. ICAO has prescribed through its Safety Oversight Manual - Part A 'The Establishment and Management of a State's Safety Oversight System' about the duties and responsibilities of ICAO Contracting States to the Chicago Convention with respect to aviation safety oversight. This guidance

document has also identifiedthe eight critical elements that are considered to be essential components of a safety oversight system.

Para 2.4.9 of ICAO Safety Oversight Manual 'Doc 9734' states that, "In those States where the State is both the regulatory authority and an air traffic service provider, aerodrome operator, air operator, manufacturer or maintenance organization, the requirements of the Convention will be met, and public interest be best served, by clear separation of authority and responsibility between the State operating agency and the State regulatory authority." Para 3.4.4 of the Manual further states, "Where States have established and developed commercialization and privatization projects in the provision and operation of aerodromes and air navigation services, States have had to adapt their organizational structures to ensure retention of adequate oversight by the CAA in its role as regulator due to the associated increased autonomy of such providers. Clear distinction and separation of authority and responsibility between the State regulatory authority and the State operating agency should be maintained." Here, ICAO's guidance is very clear about the safety oversight obligation of a State. The Regulatory agency must have safety oversight capability even if the operator and service provider functions are carried out by State owned organizations. ICAO does not imagine the regulator itself being involved in service provider functions.

Result of USOAP Audit in Nepal

ICAO has broadly divided the safety oversight system of a State into eight audit areas viz. Legislation (LEG), Organization (ORG), Personnel Licensing (PEL), Operations (OPS), Airworthiness (AIR), Accident Investigation (AIG), Air Navigation Services (ANS) and Aerodrome (AGA). ICAO evaluates the safety oversight capability of a State based on these eight audit areas. Safety oversight audit of Nepal under USOAP was conducted in May 2009. After this audit, the overall compliance of applicable ICAO safety standards and guidance by Nepal was identified as 43 percent compared to the global average of 59 percent. The audit also identified the dual role of regulatory body as the organizational flaw in Nepalese civil aviation system. Nepal proposed the Corrective Action Plans (CAPs) to rectify the findings raised during the USOAP audit that also included the proposal of organizational reform. In 2013, ICAO Coordinated Validation Mission (ICVM) visited Nepal to validate the progress made to address the deficiencies identified in 2009. Though the overall effective implementation (EI) of safety standards and guidance elevated to 55 percent compared to global average of 60 percent, the organizational findings were still unresolved.

At present, Civil Aviation Authority of Nepal (CAAN) is the regulator of civil aviation as well as the service provider in the areas of aerodrome operations and air navigation services. ICAO identifies this type of dual role as the conflict of interest and deems it not acceptable in a safety sensitive business like civil aviation.Though CAAN has established a mechanism within existing organization to regulate the services under its area of responsibility, this mechanism does not ensure the distinct separation of regulatory and service provider functions as required by ICAO.

Government Policy

The Three Year Interim Plan (2007-2010) of Government of Nepal first envisaged the institutional reform of CAAN considering its regulatory and service provider functions. Thirteenth Plan (2013-2016) made remark that the tasks relating to the separation of regulatory and service provider functions of CAAN is in the process. The Approach Paper of Fourteenth Plan (2016-2019) states that based on the policy of ICAO regarding the distinct separation of regulatory and service provider functions, restructuring of civil aviation system has been initiated. The working policy of this Plan clearly states that necessary legal provision will be made to restructure CAAN for separating regulatory and service provider functions.

According to the policy guideline of the Government of Nepal, a 'Civil Aviation Capacity Enhancement Project' under the loan assistance of ADB was initiated in May 2010. This 4.2 million US dollar project was responsible for the review the legal frameworks, developing various plans such as required organization structures, corporate business plan, air transport plan, MIS plan etc. for the splitting of CAAN into regulatory body and service provider entity. INECO, a Spanish Consultant made a detailed study for three years and prepared various reports and draft documents. A new Civil Aviation Act, 2071 was also drafted incorporating the recommendations made by USOAP audit report and making provision fora regulatory body and service provider organization. After the decision of CAAN Board, the draft Civil Aviation Act was forwarded to the Ministry of Culture, Tourism and Civil Aviation (MOCTCA) in December 2014. MOCTCA formed a Task-force to review the draft Act in June 2016. The Task-force reviewed the draft Act, prepared the revised draft of Civil Aviation Act,2073 and submitted it to the Minister in November 2016.

Draft Civil Aviation Act, 2073

The draft of new Civil Aviation Act, 2073 has a total of 101 sections in its 13 chapters. The draft Act has incorporated provisions to resolve the findings identified during USOAP audit 2009 and ICVM 2013. The salient features of this Act can be summarized as follows:

- Inclusion of all necessary provisions made on various Articles of the Chicago Convention.
- Separation of Regulatory and Service Provider function
- Provision of air transport matters like Ownership and Capital, Insurance, Air fare and Charges, Passenger rights etc.
- Composition of Board of Directors of Civil Aviation Authority addressing the issue of conflict of interest.
- Empowering Director General on safety oversight matters in accordance to the ICAO guidelines.
- Detailed provisions of safety oversight
- Empowering Government of Nepal to establish one or more service provider ogranizations for Aerodrome Operations and Air Navigation Services
- Provision of private investment in aviation infrastructure.
- Provision of independent accident investigation body
- Provision of separate Aviation Security mechanism
- Detailed provisions of offenses and penalties
- Provision of airport construction and operations
- Provision relating to Air Navigation Services
- Power of Government of Nepalto issue order in special circumstances
- Enforcement provision of regulator
- Designation of Civil Aviation as a essential service
- Transitional management and job security of existing CAAN employees

Conclusion

Aviation experts in Nepal are still divided on the issue of bifurcation of CAAN. There is still some confusion among them regarding the ICAO's policy and requirement on separation of regulatory and service provider functions. ICAO has provided adequate guidance on safety oversight system in a State through 'Doc 9734 - A' i.e. Safety Oversight Manual. ICAO introduced Annex-19 'Safety Management' in 2013 as a dedicated Annex for the management of safety in a State. Annex 19 has made provision for the implementation of State Safety Programme (SSP) by the State and Safety Management System (SMS) by the service provider organizations. Para 3.1.3 of Annex 19 has specified the service provider organizations and their responsibility for the implementation of SMS. Airport operations and Air Navigation Service are the major areas of aviation activities and they cannot be ignored to be kept outside the oversight obligation. Separation of regulatory and service provider function is the pre-requisite for the effective safety oversight system in a State. In the context of changing safety oversight scenario, many States proactively carried out major institutional reforms within their civil aviation system. Nepal also needs to accelerate its long stalled regulatory reform process to strengthen its civil aviation system.

References:

1. ICAO Assembly Resolution A 32-11
2. United Nations Convention Against Corruption, 2003
3. Safety Oversight Manual - A Doc 9734
4. Three Year Interim Plan of Government of Nepal (2007-2010)
5. Thirteenth Plan of Government of Nepal (2013-2016)
6. Approach Paper of Fourteenth Plan (2016-2019)
7. Annex 19 to the Chicago Convention

Caution on Open Skies Overture

Lalit Bickram Shah
Former DG, CAD and Former Regional Head
ICAO Asia/Pacific Office

Introduction:

Lately, my attention has been caught by media reports on two major developments in Nepalese Civil Aviation: the Proposed Integrated Civil Aviation Bill 2016, which intends to split CAAN, and Nepalese hesitancy on Open Skies Overture from India. Both the issues are of equal interest and importance, however given the scope of this article, I am putting forth a brief expose' on Open Skies Overture in my contribution to the Souvenir brought out by CAAN to mark its 18th Anniversary.

Before proceeding, we wish to offer our sincere congratulations and kudos to CAAN for its incessant struggle to narrow the gap between growth and supply. It seems to be a losing battle as a good battle-plan, apparently, was never considered. Rather than falling prey to the easy temptation of joining the rhetoric of Open Market Fundamentalism, one needs to closely examine the ground realities keeping national interest in mind. Against this backdrop, let us examine the Nepalese Civil Aviation Industry, which needs a correct placement in Nepal's development process.

Civil Aviation needs to unshackle itself from the loosely held clutches of the tourism industry – rather than being a tail ender the State Administration, it should learn to accept its true role as a strategic tool to develop the country. A thriving tourism industry is one of the primary beneficiaries of the civil aviation. It is for the traveling public at large and trade of which tourists comprise a part. Given the geo-political scenario of Nepal viewing civil aviation on a much wider and higher platform is critically important.

Global Trend:

ICAO Member States have more than 18,000 bilateral arrangements in place and as of 2013, more than 440 Open Skies ASAs have been concluded. Liberalization of air transport continues to evolve rapidly resulting in enhanced connectivity with corresponding benefits for economies and societies. Bilateral ASAs remain the primary vehicle for liberalization. A notable development is the conclusion of bilateral 'Open Skies' ASAs, providing full market access without restrictions on Third, Fourth and Fifth Freedom Traffic Rights, designation, capacity, frequencies, code sharing and tariffs.

- Regional and plurilateral liberalization-more than 15 groups in all
- Group wise negotiations
- Step-By-Step Liberalization Approach (SBSLA)
- Proactive, progressive, orderly and safeguarded approach, as adopted by China
- Regional Single Market- EU
- Industry development is characterized by airline alliances, mergers and acquisitions, privatization, etc. Airline Business Models are LCCs, Airline hubs and various product distribution systems.

Broad business model characteristics of airline types are:

- National developer – strategic tool to develop country
- Network carrier
- Niche carrier
- Low-cost carrier

Open Skies:

'Open Skies' has no specific definition, it is a rather loosely held aviation policy pursued initially by the United States of America. It denotes a high degree of liberal approach and is generally understood as unrestricted air service to, from and beyond a partner's territory, without restrictions on frequency, aircraft type and prices. It is still a vague term and could be misleading to discuss its merits without all stake-holders being clear on the definition.

Expectations of Open Skies are:

– Boosting flight frequency
- Enhancing connectivity
- Increasing traffic, and
- Lowering ticket prices

Whereas realities are:

- Smaller carriers pull out
- Traffic is siphoned from national and other carriers initially dumping prices followed by eventual increment

Greatest supporters of Open Skies are the states whose airlines have huge resources and vast distribution, such as the Middle East Airlines with hundreds of the latest aircraft equipment and world class airports.

Some states have expressed the view that Air Services Liberalization should take into consideration the need for fair and equal opportunity for airlines to compete and that governments should have a role in a liberalized environment to prevent anti-competitive behaviors.

'States may wish to maintain flexibility to liberalize at a pace and in a manner appropriate to their needs and circumstances.'

This is a guiding principle of ICAO in aviation as it relies on the wisdom and judgment of sovereign states or group of states to pursue policies in their best interest. ICAO is persuasive, not coercive and this continues to work very well. The above principle may very well guide the Nepalese administration in examining the proposal of restructuring CAAN rather than by being coercively rushed into decisions which may be regretted afterwards.

South Asian context:

Aviation divide, in terms of equipment, resources, network, air route structure and airport infrastructure is very pronounced. Cooperation in aviation, except for a struggling COSCAP-SA,(Cooperation on Safety and Continuing Air Worthiness Program – South Asia) there is no real time visible demonstration on track that brings pride to the South Asia Region. Aviation is best left alone and not by any chance inducted into the folds of SAARC, unfortunately a grouping that hardly has anything to show for itself. Marked differences in the region stand as strong impediments to group approaches. It is absolutely premature for Nepal to adopt a totally wholesale 'Open Skies' policy without drastically improving its capacity, infrastructure, human resources: as 'Open Skies' pre-supposes a comparable degree of level playing field and resources, otherwise equal opportunities remain a distance fallacy for all practical purposes.

Nepalese context:

For Nepal, to seriously consider entering bi-lateral Open Skies or Group Multi Lateral Open Skies at this stage will not carry any policy common-sense as its infrastructure, resources, management, airport and airlines capacity are woe-fully inadequate. There is no dearth of criticism, further exacerbated by the ongoing placement of Nepal registered carriers in the EU Safety Watch List as a result of having Significant Safety Concerns tagged by ICAO Audits. In such a grievous situation, rather than consolidating all our strength and deploying massive efforts and resources where it counts – engaging in 'Open Skies' pursuits apart from being irrelevant and counter productive will be tantamount to willful promotion of inefficiency, safety and security erosion. When aircrafts are made to hold for hours in air space waiting for the parking slots at TIA and airport facilitation and terminal capacity are already overstretched: succumbing to Open Skies either by one's own folly or under duress, would be a folly in the making and a classic contradiction.

Aviation in Nepal serves both as an intra and inter country bridge. That is why a step-by-step approach to liberalization combined with a pro-active, progressive and safe-guarded one is the way to go for now. The ensuing period must be aggressively utilized to improve cost structure, facilitation, infrastructure, both airlines and airport capacity, if the state is to fully take advantage of improved air access by participating in the growth meaningfully. It is to be noted that the 53rd Conference of Directors General of Asia and Pacific while noting the benefits of multilateral liberalized arrangements to include 5th Freedom traffic rights concluded that States should be cautioned to liberalize at a pace and in a manner appropriate to their needs and circumstances. I hope the reported Nepalese hesitancy on Open Skies overture is not transformed into glib obeisance at the cost of the Nation.

संरचनागत सुधारका चुनौतिपूर्ण घडीबाट गुज्रिंदै

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त्रिरत्न मानन्धर
Former DG, CAAN

बिभिन्न उतारचढावको बावजुद देशमा सुरक्षित, भरपर्दो र व्यवस्थित हवाई सेवा उपलब्ध गराउन कटिबद्ध रहँदै आएको नेपाल नागरिक उड्डयन प्राधिकरण अहिले संरचनागत सुधार कार्यक्रम कार्यान्वयनको चुनौतिपूर्ण घडीबाट गुज्रिरहेको छ । विश्वभर व्यापक विस्तार र विकास हुँदै गएको अन्तरराष्ट्रिय नागरिक उडडयन क्षेत्रको प्रवाहमा देशलाई आवद्ध गराई यसबाट देश र जनतालाई कसरी लाभान्वित गराउने भन्ने सवालमा प्राधिकरण सामु अरू पनि कैयौं चुनौति छन् ।

देशमा हवाई सेवा विकासको गतिको अनुपातमा भौतिक पूर्वाधारको विकासको गति ज्यादै न्यून रहन जाँदा एउटै मात्र अन्तरराष्ट्रिय बिमानस्थलको साँघुरोपन (कन्जेशन) सबैको लागि गुनासोको बिषय भयो । हाम्रो दूरदृष्टिको कमीको कारण यस्तो अवस्था आईपुगेको होईन बरू देशको संक्रमणकाल, अस्थिर राजनीतिक र प्रशासनिक नेतृत्व, उच्च राजनीतिक तहमा प्रतिवद्धताको कमी अनि भञ्झटिलो र लामो प्रशासनिक निर्णय प्रक्रियाको कारण यस्तो स्थिति आएको हो । त्रिभुवन अन्तरराष्ट्रिय विमानस्थलको गुरूयोजनाअनुरूप समयमा काम भएको भए, दोस्रो अन्तरराष्ट्रिय बिमानस्थल समयमा निर्माण हुन सकेको भए यो अवस्था झेल्नुपर्ने थिएन ।

नागरिक उड्डयन क्षेत्र साह्रै खर्चिलो र उच्च प्रविधियुक्त हुनाको साथै ती प्रविधिहरू पनि विकासको क्रममा निरन्तर परिवर्तनशील हुने हुँदा प्रविधिको विकासको गतिअनुरूप आवश्यक पूर्वाधार र जनशक्तिलाई पनि सोहीअनुरूप परिमार्जन गर्दै लानु कतिपय अवस्थामा संपन्न राष्ट्रका लागि समेत कठीन हुन जान्छ भने नेपाल जस्तो विकासशील देशका लागि त यो झन चुनौतिपूर्ण हुनु स्वाभाविकै हो । त्यसमा पनि तयार भएका जनशक्तिलाई पनि अपेक्षा अनुरूप पारिश्रमिक दिनसक्ने अवस्था नहुंदा भएका जनशक्ति पलायन हुने समस्या पनि उत्तिकै छ ।

अन्तरराष्ट्रिय नागरिक उड्डयन संगठनको सदस्य राष्ट्रको हैसियतमा र हवाई सेवाको अन्तरराष्ट्रिय स्वरूपअनुसार पनि नेपालको आफ्नै अन्तर्राष्ट्रिय दायित्व छन् । अन्तरराष्ट्रिय हवाई सेवाको सवालमा हामीले स्रोत र साधनको कमीका कारण तथा अन्य कुनै कारण देखाई अन्तरराष्ट्रिय मापदण्ड र आवश्यकताहरू पूरा गर्न असमर्थता प्रकट गर्न पाउने गुंज्जाईस रहँदैन । ढिलोचाँढो राष्ट्रले जुनसुकै अवस्थामा पनि ती दायित्वहरू पूरा गर्ने पर्ने हुन्छ । अन्तरराष्ट्रिय दायित्व पूरा गर्ने क्रममा नेपालले अन्तरराष्ट्रिय नागरिक उड्डयन संगठनद्वारा प्रतिपादित सिद्धान्त, मान्यता र निर्देशनहरूलाई परिपालना गर्दै आएको छ । यसै क्रममा नेपालको नागरिक उड्डयनले सन् १९९९, २००९ र २०१३ मा सेफ्टी अडिटका बिभिन्न चरणहरू पनि पार गरिसकेको छ । हाल नेपाल नागरिक उड्डयन प्राधिकरण सेफ्टी अडिट पछि त्यसले औंल्याएका कमी कमजोरीको निराकरणको प्रयासमा छ ।

सन् २००९ मा सेफ्टी अडिटले औंल्याएका कमीकमजोरीमध्ये नेपाल नागरिक उड्डयन प्राधिकरणको दोहोरो भूमिका, नियमनकारी कार्य र सेवा प्रदायक कार्यको लागि पृथक संस्था स्थापना गरी छुट्याउनु पर्ने बिषयलाई तत्कालीन सरकार, मंत्रालय र प्राधिकरणले गम्भीररूपमा लिई गृहकार्य थालनी गरिएको थियो । त्यही पृष्ठभुमिमा हवाई यातायात क्षमता अभिवृद्धि कार्यक्रमअन्तर्गत नेपाल नागरिक उड्डयन प्राधिकरणको संस्थागत संरचना, ऐन(नियममा सुधार र परिमार्जनसम्वन्धि विषय समेत समावेश गरी गृहकार्य थालियो । यस कार्यमा सहयोग गर्न सरकारकै पहलमा एशियाली विकास बैंक पनि तत्पर भयो । उक्त आयोजनाको लागि छानिएको स्पेनको उड्डयन परामर्शदाताले प्रतिवेदन पनि पेश गरिसकेको छ ।

परामर्शदाताबाट प्राप्त प्रतिवेदन समेतको आधारमा मन्त्रालयले बेग्लै गृहकार्य गरी एकिकृत नेपाल नागरिक उड्डयन ऐनको मस्यौदा तयार गऱ्यो जसमा प्राधिकरणलाई नियमनकारी निकाय र सेवा प्रदायक कार्यको लागि छुट्टै गरी आवश्यकतानुसार एक वा सो भन्दा बढी सेवा प्रदायक संस्था गठन गर्न सक्नेछ भनी उल्लेख गरिएको छ ।

ऐनको प्रस्तावित मस्यौदाको सम्बन्धमा हालै माननीय मन्त्रीज्यूको प्रमुख आतिथ्यमा भएको अन्तरक्रिया कार्यक्रममा सहभागीहरूले ऐनको मस्यौदामा विद्यमान कमीकमजोरी सहित आफ्ना टिप्पणी प्रस्तुत गरेका छन् । कार्यक्रममा सहभागी पूर्वमहानिर्देशकहरू लगायत सबैजसो विज्ञहरूले संस्थालाई टुक्र्याउनु समस्याको समाधान नभएको औंल्याएका छन् । त्यस्तै कर्मचारीहरूको तर्फबाट पनि आफ्ना जायज गुनासोहरू प्रस्तुत भए ।

अहिले नेपालको नागरिक उड्डयन क्षेत्रको गम्भीर चुनौति भनेको आईकाओ सेफ्टी अडिटले औंल्याएका गम्भीर सुरक्षा सरोकारहरूलाई कसरी निराकरण गर्ने, निरन्तर भईरहेका हवाई दुर्घटनाहरूलाई न्यून गरी कसरी आमजनतामा हवाई सुरक्षाको प्रत्याभुति गर्ने, युरोपेली संघले दर्शाएका उडान सुरक्षा सम्वन्धी चासोलाई कसरी संबोधन गर्ने प्रमुख छन् । के प्राधिकरणलाई

दुई फ्याक गर्दैमा यी सबै विषयको समाधान निस्कन्छ त ? वास्तवमा चोट टाउकोमा लागेको छ तर उपचार खुट्टामा हुँदैछ भन्ने टिप्पणी सहभागीहरूले गरेका थिए । प्राधिकरणको नेतृत्वमा स्थायित्व रहने र यसले स्वतन्त्ररूपमा काम गर्ने वातावरण भए संस्थालाई टुक्र्याई राख्नुपर्ने अवस्था नै आउने थिएन कि भन्ने धारणा पनि सहभागीको थियो ।

विज्ञहरूको रायअनुसार अव प्राधिकरणलाई छुट्याउनुको विकल्प छैन किनकि सन् २००९ देखि अन्तरराष्ट्रिय समुदायलाई यही जवाफ दिएको छ । उड्डयन क्षेत्रको संस्थागत सुधारको लागि अन्तरराष्ट्रिय पामर्शदातको सेवा लिई काम सुरू गरिसकेका छौं । एशियाली विकास बैंकको ऋण सहयोगमा अन्तरराष्ट्रिय बिमानस्थलको क्षमता बृद्धि र सुधारको कार्य जारी छ । यसबाहेक सेफ्टी अडिटले औंल्याएका कमीकमजोरीको निराकरणको लागि पनि व्यापक तयारी छ ।

हाल ठेकेदारले बिभिन्न कारण देखाई बिमानस्थलको सुधार कार्य अवरूद्ध पारेको सुन्नमा आएको छ । सेफ्टी अडिट, युरोपेली संघलगायत सर्वसाधारण सबैको चासोको बिषय रहेको हवाई दुर्घटना जाँचको प्रक्रियामा समेत हामीले परिवर्तन गर्न सकेनौं । अन्तरराष्ट्रिय परामर्शदाताप्रति हाम्रा धेरै अपेक्षा थिए सायद चमत्कारकै आशा गरेका थियौं । तर, उनीहरू पनि हामीजस्तै साधारण नै देखिए । हाम्रो कामको लागि हामी भन्दा विज्ञ अरू कोही हुन नसक्ने रहेछ भन्ने देखियो । यस अवस्थामा आएर अब हामीले नियमनकारी र सेवा प्रदायक निकाय छुट्याउंन असमर्थता प्रकट गर्ने हो भने हामीप्रति अन्तरराष्ट्रिय समुदायको विश्वसनीयता र प्रतिवद्धता के होला ? अहिलसम्म खर्चेको, श्रोत, साधन र समयको जवाफदेही को हुने ?

तर, कर्मचारीहरूले उठाएका कुरा पनि आफ्नो ठाउँमा सही छन् । उनीहरूले आफ्नो भविष्यप्रति चासो राख्नु स्वाभाविक हो । सबैजसो कर्मचारीले भविष्यमा आफ्नो संगठनमा यहाँ सम्म पुग्छु भन्ने एउटा सपना देखेको हुन्छ । कर्मचारीहरूले सपना देख्नु गलत होइन र उनीहरूले सपना देख्न छोड्नु पनि हुँदैन । कर्मचारीको सपनाले नै संस्था जिवन्त र गतिशील रहन्छ र प्रगति संभव हुन्छ, नभए निर्जीव र निष्क्रिय हुन्छ । उदाहरणका लागि एयर नेभिगेसन सेवामा प्रवेश गरेरै कैयौं कर्मचारी महानिर्देशक देखि मन्त्रालयका उच्च पदसम्म पुगेका छन् । र, मस्यौदाले त्यही एयर नाभिगेसन सेवालाई प्रत्यक्ष प्रहार गर्न खोजेको आमकर्मचारीले महशुस गरेका छन् ।

यहाँ भारतको विमानस्थल निजीकरण प्रक्रियामा कर्मचारीहरूको बाधाबिरोध भए पछि त्यहाँका तत्कालीन उड्डयन मन्त्री प्रफुल्ल पट्टेलले लिखित प्रतिवद्धता गरी समस्या समाधान गरेको कुरा उल्लेख गर्नु सान्दर्भिक हुनेछ ।कर्मचारीहरूको हितको प्रत्याभुति नभईकन निजीकरण लागू गरिने छैन । मलाई विश्वास गर्नुस् र अहिले प्रक्रियामा अवरोध नगर्नुस् । मन्त्रीको प्रतिवद्धतापछि प्रक्रिया अघि बढ्यो । आज हेर्नुस भारतको विमानस्थल निजीकरण प्रक्रिया अरूको लागि पनि अनुकरणीय बनेको छ र यसबाट संस्था कर्मचारी, सेवाग्राही सबै खुशी छन् । कर्मचारीहरू पद, ईज्जत र पैसाका लागि काम गर्छन् । मैले सुनेको थिएँ अमेरिकी एयर नेभिगेसनमा पनि पैसा कमाउन चाहने कर्मचारी अपरेशन ड्यूटीमा काम गर्छन् । जो पदको लागि काम गर्छन्, उनीहरू प्रशासनिक तथा व्यवस्थापन तिर लाग्दछन् । ती दुईको पारिश्रमिकमा भने निकै अन्तर हुने गर्दछ । यस तथ्यलाई हामीले पनि मार्गदर्शनको रूपमा लिन सक्छौं ।

अडिट प्रोटोकलको मुख्य सरोकार भनेको नियमणकारी निकाय र सेवा प्रदायक निकाय एक अर्कामा छुट्टै र स्वतन्त्र छन् कि छैनन्, नियमनकारी निकायले सेवा प्रदायकलाई सुपरिवेक्षण र नियमन गर्न सक्षम छ कि छैन भनी हेर्नु हो । यस बिषयमा यथेष्ट पुष्ट्याईं र प्रमाण प्रस्तुत गर्न नसकेसम्म त्यो कमजोरी (डिफिसियन्सि) कै रूपमा रहन्छ । तर, मौजुदा संगठनभित्रै पनि ती दुई इकाई भिन्दाभिन्दै अस्तित्व राख्छन् र नियमनकारी इकाई सेवा प्रदायक इकाईलाई निगरानी र सुपरीवेक्षण गर्न पूर्ण सक्षम छ भनी प्रमाण र पुस्ट्याई प्रस्तुत गर्न सकेमा प्राधिकरणको हालको संरचना भित्रै सामान्य हेरफेर गरी समस्याको समाधान खोज्न सकिने कुरालाई पनि नकार्न सकिन्न । यसका लागि हाल नियमनकारी निकाय र सेवा प्रदायक निकायलाई कार्यगत रूपमा बिभाजन गरी लागू गरिएको प्राधिकरणको हालको संगठन संरचनामा नै दुवै निकायलाई स्वतन्त्ररूपमा काम गर्ने सुनिश्चितता प्रदान गरी ती दुवैलाई छुट्टाछुट्टै रूपमा सञ्चालक समितिको अध्यक्ष प्रति उत्तरदायी हुने गरी प्रस्तावित एकिकृत ऐनमा व्यवस्था गर्ने हो भने यसले अन्तरराष्ट्रिय समुदायको चासो पनि संबोधन हुने र भएका संरचनामा समेत खास परिवर्तन ल्याउन नपर्ने देखिन्छ । यस विकल्पको संबन्धमा थप छलफल र गृहकार्य हुनु मनासिव हुनेछ । दुई इकाईलाई नछुट्याउने हो भने सेफ्टी अडिटको यति गम्भीर डिफिसियन्सी थेगि राख्न नेपालको नागरिक उड्डयनलाई सहज हुने छैन ।

अन्तरराष्ट्रिय समुदायले नेपालको हवाई उडड्यन सुरक्षाको सुधार प्रक्रियालाई चासोका साथ हेरी रहेको छ । नेपालमा संचालनमा रहेका वायुयान, वायुसेवा कम्पनी तथा उडान सुरक्षाको प्रभावकारी रूपमा सुपरीवेक्षण र निगरानी गर्न प्राधिकरण सक्षम छ भनी व्यवहारमा देखाउनु परेको छ साथै द्रुतगतिमा भौतिक पूर्वाधारको विकास गरी अन्तरराष्ट्रिय विमानस्थलको समस्यालाई सम्बोधन गर्नु परेको छ । हवाई दुर्घटना जाँचको लागि शीघ्र छुट्टै एउटा स्वायत्त र साधन सम्पन्न निकायको स्थापना गर्नुपर्छ । यी सबै कार्यका लागि पूर्वाधार भनेको राजनैतिक हस्तक्षेप विनाको पूर्ण स्वायत्त संस्था, तथा संस्थाका कार्यकारी प्रमुखलाई स्वतन्त्र रूपमा स्वविवेक प्रयोग गरी काम गर्न सक्ने वातावरण हो । आशा गरौं हालको नेतृत्व यी सबै चुनौतिलाई पार गरी देशमा एक सुरक्षित, व्यवस्थित र प्रभावकारी नागरिक उड्डयन सेवा र सुविधाको व्यवस्था गर्न सक्षम हुनेछ ।

Practical implementation of SMS–need for safety enhancement

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With the mandatory provision of ICAO, Civil Aviation Administration of all the member States isrequired to implementSafety Management System to all its applicable service providers. Obviously, Nepal cannot be immune to the same. According to ICAO 'A safety management system (SMS) is a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures'.The objective of a Safety Management System is to identify safety hazards and provide a structured management approach to control safety risks in operations.

Similar to other management functions, safety management requires planning, organizing, communicating and providing direction. In addition, SMS also provides the organizational framework to establish and foster the development of a positive corporate Safety culture.Safety management is based on the premise that safety hazards and human errors are common part of human activity. Safety management is that function of service provision, which ensures that all safety risks have been identified, assessed and satisfactorily mitigated. These consist of hazard identification, risk assessment, risk mitigation and tracking.

Following ICAO and CAAN mandatory requirements, Nepal introduced Safety Management System at prescribed date. All Nepalese service providers, by now, claim that SMS has already been implemented in their company.Regular inspections and safety audits formalities are also being performed. However,the number of accidents occurred in the past indicate that the State couldn't maintain good safety records. As such, it will be prudent to review whether SMS in our context is being implemented effectively in behavior?

Having faced two recurrent accidents within short span of time, the Fishtail Air top management realized to make a safety survey/assessment of the company to enhance safety and entrusted the writer of this article for the mission. The writer, in this connection, besides reviewing company documents, had the opportunities to interact with company employees, CAAN officials including Flight Standard Department and Aerodrome officials, other Air Operators, AOAN officials, Tours and travel agencies representatives, travelling passengers and general public.

Irrespective of how sound an entity is, identification of more or less findings while undergoing such study/assessment is obvious. Fishtail Air is not immune to the same. Besides the company specific deficiencies, some of the findings that may affect air safety and the suggested recommendations for its rectifications are being produced hereunder.

Findings

1. The air operators are found to receive only limited reports of safety recommendations of accident investigation commissions/ committees. Even the State bodies concerned officials do not possess all such reports. There is neither any mechanism to ensure whether the reports are received by the concerned or not; nor the status of their implementation. This obviously implies that due attention could not be paid in the implementation of past accident investigation committee/ commission recommendations.
2. One of the common weaknesses observed with most of the Air Operators of Nepal is that operational staffs hardly dare to compel flight crews obey their instructions. They even don't point out observed deficiencies of flight crews' to flight operations chief or top management. On the other hand, even if such reports are received, in rare cases, it is usually not acted on, resulting lack of learning opportunity from such events. Eventually, there is chance that the accumulation of such events may

turn into disaster.

3. Another shortcoming of the Nepalese people, even in the aviation arena, is that we normally don't care of small things and get the weaknesses addressed so long as the situation continues to remain normal or till something serious happen. However, following a serious event, all the concerned including media get panic for some time. Again with the gradual passes of time and normalization of the event, the same trend is quite likely to be repeated.

4. In course of Lukla visit, it was observed that the helipads were not marked and contained enormous loose articles. Couples of common malpractices and compromises on safety of helicopter operators were noticed in the name of expeditious flow of traffic. E.g. Helicopters, often times, do not shut down their engines during embarking and disembarking passengers or loading and offloading of cargo. No weighing scale is used while loading or offloading the cargo, resulting the carrying loads on estimation basis. Moreover, passengers and cargos are loaded without manifest. Lots of fuel is spilled over the helicopter body and also on ground during frequent refueling of helicopters by jericanes, particularly during short height fellow's involvement. But none was found bothering to use ladder or even small stool that would have been useful in the lessening of the fuel spillage. On the other part, even the helicopter pilot, was found smoking within the helicopter parking premises. For instance, Shree Airlines pilot of 9N-ALF on arrival from Kongde at upper helipad on 23rd October was found smoking within the premises at around 1130 LT. Briefing in these regards is already made with Lukla Civil Aviation Office chief Mr BR shrestha on 24th October so that immediate improvement actions could be initiated.

5. The excessive number of reciprocal aircraft movements between Kathmandu-Lukla-Kathmandu sector, more specifically around Lamjura, at about the same level with nominal longitudinal separation margin without proper surveillance mechanism and relying simply on Flight information service is a big threat to safety particularly during marginal weather.

6. In a couple of cases, following an air accident, it is usually heard that people, particularly those who were familiar with the behavior, aptitude and attitude of the ill-fated flight crew, more specifically other crew members in the circle, are found talking about the shortcomings of the deceased, that most likely could have contributed in the mishap. Instead, had those people given notification of the same in advance to the concerned and the concerned had taken the appropriate steps in time; it is quite likely that, by and large, it could have helped to save the precious lives.

7. It is apparent that Nepalese aviation is bound to face several negative factors like hostile mountains scattered over 80 per cent of the country area, frequent changing weather pattern including quick temperature variation in short distance, lack of surveillance mechanism throughout the FIR etc. AS such, it is axiomatic that aviation people, more specifically air crews are required to comply with all applicable requirements and SoPs more stringently compared to other air crews conducting flights at normal places. But unfortunately couple of air crews, in some occasions, have been found ignoring such factors resulting occurrences of excessive number of controlled flight into terrain related air accidents.

8. Despite so many deficiencies observed, it is heartening to note that some of the dignitaries were found really anxious about the poor safety record and are serious to find the root causes and eliminate those, taking appropriate measures for the enhancement of aviation safety in Nepal. As world wide data show over 70 per cent of air accidentsare attributed to human factors and considering even higher percentage in Nepalese context, they are of the view that unlike past, consent for basic pilot training shouldn't be provided unless the aptitude, attitude and psychological behaviour of the person willing to undergo the pilot training is minutely studied by a team consisting of suitable professional experts. Couple of companies also expressed their readiness even to sign MOU and invest for such suitable incumbent, if the candidate is unable to afford the incurring cost.

9. It is evident that due to lack of skilled technical manpower, almost all operators and even the regulatory authority have not been able to fulfill all such posts in accordance with their organizational structures, resulting couple of officials charged with added responsibility. Likewise, it is also

apparent that instead of taking measures for the strengthening of the existing Air Operators, arbitrary establishment of additional operators with limited number of aircraft without proper policy and analysis. is not going to improve the situation keeping into consideration the limited market scope, if this trend continues, unhealthy competition among operators for their sustainability is obvious. Hence, if State bodies do not adopt reasonable policy in consultation with the operators and follow it strictly, existing operators will be further marred, resulting nation's dream of fulfillment of skilled technical manpower and safety enhancement objective turned into a mere dream.

10. During the course of safety survey and also in various forums the stakeholders, particularly the Air Operators, were found expressing their dissatisfaction over the involvement of the people/entities with conflict of interest in the formation of accident investigation commission/committee following an accident as well as the investigation performance usually being exercised and also the issuance of couple of impractical recommendations not likely to be implemented. As such, almost all strongly expressed their concerns in favor of the need to establishing a separate independent State body involving highly experienced, skilled and neutral experts for this purpose that will also carry out aviation related research work regularly.

Recommendations

1. The designated officials of State body should be able to receive all accident investigation commission/committees reports and promptly deliver to all concerned.Utmost attempt should be made by recipientsin acquiring all the safety recommendations of past accident investigation commissions/committees and implement all of those as far as practicable.
2. The supremacy of air crew is perhaps the general global trend and is an augmented common practice, perhaps without exception, among Nepalese Air Operators. Though this trend is relatively getting lesser compared to previous. Nevertheless, it will be prudent to accept every official's stature without undermining any official's role in accordance with the provision of the document. Hence, concerned officials, particularly the operational staff, should dare to put any harsh facts including on the part of flight crews and the top management must act upon such received deficiencies. Integrated common solution among the Air Operators in this respect should be sought.
3. Instead of the practice of ignoring small things and get unduly panic in emergencies, the aviation entities and officials should take good care of even small things on time. As such, not only the accidents, serious incidents and incidents but also occurrences should be recorded, analyzed and timely addressed by all operators including State bodies before they culminate into unpleasant events.
4. The irregularities observed during Lukla visit seem common practice with all operators. One of the observed wrong concepts is, the wrong common practices amongst many are not being considered as default. Air Operators must get rid of this concept and measures should be taken so that all operators take initiation in rectifying deficiencies from their respective side. Likewise, attention of CAAN is also drawn to take initiative in resolving all the related issues identified in connection with Lukla visit.
5. Considering the factors that may aggravate the safety risks in Nepalese environment, it is obvious that aviators need to take extra caution compared to other plain area. Hence, establishment of safety culture in behavior and more stringent adherence of regulatory requirements including compliances of SOPs is a must. Apparently, safety can't be strengthened unless everyone involved in aviation, more specifically the aviators, assimilates that safety is his/her own prime concern rather than the concerns of other allied agencies like ICAO, IATA, MoCTCA, CAAN, AOAN and/or own Air Operator.
6. Selection criteria for trainee pilot should be developed consisting of suitable medical doctor's involvement with the aim of studying the aptitude, attitude and behavior of the incumbent to suit in Nepalese environment. If deemed necessary, MOU will be signed between the selected incumbents and Air operators to assist him/her for the training expenses to be incurred.
7. Keeping into consideration the practice of involving officials with conflict of interest in accident

investigation, it is being consistently suggested that an independent accident investigation board, direct under the honorable minister of Culture, Tourism and Civil Aviation should be formed with skilled, experienced and dedicated limited neutral experts (4-5 number) who will be dedicated in overall safety strengthening aspect of the entire aviation arena and they, besides performing the investigation work as deemed essential, will also carry out the civil aviation related research works of the entire Nation.

Above identified findingsare indicative that,by and large,they are in the periphery of SMS aspect and practical implementation of the same, in our context, isdeplorable.In order to keep safety risks at an acceptable level with the increasing levels of activity, modern safety management practices are apparently shifting from a purely reactive to a more proactive mode. However, it is pity thatNepal is lagging behind even in the reactive mode of compliance of safety recommendations of past accident investigation.

As regards proactive mode, it was observed that SMSbeing a mandatory requirement, all the service providers' corporate offices (seldom with branch offices) have their SMS documents in place.Preliminary Gap analysisbeing indispensible part of SMSM, is included in the document. Company's safety policy seems an extract from the model document. Certainly, each company has designated its accountable executive and safety manager. Voluntary and confidential reporting system provision has been included with the declaration that such reporting will be non-punitive and reporting boxeshave also been established to acquire such reports. At least one round of SMS training has also been conducted to designated safety manager and other concerned officials. Some have even prepared SMS implementation plan for phased implementationwhich is being construed as SMS implementation.

In this connection,the question that matters a lot and should be taken into consideration by all aviation entities for effective implementation of SMS is whether the:

- SMS Manual was prepared by company's officials or just bought in?
- Initial Gap analysis was performed by company concerned officials or was simply extracted from the model and included in the documentbecause it happens to be the indispensible part of SMSManual?
- Has the company created conducive atmosphere for hazard reporting and inspired the reporters to make it effective?
- Does accountable executive truly establishes senior management’s commitment to incorporate and continually improve safety in all aspects of its activitiesas mentioned in company's safety policy duly signed by himself/herself or simply holds the position with the intent of the sharingprofit?
- Safety manager is truly dedicated consistently in safety related matters or other secondary irrelevant activities?
- Has the initial gap analysis checklist at appropriate later stage been followed up by using the detailed 'SMS gap analysis and implementation task identification plan'that will provide follow-up analysis on details of the gaps and help translate these into actual required tasks and subtasks in the specific context of the organization’s processes and procedures so thateach task will then accordingly be assigned to appropriate individuals or groups for effective action?
- Has the SMS implementation plan with phased implementation been developed realistically and is being implemented as per the developed implementation schedule?
- Has the company developed its training plan and given continuity to recurrent safety trainings?
- Are the Emergency Response Planning exercises being exercised as per the documented provisions?
- Is the SMS Manual being updated regularly?

SMS being so vast,the above listed points are not exhaustive. However, without fulfillment of these, theSMS foundation will not be properly laid. Moreover, practical implementation of SMS in our context being pathetic,a lot is to be done on that part and it is axiomatic that enhancing safety without effective practical SMS implementation will be a mere dream.

'Hot – Seat' and Stress Management

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Once an old lady asked the renowned scientist Albert Einstein, "What is all this Theory of Relatively about?" Einstein replied, "If you are sitting on a hot stove for a minute, that 'minute' will seem to last for an hour to you. But, if you are spending an hour in a park with your beloved, it will seem to you that virtually it has only been a minute. That is the theory of relativity." That hot stove is the 'hot-seat' in the context of this write-up. Naturally, when an Air Traffic Controller (ATC) has to sit on the 'hot-seat' and do four things simultaneously, that is, (a) maintain a four dimensional situational awareness, (b) do lot of mathematical calculations mentally, (c) carry out conversations with various pilots continuously, and (d) watch either the sky or the Radar screen continually for hours and hours in a stretch, the stress to the ATC in the hot-seat becomes a bit too much. This statement is also accepted by all the other stake-holders. An attempt is made here to address this correlation between 'hot-seat' and the stress exerted, particularly in the case of the ATCs in Nepal, with a touch-up on the possible way of remedy, if there is any.

ATCs in all member states must be duly licensed. ATCs are the employees of the Government. The currency (validity) of their licenses must be duly updated periodically as required. This is so because a lot on the safety of the aircraft and its occupants depend on their performance.

Stress comes to there in many forms. The list is endless; we shall discuss it here by relating to the profession of ATCs in Nepal only. They are:

a) Design of Task–heavy work load, infrequent rest breaks, long working hours, odd hour shift-work, etc.

b) Career Concerns – frequent tests to keep the license valid, rapid advance in technology, such as, Rader, Global Navigation Satellites System, paper-less communication and Information Technology, etc.

c) Environmental Conditions – Miscellaneous Ergonomic problems.

Comparatively ATCs working at TIA are a poorer lot in the sense that the working scenario is rather more complex either under Visual Flight Rules (VFR), Special VFR or Instrument Flight Rules (IFR). Advancement in technology now allow aircraft to operate in poor visibility or bad weather. It has been a boost to the air transport industries and tourism, in more than one way.

Current situation at TIA is summarized as follows:

a) With the liberal sky policy implemented by the government in early nineties, a great leap forward has been made in welcoming the newer aircraft operators, but all wanting to operate from/to Kathmandu only. Currently, while ten (10) fixed wing aircraft and nine (9) helicopter operators are operational in domestic sector, twenty seven (27) operators are operating regular international flight to/from Kathmandu. And the number is still rising. The result is that Kathmandu valley, a limited airspace with only one runway in the middle, is getting more and more crowded day by day resulting in unnecessary delay, having to hold the fuel guzzling jet aircraft for hours up in the air, just because there is no adequate parking space below.

b) All operators (international as well as domestic) want to operate in broad daylight only despite availability of operation slot time in night time, privileges, such as, revenue discounts, non-congestion of traffic, baggage conveyor belts, etc.

c) Currently TIA is open for only 18 hours a day. Failure to open it for 24 hour as in any other busy international airport has only facilitated congestions during the day.

d) Fog is a menace to aviation. No aircraft flies in the dense fog. In winter when the fog clears up in the morning, all aircrafts in Kathmandu want to go to Lukla, Mountain Flight and other destinations, almost at the same time. The morning traffic hours make ATC so busy that it becomes extremely difficult to handle air traffic every second.

e) While, in other countries RADAR controllers are required to be on the 'hot seat' for two hours only at one stretch, for fear of making mistakes due to the stress to the eyes (and brain), they are required to work at TIA longer hours at a time due to staff shortage.

f) Working place environment-

(1) 'Lift' to go to control tower is occasionally out-of-order.

(2) Kathmandu being rich in birds, ATCs in the control tower have to keep a special vigilance on bird's activity near or on the runway too, not to mention frequent presence of monkeys and jackals.

g) All traffic at TIA, a mixture of VFR, special VFR and IFR Traffic, naturally makes immediate and necessary maneuvers required before landing or after take-off inside Kathmandu valley, a very small size of airspace for this purpose indeed, making flying as well as controlling the traffic a tricky job.

h) With only one runway, one way instrument landing and limited Radar service, due to the mountains nearby, being available for advisory service only, and with only one international airport in Nepal, the pressure to ATCs at Kathmandu is a bit too much to handle.

Stress management for ATCs can be addressed in two ways - one by the top management and the other by the individual himself. University graduates, after the ab-initio training of one year period are recruited into the service at Level-7 (senior officer). They go on progressing in the same discipline up to Level-11 (Director or equivalent). Aviation is a very rapidly developing arena. One must be updated on new procedures and newer safety management practices all the time. ICAO and CAAN are more than concerned in this aspect by making sure that ATCs all over the world are always properly trained and updated. Exchange of views and knowledge on the latest air navigation practices regularly take place at regional as well as international level.

Despite these facts, there is a tendency of ATCs fleeing from their duties in the hot-seat at the TIA because the job is rather complex and really difficult. This causes staff shortage all the time. While most of the domestic traffic attempt to condense at the same time of the day, most of the international flights also take place during day-light time simultaneously. They cause a heavy level of stress to the ATCs directly as well as indirectly. However, CAAN should always keep trying to allay the stress and apprehensions on the part of ATCs at TIA. Some way-outs are briefly discussed hereunder:

a) CAAN should produce sufficient ATCs every year and have enough man-power to reduce the working hours on the hot-seat.

b) CAAN must set realistic goal and priorities to encourage ATCs to be part of the CAAN's development. They must never be made to grumble about like 'my nasty boss' or 'this terrible place.

c) Appreciate good work and hardworking. This is a rare quality among any public organization in Nepal.

d) A short break after a hectic and stressful duty on the hot-seat must be made mandatory. Rest rooms must be located adjacent to the work-place and must be well facilitated.

e) Smog/bad visibility has a very adverse effect, not only on the performance of pilots, but for the ATCs too. Government should be serious on the issue of air pollution level in the valley. Even the drivers have to switch their head lights 'on' while, driving around the valley in broad daylight.

f) Facilities like Runway-Visual-Range should be used. It has been installed but has not come into operation.

g) Update the ATCs continuously on the requirements of the job. Provide them adequate training.

h) TIA must get rid of all wildlife hazards, such as, birds, monkeys, etc. CAAN's medical insurance

policy for ATCs must have a different approach and adequate coverage.

i) Nepal Air Traffic Controller's Association (NATCA) must be an active partner to all the 'hot-seaters'.

Here are few tips for the controllers.

a) Think of stressful situation as a challenge to your creative thinking. Know that eventually everything will either get done or it won't – worrying won't make it better.

b) Learn to say 'no', when you think you are over-burdened, to somebody's un-just request/demand.

c) Treat your body right. You may take guidelines from 'Art of Living', 'Science of Yoga' etc. Warrant a balanced diet, enough sleep, regular exercise, get rid of being 'hyped' such as smoking, black coffee, etc. Daily exercise burn off the stress chemicals.

d) Take short breaks. Walk around and also meditate quietly for a few minutes.

e) Change your attitudes. Think of stressful situations as a challenge to your inner endurance of creative thinking. Generate positive attitude within yourself, a never failing game in your life.

f) Always take time to yourself, at least 30 minutes a day.

g) Avoid oily and meat food as much as possible. Give your body the best for it to perform at its best.

h) Forgive less capable ATCs and be tolerant. Not everyone is as capable as you.

i) Limit alcohol, drugs and other stimulants. They affect your perception and behavior.

j) Test for life – Each day is a gift. Smile and be thankful that you are a part of the bigger picture.

(The writer was an active ATC for more than a decade and also in supervisory / higher positions for more than a decade in CAAN.

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Tirbhuvan International Airport

The Making of TIA

Birendra Kumar Singh
Former Joint Secretary, MOCTCA

There is a very simple saying: Easier said than done. However, this speaks volumes in itself manifesting many aspects of our lives, bringing out the different shades and the colors of ourselves. In this aspect, we have been noticing and reading many incidents of our one and only international airport, Tribhuvan International Airport (TIA). That too, in most critical forms, often degrading TIA and tarnishing the image our country. We have read that it is one of the worst airports in the world. But, even though this is bad news for us, TIA is still in a sorry state because the condition of the existing facilities are not up to the mark, immigration is not swift, the arrival of the baggage to the baggage area is slow and what not. However, before embarking on conclusion, it is necessary to understand the modus operandi of TIA and its background.

Historical background of TIA:

TIA has a glorifying historical background as it heralded the freedom of Nepal by welcoming the champion of freedom and King of Nepal then Tribhuwan. It got its name after him. Leader of people movement against the Rana Regime, BP Koirala also landed on the TIA to declare the country free from the Rana autocracy. But historical events are not enough to maintain the image of the only aviation entry point in the country. Thumbing through the chronicles of TIA, initially a cow grazing field which had the luxury of the old golf course, it saw first ever landing by a 4 seater lone powered vintage beach bonanza aircraft flown by the then Indian ambassador of India to Nepal Mr. Surit Singh, a breakthrough in the field of aviation in 1949; making a mile stone in the aviation era in Nepal. Then the Gauchar was metamorphosed into an airport with 1,143m. runway, to a 10,000ft. runway along with the facilities like tower, communication section, and the fire station.

During the 50s and late 60s, Nepalese sky was graced by the great Dakota (also known as the war horse) which also flew international charter flights from Kathmandu to Calcutta by the Himalaya Aviation and its daily dose of Pokhara, Bhairahawa, Simra and Biratnagar. In 1955 late king Mahendra inaugurated Gaucharan Airport and renamed it as Tribhuwan Airport, and in 1964 it was renamed as Tribhuwan International Airport. With the introduction of the liberal sky policy in 1992, doors flung open for the private airlines that catered to the needs of people of remote areas, but paved the way to congest both the Nepalese sky and ground with multiple types of aircrafts inclusive of huge M117 / M118 helicopters creating challenges to the management, air traffic controllers and other concerned agencies. There are presently 25 international airlines and 18 domestic airlines cris-crossing the Nepalese sky. This very boon in airline industry often has become the setback for the Nepalese aviation sector because of the various decade old yet unsolved chronic problem confronting TIA has been listed below.

- The condition of toilets is poor. The toilets should be clean and dry all the time, not only when a VIP travels of visits the airport.
- Trolleys at present seem quite sufficient but needed to be maintained well
- Often the immigration cards at the departure and at the arrival area are insufficient
- Telephone sets are often out of order
- Efficiency of the concerned staff of TIA is needed to avoid the long queue during the rush hours
- Quick turn over of the baggage at the arrival area is very important. There is a dire need to rectify this and to ensure quicker service so people can get off the area to carry on other business
- Concerned airlines staffs are not deployed properly at the arrival area if someone wants to inquire about anything.

These are some of the abnormalities and difficulties encountered by the outgoing and incoming passengers and it is my sincere appeal that these nuisances should be eradicated at the earliest.

The Memories of those Killed on 12 May will Never be Forgotten

Experiences and lessons-learned from the 2015 Nepal earthquake response at Tribhuvan International Airport - US Perspective.

Deo Chandra Lal Karn

Director, Civil Aviation Authority of Nepal

Justin Pummell

GISP, Geographer, U.S. Army Corps of Engineers

The air is crisp, as residents awake to conduct their morning routine. The evening echo of the dog's bark has been replaced by blaring horns and screeching tires. Crows curiously jump from tree to tree, as monkeys' trapeze along bouncing power lines. School is out, and many children are pouring into courtyards and parks to play. Cafes are full, as milk tea is tasted over the hum of quiet conversation. As the sun slowly lumbers from the treetops to prominence, the day appears idyllic. It is a typical Saturday morning in Kathmandu. Suddenly, a low growl bellows beneath shaking the ground. What is this unexpected commotion?

Meanwhile, at the Tribhuvan International Airport (TIA), the morning's brilliance resonates in astute splendor. The sky is clear, the foothills of the Himalayas stand tall over the runway's surface, and the traffic spins round a dehydrated fountain. People have crowded the domestic and international terminal to head to destinations near and far. Mount Everest is fresh off its daily paparazzi from morning mountain flights. A majority of TIA senior staff are at home enjoying their earned rest, escaping from the usual trials and tribulations of managing Nepal's only international airport. Abruptly, the ground jerks violently as tectonic plates fiercely collide. Screams barrel through the terminal and departure gates. Panic strangles Kathmandu Valley. What is happening? It is an earthquake!

The scenario described above is something many have anticipated for years. On 25 April 2015, it became reality. A magnitude 7.8 earthquake ripped through Nepal killing over 9,000 people and injuring more than 23,000. Nepal experienced its largest earthquake since 1934, with the Gorkha region as the initial epicenter. Within hours of the massive earthquake, the Government of Nepal convened its Central Natural Disaster Relief Committee, and the Prime Minister made an appeal for international assistance. Many countries quickly sprung into action, including the United States. The US government immediately issued a disaster declaration for Nepal due to the effects of the earthquake. Within hours of the seismic event, USAID's Office of Foreign Disaster Assistance (OFDA) had activated a Response Management Team (RMT) in Washington, D.C., and deployed a Disaster Assistance Response Team (DART)—including Urban Search and Rescue (USAR) specialists—to support emergency response efforts in Nepal (Figure 1). After conducting initial assessments, OFDA determined that unique military assistance, such as rotary wing airlift, would be necessary to support the response, and delivered an official request for Department of Defense (DoD) assistance. This request was approved by the Secretary of State and the Secretary of Defense,

Figure 1 - USAID OFDA USAR Teams aboard a C-17 Globemaster III headed to Nepal (Photo taken by MSgt Roy Santana, USAF)

and sent to the U.S. Pacific Command (USPACOM) to fulfill. USPACOM then ordered the III Marine Expeditionary Force (MEF) to formulate a Joint Humanitarian Assistance Survey Team (JHAST) to travel to Nepal. Using the Joint Task Force (JTF) 505 Concept of Operation Plan (CONPLAN), the JHAST evaluated the ground conditions and grew from a 23 person team to a 290+ JTF-505 Forward Element in Nepal to support the fulfillment of USAID mission tasking. "JTF-505 brought a variety of unique capabilities to provide humanitarian assistance/disaster response to the Government of Nepal," said Brig. Gen. Jeffrey Milhorn, Commanding General of the U.S. Army Corps of Engineers Pacific Ocean Division and designated Deputy Commander, JTF-505. "Aviation assets were used to conduct area assessments, move humanitarian aid supplies, transport personnel, and transport mission essential assets. Additionally, the 36th Contingency Response Group helped augment host nation civil aviation partners to offload high volumes of aid being delivered by multiple organizations to Tribhuvan International Airport," said Milhorn.

The initial JHAST included Marines, Airmen, Soldiers and a U.S. Army Corps of Engineers (USACE) civilian. Traveling from Okinawa, the team landed in Nepal on 29 April 2015, shortly after the USAID DART and USAR teams arrived. "We offloaded adjacent to the main taxiway since all of the existing nine bays were full with other aircraft," stated MSG Drew Kimmey, Civil Affairs NCO, U.S. Army Pacific (USARPAC). "The situation did not surprise me. We [JHAST] already knew TIA was going to be a very busy place given its critical value to the country. I was just relieved that the runway did not sustain any significant damage." MSG Kimmey had good reason to believe the airfield may be compromised. In 2011, on behalf of USPACOM, USACE and the Civil Aviation Authority of Nepal (CAAN) conducted a seismic evaluation of critical airfield infrastructure including a geophysical investigation of soils and the development of a potential surface liquefaction map (Figure 2).

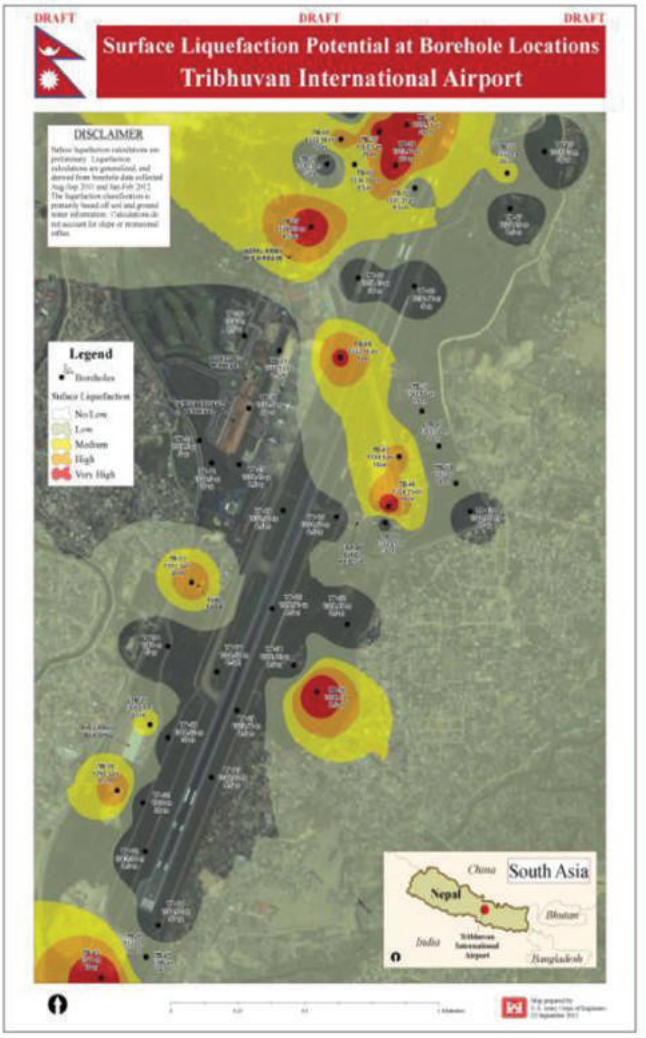

Figure 2 - Potential Surface Liquefaction Map for TIA (Map prepared by Mr. Justin Pummell, USACE)

These planning tools were designed for a magnitude 9.0 earthquake, and indicated that the full length of the TIA runway may not be available. This also led to confirmation that a two-plan approach for TIA operability in the JTF-505 CONPLAN was necessary. According to LtCol Vince Koopmann, a primary author of the CONPLAN, The CONPLAN included one primary plan and one branch plan based on level of damage and accessibility into Nepal (Figure 3).

The CONPLAN included collaboration with Government of Nepal Ministries, the Nepalese Army, USAID-OFDA, United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA), World Food Programme, and others. The primary plan was based on the

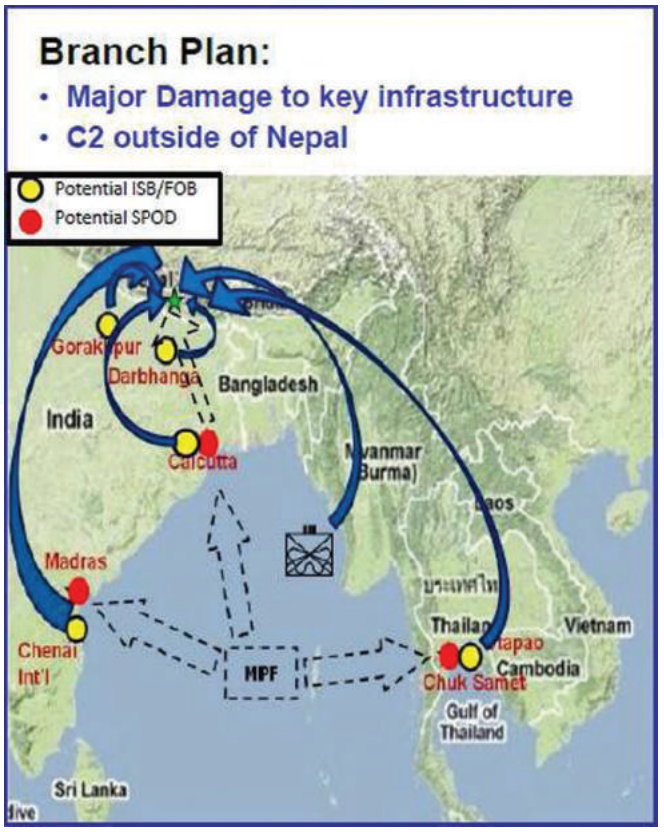

Figure 3 - JTF-505 CONPLAN branch plan for Nepal (Graphic prepared by LtCol Vince Koopmann, III MEB)

assumptions that Nepal's regional airfields and Tribhuvan International Airport would sustain limited damage with reduced aprons. In the primary plan, command and control and supplies / equipment were planned to immediately deploy into Nepal via air, as well as rail and/or road networks if operational. The branch plan was based on catastrophic damage rendering TIA and key physical infrastructure inoperative forcing JTF-505 command and control and supplies / equipment to locate outside of Nepal. In the branch plan, the command and control and supplies / equipment were envisioned to locate in potential intermediate staging bases in India and Camp Red Horse, Royal Thai Navy Base-Utapao, Thailand.

The following morning, the JHAST coordinated with USAID-OFDA; connected into the Nepalese Army led Multi-National Military Coordination Centre (MNMCC); and made contact with representatives at TIA. Once at the airport, the team sat down with TIA staff and asked how response efforts were progressing.

The TIA Disaster Response Plan, which was developed in 2013 as part of USPACOM's security cooperation program, was already in regular use. "Thanks to the USPACOM, USACE, the Federal Aviation Administration and the University of British Columbia, we had a plan in place that we could use," stated Mr. Birendra Prasad Shrestha, General Manager, Tribhuvan International Airport. "We also tested the plan in 2014 by conducting an international exercise through the support of USPACOM, USARPAC and USACE. In particular, the Emergency Operation Land Use Map served as principle guidance to ensure airfield space was maximized, organization was maintained, and everyone had a common picture to understand TIA's desired operational intention," said Mr. Karna. This map was later enhanced by TIA authorities during the response, to more accurately reflect the most appropriate use of the aerodrome (Figure 4).

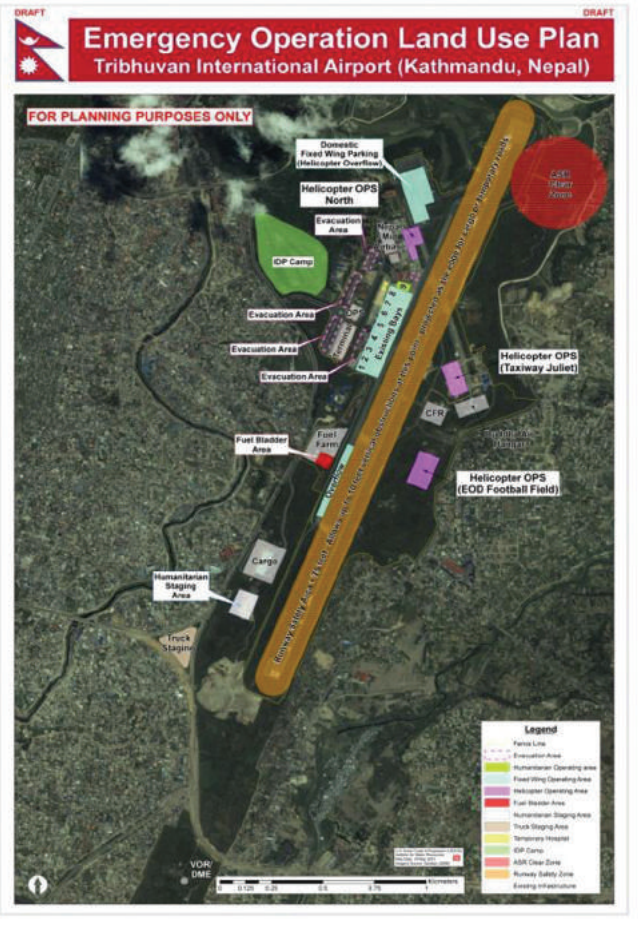

Figure 4 - TIA Emergency Operation Land Use Plan map (prepared by Mr. Justin Pummell, USACE)

In order for JTF-505 to fulfill its mission tasking from USAID, an operational space at TIA, or another outlying airfield, was critical. "The Indian Air Force was already operating out of Pohkara," stated LtCol Rod Legowski, Operations Officer, III Marine Expeditionary Brigade. "JTF-505 needed to decide whether it would also operate out of an outlying Nepali airfield, or try to make room at TIA. We knew this through our planning for potential response," said LtCol Legowski. Given the extensive cooperation and enduring relationship with TIA staff, the JHAST developed a plan and proposed it to TIA authorities. The plan included using two fixed-wing bays at TIA, as well as a portion of taxiway Juliet to park helicopters.

After much coordination and negotiation, the proposal was accepted, and JTF-505 had an operating space to support the people of Nepal and USAID. "Due to increased needs and limited space capacity at TIA, it quickly became apparent to the humanitarian community that space management at the airport would be critical to the response," stated Mr. Scott Aronson, USAID-OFDA's Foreign Disaster Assistance Advisor. "In particular, these considerations had a direct impact on USAID-OFDA's response, and the support being provided by JTF-505. One of the most critical aspects of this operation was building trust with the Nepalese airport authorities that we would properly use space provided to us, work within the guidelines they gave, and demonstrate efficient use of the spots provided. This would not have been possible without already having strong relationships with TIA officials before the earthquake, which proved invaluable in trying to address the space issue," said Aronson.

The situation described above may have turned out differently if USPACOM's humanitarian assistance and capacity development programs would have been less active with TIA partners. Since 2012, USPACOM has conducted 22 engagements, spending more than $7M, to build earthquake disaster preparedness and resiliency in Nepal. Activities have ranged from the development of the Disaster Response Plan to digging deep tube wells to the construction of a new Crash Fire Rescue Station. According to Mr. Tiger Hession, the USPACOM Overseas Humanitarian, Disaster, and Civic Assistance Manager, "With a focus on TIA, USPACOM has made a concerted effort to build Nepal's capacity to prepare for and cope with a large-scale earthquake disaster…and we will continue this effort in the coming years."

During the response, JTF-505 combined efforts with Deutche Post Logistics (DHL) Group, Nepal Airlines, Nepalese Army, World Food Programme (WFP) and others to manage material-handling and cargo at TIA. "Once we were allowed access to the tarmac via support from the Nepal Airport Authorities and Nepal military, we could move around to most places to support humanitarian operations," stated Mr. Nate Nathanson, Civil-Military Operations Specialist, World Food Programme (WFP). "We had four open-bed mini-trucks to support movement of supplies from the TIA staging area to the humanitarian staging area (HSA). We did not have any organic material handling equipment (MHE), as this platform was in short supply within Kathmandu. Nets, cargo equipment, MHE was rented by the International Office of Migration, and MHE was also donated by DFID (United Kingdom's Department for International Development)," said Mr. Nathanson.

The joint team commanded, assessed, and prepared a base for expeditionary and commercial aerodrome operations. The airport experienced limited operational downtime as a result. The team supported logistics, including unloading/loading aircraft; movement of aircraft palettes and warehouse relief supplies; ground inventory; and making sure incoming supplies were received by the appropriate relief organizations in an orderly fashion. Integration of the aforementioned partners permitted movement of cargo from the tarmac down to the HSA and beyond out to the beneficiaries (Figure 5).

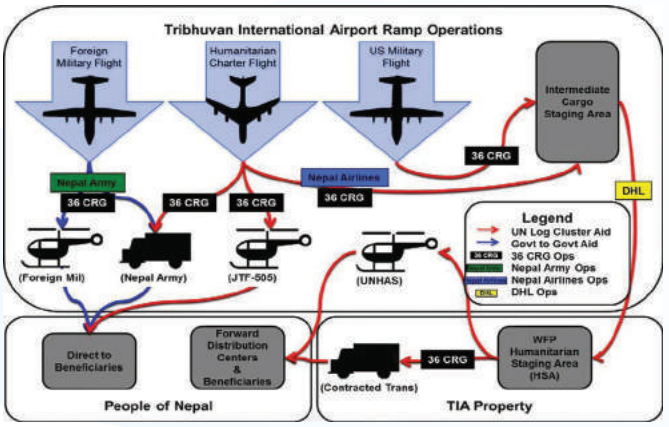

Figure 5 - Teams at TIA used the above ramp operation process to ensure goods continued to flow through the system effectively and efficiently (Diagram prepared by Capt Larry B. Ingersoll, 36 CRG/A3/5)

Also key to the operation was close coordination for material to be picked up at the tarmac by other agencies to support the efforts. "JTF-505 immediately integrated with Nepal Army, Nepal Airlines, World Food Programme, and commercial entities in order to coordinate and streamline TIA logistical processes amongst all parties, as well as to optimize the use of 36 CRG's four deployed 10K lbs Forklifts and 25K lbs Loader," Lt Col Glenn Rineheart, Commander, 36th Mobility Response Squadron, US Air Force. "36 CRG personnel would ultimately collaborate with militaries from seven countries and various commercial carriers to download 5.2M lbs of aid from 108 aircraft, as well as assist the WFP to distribute the equivalent of 360 truckloads of aid to 13 Nepal Districts and 2.8M earthquake victims," said Lt Col Rineheart (Figure 6).

Figure 6 - JTF-505 personnel download a Singapore Army C-130 loaded with humanitarian aid (Photo credit: MSG Drew Kimmey, USARPAC)

By 11 May, JTF-505 had completed a majority of its Mission Tasking Matrix (MITAM) assignments. It was anticipated that the unique capability of the US military was waning, and USAID would soon determine it was time for JTF-505 to return home. However, this all changed on 12 May 2015, when a magnitude 7.3 earthquake struck northeast of Kathmandu Valley. At TIA, JTF-505 personnel supported terminal evacuation procedures, runway and infrastructure inspections, and the establishment of a temporary field hospital to support the reception of injured personnel being brought back to the capital city from rural areas. JTF-505 personnel received injured personnel via helicopter, stabilized them in field tents setup on the tarmac, and then loaded them for transport to local hospitals (Figure 7).

Figure 7 - A Nepalese Army soldier exits a UH-1Y helicopter to deliver an injured child to the temporary TIA field hospital on 12 May 2015 (Photo credit: US Marine Corps)

JTF-505 personnel also worked with TIA and Nepalese Army authorities after a UH-1Y helicopter went missing. "The memories of those killed on 12 May will never be forgotten," stated Brig. Gen. Jeff Milhorn." Their selfless acts are an exemplary hallmark of humanitarian action."

The 12 May 2015 earthquake extended the need for unique military capability and resulted in many new MITAM assignments. JTF-505 primarily delivered aid to locations in Sector 4 (Sindhupalchowk, Ramechap, Dolakha, Kavre and Okhaldhunga districts), but also serviced many other areas. Typically,

JTF-505 personnel would receive a USAID tasking, and then would work with the Nepalese Army to identify an appropriate landing zone to deliver the aid. This took extensive coordination through the MNMCC. "The National Emergency Operation Centre (NEOC) would provide the request (relief materials to be air lifted) 48 hours in advance to the MNMCC," stated Col Naresh Subba, MNMCC Coordinator, Nepalese Army. "MNMCC reps would then work out the mission tasking matrix with JTF-505, and a flight operation plan would be prepared. As per the flight operation plan, the Air Operation Centre at Mid Air Base would coordinate with local Nepalese Army units (where the flight was scheduled to land) to prepare landing sites and provide necessary security," said Col Subba (Figure 8).

Figure 8 - A Nepalese soldier offloads humanitarian aid from a JTF-505 aircraft at a pre-coordinated and secure landing zone (Photo credit: US Marine Corps)

On 23 May, JTF-505 officially departed Nepal, with the World Food Programme (WFP) filling the airlift logistics role, Nepal Airlines and Nepalese Army filling the material-handling equipment role, and USAID's international and non-governmental partners filling the aid delivery role. In total, JTF-505 completed 25 MITAMs; delivered 113.8 short tons of aid to remote villages; transported 550 passengers (including 63 casevacs); and provisioned stopgap airfield logistics supporting 108 aircraft and 5,244,239 lbs of humanitarian aid.

The Nepal earthquake response demonstrated several key lessons-learned that should be sustained in the future.1) Existing relationships are critical. If the person across the table does not trust you, then the mission is at risk of failure. Time should be spent to foster positive and lasting relationships. Security cooperation activities are a great way to establish these relationships. The continuity of civilian employees is also a great way to make relationships last. USACE's role on the JTF is a good example. 2) Civil-military cooperation is essential. Through the regular practice of plans and procedures, civilians and military personnel can better understand each other's capability and leverage it when necessary. This occurred between USAID-OFDA, JTF-505, TIA, WFP, DHL, and many other international and non-governmental partners. Previous exercises, such as USARPAC's Disaster Response Exercise & Exchange (DREE), positively developed civil-military cooperation and should be continued on a regular basis in the future. 3) Security cooperation fosters effective response. The situation in Nepal may have turned out a lot differently if regular humanitarian assistance and capacity development engagements had not occurred. For example, if TIA did not have a Disaster Response Plan, airfield operation and management could have quickly slowed to a halt. If HA/DR exercises were not regularly performed, then the MNMCC concept may have been unknown or not well practiced. Exercises provided an avenue to acquaint personnel with standard procedures, and refine draft concepts that may have failed. 4) A joint task force plan is necessary. The JTF-505 CONPLAN was instrumental in guiding an effective US response. Without this plan, an ad-hoc approach may have been used, which would have slowed US military response efforts. A CONPLAN should be established for other large-scale HA/DR scenarios in the Indo-Asia-Pacific region.

Instituting Airport Economic Oversight Capability of CAAN

Shaligram Poudyal
Former Director, CAAN

Airports as Natural Monopoly Business

Airports are in a position of natural monopoly, having no other competing airport in the same peripheral area. Natural monopolies, in the absence of effective and strong economic regulation can abuse their dominant market power. They can arbitrarily fix price of services and facilities and exploit the users just for maximizing their unjustified profits. Monopoly status can also lead to inefficient delivery of services. "When goods and services are supplied by competitors vying for customers, the economic well-being of consumers can often be left in the hands of market forces, which act as an 'automatic regulator' for ensuring efficiency in setting prices and establishing the quantity and quality of supply. By contrast, when supply in a given market is dominated by a single provider, the question of regulatory intervention becomes a public concern" (International Civil Aviation Organization (ICAO) Doc. 9562 Para 1.24). Thus, economic regulation is necessary to check monopoly market power of airports and to ensure cost sensible efficient and quality service in airports. A rationally designed economic regulation can benefit both the user and the regulated airport itself.

Airports are Getting Bigger

19th century was the age of railway and 20th was of highways. The 21st century is the age of airways and airports serving as key anchors of economic development. Today, Airports are getting bigger and bigger. In 2015, Atlanta (USA) handled 101.5 million passengers and Beijing airport had 89.9 million. Similarly, Delhi had 46 million passengers and our TIA had about 4.5 million. In 2008, these airports handled much less passengers (90.0 million, 55.9 million, 23.1 million and 2.9 million passengers respectively). A place from where millions of people transit gather or move, has an urge of human element that needs to be addressed. Therefore, along with the pricing regulation, addressing passenger experience and users satisfaction has been the focal areas of airport economic oversight.

According to Airport Council International (ACI) airport economic survey -2014, majority of world airports (70.8 per cent) are owned by the government. 15.4 per cent are managed under PPP model and 13.8 per cent are under private ownership. It is generally said that government operated airports do not need economic regulation. Such thinking is not valid as ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082) Para 13 clearly mentions that government operated providers also fall under states economic oversight responsibilities. States are encouraged to incorporate the four key charging principles of non-discrimination, cost relatedness, transparency and consultation with users into their national legislation, regulation or policies. IATA, the airlines operators association and ACI the airport operator's council also support for airport economic oversight. They only differ for the modality of airport pricing regulation. IATA advocates for single till price cap and is against cross subsidizing the revenues to other airports. ACI is in favor of dual till.

Nepalese Perspective

Civil Aviation Act 2015 clause 3, provided the government the power to frame rules regarding licensing, inspecting and regulating the airports. It also provided power to frame rules for fixing landing, parking tariffs, as well as rentals and other facility charges. Airport Tariffs Rules 2038 was promulgated under this Act. This Act had no mentioning of charging principles, policies or basis. Civil Aviation Authority of Nepal (CAAN) Act 2053 came into effect on December 31, 1998 and CAAN was established on the same date. The then Department of Civil Aviation (DCA) was dissolved. Clause 34 of CAAN Act authorizes power to frame rules to fulfill CAAN's objectives. Because CAAN had to operate airports from day one and no tariff rule was promulgated in advance under CAAN Act, it continued to collect airport

charges as per Airport Tariffs Rules 2038. After more than a decade CAAN's Airport Service Charge Rules 2067 came into effect from August 30, 2010. These rules are amended three times as of now.

Clause 5 (u) of the Act provides CAAN with an authority to operate or allow operating airports in a way to maximize economic benefit and utility. 'To maximize economic benefit' indicates CAAN's regulatory responsibility as well. Economic benefit is not same as financial benefit. Economic benefit considers total social welfare, while financial benefit is for monetary profit. Therefore, CAAN's role in maximizing economic benefit leads to its economic oversight duty on airports. Clause 10 provides authority to collect financial resources needed for its operation from different aeronautical and non-aeronautical services and facilities. Thus, clause 10 indirectly indicates cost recovery principle which is in line with ICAO guidelines. Additionally, the duty of implementation of ICAO doc. 9082 (Airport Charges Manual) and doc 9562 (Airport Economics Manual) is clearly resting upon CAAN as per clause 5 (v). This clause authorizes duty and power to CAAN to enforce the standards and recommendations (appendixes and documents) adopted by the Convention on International Civil Aviation and ratified by Government of Nepal. Thus, it has been the responsibility of CAAN to institute procedural infrastructures for airport economic oversight in an effective way.

Problems and Shortcomings

Many problems and shortcomings are noticed regarding airport economic oversight in Nepal. This has partly been due to adoption of 'Hawai Bibhag' (DCA) tradition when there was no concept of taking airports as business entity. Apart from that, the airlines (the stakeholders) were not advocating effectively for airport oversight.

The responsibility of reviewing charges rules is upon Corporate Directorate. ICAO and International Affairs Department provides legal opinion on the proposed draft. There was a dedicated Division under Corporate Directorate to perform related research and review. But, in the recent organizational structure, such Division is missing. CAAN has no such professional post specialized in airport economics or civil aviation charging system. Quality assurance function was previously vested upon Internal Audit while there is no Quality Assurance Department.

Airport's accounting is not fully computerized. Chart of Accounts is insufficient to give data about the costs of different service and facilities. Adaptation of cost recovery principle introduced in the Charges Rules (26) of 2067 has been difficult because of the insufficient accounting information. Charges fixing principle is not clear whether to base on a single till, dual till or hybrid till method. (Under single-till mechanism, revenues from both aeronautical (landing, parking and ground handling) and non-aeronautical (duty-free shops, hotels, restaurants and airport infrastructure) segments are taken into account to determine the Internal Rate of Return (IRR) and costing for aeronautical charges. This contrasts with the dual till, where only aeronautical activities are taken into consideration. Airports favor dual till principle. However, under the hybrid till method, which is currently being used for privatized airports in India, only some per cent of non-aeronautical revenue is taken towards IRR).

Annual price cap system is not enforced for airports and charges are not mandatorily reviewed after a fixed time frame. Some of the aeronautical charges (such as International PSC, Navigational, Parking charges etc.) have remained unchanged for the last 15 years. CPI index is not mandatorily taken for adjusting inflation on charge rates. Consultation with the users is minimal. Airport service quality monitoring is not embedded with charges fixing. Passenger's complaint is frequent. Follow up mechanism is weak (a passenger on 14th November, 2016 wrote in Sky Trax website "One word for Kathmandu Airport - dirty! From arrival to departure everything is dirty. Rude staff, no air conditioning, security is chaos. Full waiting hall - people were sitting on the dirty floor. No priority boarding"). Charges set by the NAC, the monopoly ground handler, in TIA have been high but are not regulated and monitored. Tourism Service Fee (TSF) which is not a fee related to airport costs and services is levied to foreign passengers by Nepal Tourism Board (NTB) (NTB raised Rs. 570.66 million from TSF from 505070 foreign passengers in F.Y. 2072/73) . ICAO guideline is against such charges.

Instituting Airport Economic Oversight in CAAN

Above mentioned problems and shortcomings have arisen in the absence of a proper institutional setup within CAAN. Therefore, it will be desirable that CAAN Board take action to enhance its airport economic oversight capability. One option in this regard is to form a Regulating Committee to advise on these matters i.e. fixing airport charges and monitoring airport service quality. A separate division with competent staff within CAAN organization structure should also be established to assist the committee's functioning. The terms of reference of Regulating Committee can be as given below:

a) To advise Board on determining the tariff for the following aeronautical services of International airports and specified domestic airports for each year of continuing control periods:
   - The price cap of aircraft Landing, Parking, Housing and Security Charges.
   - The Price cap of Communication and Navigation services.
   - The rate of the Airport Development Fund.
   - The rates of the Passengers Service Charge
   - The rates of Ground Handling services, Cargo and Cargo Handling services of airport and contracted companies
   - The rates of Oil Throughput Charges

b) To take into consideration of the following matters in determining the airport charges:
   - The capital expenditure incurred and timely investment in improvement of airport facilities.
   - The service provided, its quality and other relevant factors
   - The cost for improving efficiency.
   - Consumer Price Index (CPI), productivity, economic and viable operation of airports.
   - Revenue received from services other than the aeronautical services.
   - The Civil Aviation Policy of the Government, CAAN Act 2053 and other aspects which may be relevant for the purposes.

c) Bi-monthly supervising, monitoring, evaluating and reporting on Airport Service Quality (ASQ) based on Sky Trax Passenger Ratings and/or Key Performance Indicators developed by CAAN and IATA/ACI AETRA ratings.

d) To call for tariff proposal from airports for each control period.

e) To call for accounting and financial information from Finance Department and airports as may be necessary to determine the tariff.

f) To seek service of expert or relevant professional as and when necessary evaluating the service costs and proposing tariff rates.

g) To follow international best practices in determining the charges and monitoring of service quality.

h) To do extensive consultation with users on the proposed rate of charges.

i) To follow price cap regulation preferably (CPI-X) principle for charges revision and consider rate of return on airport investment as far as practicable. (CPI-X is the method of adjusting inflation while increasing the annual rate of charges with a deduction of X factor for efficiency or productivity gain from inflation rate)

There should be an agreement with TIA management to participate in the IATA/ACI AETRA annual passenger survey for service quality requirement. Make quality improvement plan and achieve a minimum target rating of 2.75 in the second year, 3.00 in the third 3.25 in the fourth and 3.50 in the fifth year and onward (Delhi and Mumbai airport's target ratings (minimum service quality requirement) is 3.75). TIA management's performance should be evaluated on the basis of its service quality achievement. Necessary approval of manpower and required additional organizational structure and logistics should be assumed for TIA. CAAN finance Department should be directed to refine airport's charts of accounts and fully computerize the accounting entries. Necessary approval of required budget, professional manpower and logistics should be approved for Finance Department.

Importance of Airport Charts of Accounts

It is important that airports develop appropriate expenditure heads (Chart of Accounts) to reflect relevant costs of facilities and services. A chart of accounts is a created list of the accounting heads used by an organization to define each class of accounting items for which money or the equivalent is spent or received. It is used to organize the finances of the entity and to segregate expenditures, revenue, assets and liabilities in order to give interested parties a better understanding of the financial health of the entity. By charging relevant costs to the relevant expenditure heads, airport's expenses for those facilities and services became transparent and clear. With the help of such accounting information airports will be able to show the costs for each the proposed rate of charges. ICAO Doc 9082 Appendix 1 illustrates details of group of airport facilities and services. Such a grouping helps create airport's proper chart of accounts. Summary of the appendix is mentioned below:

- Approach, landing and take-off facilities and services.
- Terminals, aircraft parking space hangers and other facilities and services provided for aircraft operators
- Security measures, equipments facilities and personnel.
- Services for other than aircraft operators including non-aeronautical facilities.
- Services facilities for government activities, customs, immigration etc.

To Sum Up

With the completion of Bhairahawa and Pokhara Regional International Airport, Nepal will be operating three international airports in near future. Making these airports' service efficient and economical is important for tourism and overall economic development of Nepal. Airlines expect our airport services and other systems matching to international standards. ICAO Doc. 9082 and Doc. 9562 provide guidelines on this matter. Nepal being a contracting state is bound to follow these guidelines as far as applicable.

Most countries in the world have institutionalized set up for airport economic oversight. India has established Airport Economic Regulatory Authority (AERA) for setting price cap and monitoring service quality. United Kingdom has stringent competition law on pricing and services quality monitoring. Australia controls airports through competition commission monitoring prices, costs, profits and quality of aeronautical services and car parking at major airports. South Africa has statutory Regulating Committee for this purpose.

We observe that our economic oversight capability is weak due to institutional and managerial shortcomings. Forming a regulatory committee within CAAN Board and assigning them with specific terms of reference may address the problem. Making airports mandatory to achieve a minimum level of operational Airport Service Quality requirement (IATA/ACI AETRA Ratings) with proper monitoring mechanism is also essential. Improving accounting system is crucial. The proposed "Nepal Civil Aviation Act" should have clear provisions on airport economic oversight and provide active role to CAAN. Lastly, we believe that this article is pointing just tip of the iceberg. Further interaction, discussion and brainstorming are needed in this regard. Organizing a 'Seminar on Airport Economic Oversight in Nepal' with participation of relevant professionals may also be helpful.

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Need of Restructuring ATS Route Network in Nepal

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Introduction

Present Nepalese ATS route structure is very basic with limited network of Airways and domestic ATS routes. Prevailing six airways are sensor specific conventional ATS routes based on ground based navigation aids. L626 is the only RNAV route based on PBN. The need of adopting and applying new concepts of PBN extensively into our international route structure are being discussed within aviation stakeholders time and again.

As far as the domestic routes are concerned, there are only three Whisky routes serving the domestic en-route operations and are also principally based on the ground based aids. However, the supporting aids 'PHR' and 'DNG' have already been decommissioned, which necessitated the review of those domestic routes as well.

Further, the significant number of the aircraft accidents that happened with VFR flights previously are CFIT related accidents. Requirement says that the VFR flights shall never fly into the clouds, but the fact is opposite. To mitigate such problems, several debates took place in the various forums in the past. The thoughts of modifying Nepalese air route structure and introducing new RNAV routes to assist flights in IMC conditions are being emerged in such interactions now and then.

CAAN's Initiation

Efforts were put in the past to introduce GPS based routes, approach and SIDs with the help of foreign consultants. CAAN had acquired consultancy service from Airways New Zealand in 2002 to develop GPS Route Structure Chart. In 2004, CAAN acquired consultancy service from Air Services Australia to develop the GPS procedures at TIA and different airports of the country. But due to the lack of certified onboard equipage, education, awareness, preparedness and regulatory provisions, those efforts could not be materialized.

Nepal has been proposing the Himalaya 2 route to enhance the ATS route network of the country since long that joins Kathmandu with Kunming. This effort was initially proposed by IATA during EMARSSH Project in 2002.The issue was raised during the DGCA Conference held in Australia in 2005 where Nepal presented a discussion paper which also contained the issue of Himalaya 2 route. Nepal further presented an information paper solely focusing on the implementation of Himalaya 2 route and its benefits in 38th ICAO Assembly in 2013. The route is mentioned in the ICAO Route Catalogue, Version 12, 26 June2013. Major stakeholders, India and China, are agreed with this proposal in principle.

With the launch of L626 (RNP 10) route (2009), RNP AR APCH procedure and associated STARs at Kathmandu (2012) and RNP APCH and associated STAR at Biratnagar (2012), CAAN formally involved it in the introduction and application of PBN concept. Recently in November 2016, the preliminary design of RNAV STARs, APCH and SIDs for Dhangadi Airport are being developed by CAAN personnel, and are in the process of finalization.

All these things certainly indicate CAAN's efforts towards transitioning to the enhanced ATS route structure from conventional to PBN. However, many things are yet to be done for the successful transition.

Reasons for Restructuring

Need for restructuring of existing ATS route network of the country has been realized because of the following reasons:

a. Present route network was developed long ago, based on the ground based navigation infrastructure

primarily VOR/DMEs and NDBs. Most of the NDBs serving the routes are decommissioned, necessitating the route modifications.

b. With the limited ground-based infrastructure and with the lack of RNAV route structure, air navigation has become tougher day by day, especially in bad weather conditions.

c. After the execution of two mega projects, Gautam Buddha and Pokhara Regional International Airports, and future SIA after completion, present air route infrastructure will not be sufficient which will necessitate the introduction of new ATS routes and new FIR entry points from South.

d. Present air route network has limited air routes that will be unable to serve the increasing air traffic growth in future.

e. Airline companies having the aircraft with modern on-board avionics, are putting the pressure for non-sensor specific, safer, efficient and more direct air routes, STARs, Approaches and SIDs.

f. Because of single entry point, Simara, most of the traffic operating into Kathmandu FIR are compelled to fly longer routes increasing the operational cost and contributing to the environmental degradation by more carbon emissions.

g. Simara as being the single-entry point from South, air traffic accumulates over there creating the congestion and chances of conflict in that area.

h. States are obliged to implement PBN plan, as per the ICAO Assembly Resolution A36/23, September 2007. CAAN has developed the National PBN Implementation Plan 2011. Only some elements of the Plan could be materialized, many more things yet to be accomplished.

Suggestive actions for ATS Route Restructuring

Considering the existing ATS route network, Nepal PBN Implementation Plan, relevant ICAO documents and discussions with concerned officials, following actions should be performed for the safety and efficiency of en-route navigation:

a. Despite the high-level aviation meetings with the authorities of adjacent FIRs, meetings at technical level should also be arranged to resolve the issues associated with Himlayan Route and additional entry points (such as ONISA, Nepalgunj and Janakpur in the South) to bring into consensus on the associated benefits for adjacent states and the whole region.

b. RNAV routes within Nepalese FIR, thereby RNAV STARs for the smooth transitioning to RNAV approaches as envisioned in PBN Implementation Plan 2011, should be constructed and implemented.

c. Enhancement of International ATS route Network

RNAV 5 routes should be developed and be named as per the provision of CAR 11 in consultation with the authorities of neighbouring FIRs. The existing conventional routes will remain as backup, as applicable.

i. B345 (KTM-TUMLI-NONIM) sector and G348 (KTM-TUMLI-MECHI) sector should be replaced by RNAV routes as there is no more supporting conventional navigation aid NDB 'TTR'.

ii. Overlapping RNAV routes should be developed over the other international conventional routes, i.e. B345 (KTM-BHP-BWA), G336 (SMR-KTM), R325 (KTM-LNC-JKP) and R344 (KTM-BRT).

iii. Additional RNAV routes should be developed for the connectivity of Gautam Buddha and Pokhara Regional International Airports with the International ATS Route Network.

International RNAV Route Network (Conceptual) displayed in Fig-1 below has accommodated all the concepts mentioned above. In the chart, different outbound and inbound routes are presented for regional international airports under construction, with an exception of one route which is proposed bidirectional.

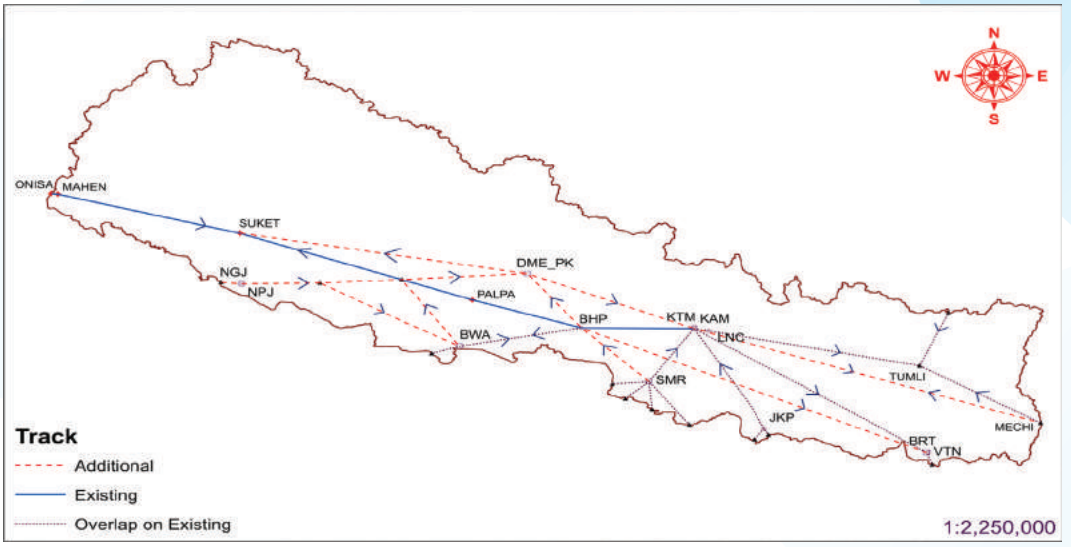

Fig-1. International RNAV Route Network (Conceptual)

d. Implementation of Modified L626 and materialization of Himalaya 2 route

i. First, the Himalaya 2 route is to be materialized and connected to L626. After the introduction, Himalaya 2 route will save both time and money by significantly reducing flight distance by 114 nm. Further, it will make L626 and Himalaya 2 route bidirectional above FL 320. It is anticipated that many traffic from Europe and Middle East will prefer this route to proceed to the Far East destinations as it will further reduce the flying distance.

ii. L626 and Himalayan 2 routes at or below FL 320 should be made unidirectional outbound international route to the West and to the East respectively. If good and sufficient surveillance coverage can be assured, depending on the need, these routes can also be converted to bidirectional.

iii. L626 from RNP 10 should be modified to RNAV 5 and Himalayan 2 route should also be developed with the same NAVSPEC throughout the destination in consultation with concerned states' authorities.

Air traffic control Service to high level en-route traffic in this route should be provided by dedicate Upper ACC, and at or below FL 320, by ACC as in the present context. The ACC can further be divided into multiple sectors as ACC East and ACC West depending on the traffic volume.

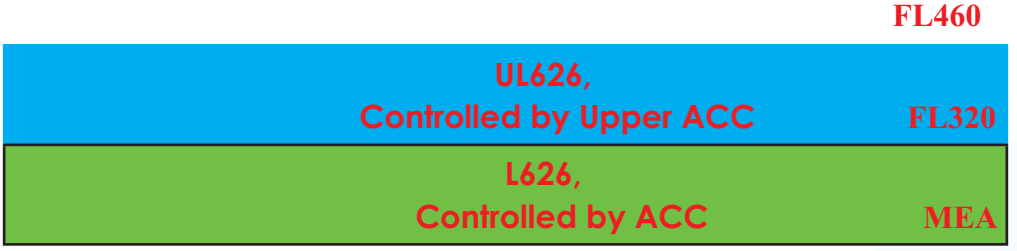

Fig-2.Conceptual block of airspace of Upper and Lower L626

e. Proposal for enhancement of Domestic ATS route Network

i. RNAV 5 routes should also be developed and named as per CAR 11 for domestic purpose.

- RNAV routes should be developed overlapping the conventional Airways for the domestic purposes.
- Existing Whisky routes W41, W17 and W19 should be replaced with new overlapping RNAV routes.

ii. En-route chart should be upgraded with the introduction of above routes. The Chart should include some more RNAV Routes, where technically feasible, connecting the hub airports including Pokhara with other major airports like Simara, Chandragadi, Surkhet, Bharatpur, Janakpur, Dhangadi, Tumlingtar, Lamidanda, Bhojpur, etc. as necessary.

iii. RNAV Approaches and Departure Procedures should be developed in such potential airports to encourage the operators for the implementation of PBN.

f. It is apparent that the present air route network which was developed long ago will be insufficient to cope with the future challenges that will arise with the expanding aviation activities, execution of airports' mega projects and increasing air traffic demand in the country. As such, improvement of the existing airspace and air route network should be started immediately.

g. Internal mechanism of CAAN is to be strengthened to accept and effectively implement the PBN concept and activities in the country by providing relevant trainings including the necessary OJTs to its personnel.

h. The airline operators are to be encouraged to get PBN approval and go for PBN application. For this, CAAN should educate Operators regarding the benefits of PBN application and its approval procedure including the necessary requirements for aircraft equipage, training, etc. and motivate them to grasp the benefits of PBN application for their own sake and for the sake of entire aviation community of the country.

CNS/ATM Requirements

Following are the preconditions proposed for the effective implementation of route network:

a. Surveillance coverage shall be provided to traffic flying along proposed UL626 routes. In the near future, with the help of newly installed MSSR, radar surveillance can be provided most probably up to SUKET in the West, a waypoint nearby Surkhet Airport, and MECHI in the East. Beyond the MSSR coverage, surveillance service shall be extended up to the FIR boundary in the West, most preferably, with the introduction of ADS-B.

b. Uninterrupted air-ground voice communication from ONISA to MECHI shall be maintained. For this, RCAG station was established in Nepalgunj and a new RCAG station has been recently installed in Biratnagar to extend the VHF coverage in the eastern sector.

c. Each ATC unit providing the service shall have dedicated primary and secondary frequencies to support such communication.

d. Besides the voice communication facilities like hotline or ISTD line, AIDC shall also be used for coordination between adjacent ATC facilities of adjacent FIRs.

e. GNSS shall be developed as the primary means of en-route navigation along the route.

Benefits of restructuring the ATS Route Network

By appropriately restructuring the prevailing ATS route network as suggested above, we will be able to grasp the benefits as mentioned below:

a. Reduces traffic congestion or chances of conflict over Simara Area.

b. Enhances safety and efficiency of en-route operations.

c. Allows sufficient distance for the descend within Kathmandu FIR for inbound traffic arriving to Nepalese Airports.

d. Generates maximum revenue for CAAN from the overflying aircraft with the implementation of conceptual Upper L626 connected with Himalayan route, and making them bidirectional.

- Concept of UL626 and L626 disperses the ATC workload in different units thereby enhances the safe, orderly and efficient air traffic flow.

- Relieves the high level and low level traffic from monitoring of the unnecessary RT communication of one another.

e. Direct routes for modern aircraft avionics in en-route operations.
   - Allows more direct routes, thereby reduces the airline operating cost, ultimately reducing passenger fare.

f. Reduces fuel consumption thereby reduces the aircraft emissions, ultimately supports the environment conservation.

g. Provides connectivity to regional international airports (under construction) of the country and other major domestic airports.

Conclusion

It is apparent that the present ATS route network, which was developed long ago is very simple and has very limited connectivity with different airports of the country. So, with such network, it is hard to deal with the upcoming challenges that will arise with the execution of airports' mega projects, expansion of aviation activities and increase in air traffic demand in the country. As such, improvement of the existing air route network must be of paramount importance. Some activities have been already initiated. But, we must increase our pace of modifying the ATS route network in coordination, consultation and cooperation with the concerned stakeholders which will benefit the travelling public as well as the whole aviation community.

[This article has tried to accommodate the relevant views that are being raised very often with regard to air route restructuring of the country, and the concept envisaged in our Nepal PBN Implementation Plan 2011.]

Rara Lake

Ensuring Airside Safety for Safe Aerodrome Operation

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'Safety is top priority for the air transport industry'.

The reports on aviation occurrences show that the number of air accidents and incidents is very high during take-off and landing compared to those in the cruising phase. Similarly, the number of ground incidents is also very high than those occurred in the air. Therefore, Airside Safety is much important for Airport Operators who want to prevent, or reduce as low as reasonably practicable, the risks of accidents and major incidents. In addition to personal injuries, material damage including damage to the aircraft; the possible impact on airport operations and a possible negative perception by the travelling public is also of high significance to avoid liability issues in case of an accident.

"Flying is the safest form of transport" – is a common expression of which the aviation industry is justifiably proud. But, the safety and security of air transport system worldwide is no coincidence. Throughout the history of flight, safety has been top-of-mind issue. The safety culture is an integral part of the industry and takeson many forms, including standard operating procedures, adoption of new technology and ensuring that safety is the driving force behind airport operations. Hence, ensuring airport safety is at top priority for the airport operator, ground handling service provider and aircraft operators.

Safety and Efficiency

The airport operator needs to assess continuously the following areas to ensure safety and efficiency in airside operation:

Staff Tasks:

- Bird and wildlife control and use of firearms
- Runway inspections
- Aircraft marshaling
- Airside driving
- Runway change procedures
- Use of airport cleaning vehicles
- Spillage clean-up process
- Activation of low-visibility procedures (LVP)
- Removal of disabled aircraft actions

Business Risks:

- Runway incursions
- Adverse weather operations
- Aircraft-aircraft collision on the ground
- FOD damage to aircraft
- Aircraft fire
- Bird strike
- Loss of supply of utilities

Causes

All accidents, incidents and occurrences should be investigated, as far as practicable, in order to identify the root cause(s). This is essential to finding solutions to prevent probable accidents, incidents or occurrences in future. Often a number of factors occurring at the same time can cause an accident, incident or occurrence. These can be, for example:

- Misunderstanding of communication
- Inadequate signage, markings or lights
- Inadequate training for the airside/ramp staffs
- Trained staff not acting in proper way
- Inadequate equipment/mechanical condition/mechanical failure
- Tasks carried out too quickly without adequate resources
- Failure to use personal protective equipment (PPE)
- Inadequate risk assessment
- Human and organizational factors
- Non-adherence to Standard Operating Procedures (SOP)
- Inadequate response to changing circumstances

Efficiency in ramp operation depends on the training and skill of ramp personnel as well as the availability and serviceability of ground service equipment. However, safety in airside operation depend on many factors including aircraft handling, ramp operation, airside vehicle driving, bird and wildlife management, runway inspection and FOD prevention. Human Factors is another crucial area to enhance safety in airside and aerodrome operation.

Human and organizational factors to be taken into account by airport operators lie in all aspects of operational safety, including:

- Stress, fatigue, environmental, ergonomic, health and safety considerations
- Alcohol and substance use
- Training, certification, awareness, information management
- Procedures, rules, regulations and policies
- Equipment, tools, machinery
- Human attitudes, knowledge and performance limitations
- Teamwork, leadership, communication
- Responsibilities and accountabilities
- Time constraints, shift work
- Motivation, feedback, approval and respect
- Errors, violations, omissions and mistakes

Airside Inspection

Conducting regular inspections and audits is another key aspect in ensuring safety of airside operations. All airside areas need to be periodically checked to ensure they are serviceable and available for use. Particular attention should be paid to the aircraft movement area, viz. runways, taxiways and aprons including airside roads and grass areas. The purpose of such inspections is to ensure that:

- No FOD is present
- The surface condition is suitable (no loose material)
- No birds or other wildlife are present (bird and wildlife presence is monitored and controlled)
- The paint markings are visible and correct

- The signs are visible and correct
- The airfield lighting is serviceable
- Equipment provided is safe for use and serviceable

Airports Council International (ACI) Airside Safety Handbook advises a three level inspection system as a good operational practice and useful approach to ensure that the highest standard of safety is maintained for all airside users and customers.A typical three level inspection system should have the following elements:

LEVEL 1:

Routine (daily) inspections carried out by Airside staff covering the entire movement area and zones adjacent to the airport boundary.

LEVEL 2:

Detailed airside inspections carried out by Airside and/or the associated divisions (technical, maintenance, electrical, infrastructure, etc.) whereby all runways, taxiways and aprons are divided up into a number of areas and inspected in more detail.

LEVEL 3:

Operations' management inspection/audit carried out by senior management. It covers all areas and facilities on a planned basis. The main aim of this level is to provide a wider aviation safety oversight perspective and introduce an element of audit to ensure that the other two levels of inspection are carried out as per the required standard.

FOD Prevention– FODs in airside will be prevented on continuous basis through:

- Ensuring all airlines/handling agents check an aircraft stand prior to the arrival of the flight and are committed to active FOD prevention
- Maintaining good housekeeping practices
- Ensuring tenants pick up FOD within the areas under their control
- Installing catch fencing in open areas of the airport to trap wind-blown debris such asnewspapers and plastic sheeting
- Organizing regular joint airport, airline, handler apron FOD walks to check for FOD and to identify its source
- Organizing campaigns and publicity to remind staff of the dangers presented by creating FOD
- Ensuring that contractors involved in construction projects are aware of the need to contain all their materials on-site and not allow spillages to enter the aircraft areas
- Setting up a runway/taxiway/stand inspection or sweeping schedule of suitable frequency.
- Analyzing items of FOD to identify the likely contributors
- Reviewing items of FOD at Safety Group meetings involving airlines, handling agents, support companies and aircraft maintenance organizations

Airport operators should include aircraft maintenance organizations in their FOD reviews as there have been reported incidences of tools and chocks accidentally left in aircraft, which have subsequently fallen out and become hazardous FOD items.

Operation of Vehicles Airside– Last but not least, operation of vehicles at airside must be controlled by local rules and airside driving permit. Airside driving requirements should include:

- Airside vehicle permits
- Airside driving permit
- Speed limits in defined areas
- Vehicle serviceability standards
- Environmental or emissions standards
- Parking and No Parking requirements
- Livery, markings and obstruction lights
- Use of service roads and taxiway crossings
- Limitations on the numbers of trailers towed
- Rules for operating vehicles on stands and around aircraft
- Right of way
- Penalties for non-adherence to the rules
- Height restrictions

Conclusion–

Airside is the area where the movement of aircrafts, vehicles and ramp staffs continues, the risk of incidents or occurrences remain high. Since the reports reveal that the number of accidents, incidents and occurrences is higher on ground compared to that in air, the airport operators must keep airside safety on top priority. By employing trained staffs working at the airside either driving airside vehicle, operating service equipment, marshaling aircraft, refueling aircraft or those engaged in construction works, airside safety will be ensured. Besides, regular inspection of the movement area to ensure good surface condition, removal of FOD or managing wildlife activity is another important role of airport operator to enhance safety in aerodrome operation. Hence, to prove 'Safety on top Priority' at the aerodrome, it is essential to ensure 'Airside Safety'.

Leasing: An Aspect of Commercial Dealing in Aviation Industry

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Introduction

Leasing is a process by which a firm can obtain the use of a certain fixed assets for which it must pay a series of contractual, periodic, tax deductable payments. The lessee is the receiver of the services of the asset under the lease contract and the lessor is the owner of the assets.

Although leasing is actually a very ancient transaction form – the earliest equipment leasing was recorded in the ancient Samarian City of Ur in about 2010 B.C. Modern leasing just started in the 1950s when the first leasing company of US was founded. From then on, the practice of industrial leasing rapidly spread to other markets.

While it might have already been mature in developed economies, the leasing industry is still emerging and rising in the countries like ours. When we talk about the leasing in aviation here in Nepal, we also not have so good experience all the time in the past.

The relationship between lessor and lessee is a common one, but many people might not understand all of the details of the situation. At its core, a lessor is someone who owns a property, object, trademark, business, or any other piece of real or intellectual property. The lessee pays the lessor for the right to use the said property.

There are some important aspects to know for an entrepreneur while starting up commercial dealing especially in leasing to be made conducive to the client or the lessee for the growth of the business. It is good to hire specialist commercial leasing lawyer.

The aspects may be:

- Leverage;
- Representation;
- Advice of a good commercial lawyer about what the lease actually covers, to what property taxes the client may be liable for, what insurances need be obtained and how to structure the provision of security;
- Owner Concessions which can be obtained through skillful deal as an incentive to be provided to the tenant or lessee;
- Duration of lease and rent amount;
- Termination and Assignment to be inserted in the lease for the facilitation to the lessee

Lease is a financial contract between the business customer (user) and the equipment (asset) supplier (normally owner) for using a particular asset/equipment over a period of time against the periodic payments called “Lease rentals”. Lease generally involves two parties i.e. the lessor (owner) and the lessee (user). Under this arrangement, the lessor transfers the right to use to the lessee in return of the lease rentals agreed upon. Lease agreement can be made flexible enough to meet the financial requirements of both the parties.

Definition of a Lease

We define lease in order to understand the leasing contract. The lease is a contract whereby one party, the lessor, grants the right to use a particular good for a period of time to the other party, the lessee (or tenant), which will pay for the transfer of the right to use a fixed amount regularly.

Common Obligations to the Lessor

The most typical obligation that a lessee has to a lessor is to make payments on a schedule that has been negotiated in the lease agreement. They are also typically responsible for a reasonable amount of maintenance and upkeep, although this varies widely depending on jurisdiction. The lessee is also obligated to return the property at the end of the lease agreement in the state that said property was received at the beginning of the agreement. The lessee is obligated to follow all terms and conditions of the lease to the letter, or else the lease is said to be 'broken' and the property is returned to the lessor.

Common Obligations to the Lessee

In most cases, the lessor has a few obligations to the lessee. The lessor should ensure that the property being leased is free from damage - or any damage to the property has been disclosed beforehand - and they are forbidden from placing undue obligations on the lessee.

Benefits for the Lessee

The obvious benefit for the lessee is the use of the lessor's property for the full term of the lease agreement. Depending on the agreement, they are able to use a car, watch a television, live in a house or apartment, or just generally make unencumbered use of the property that they've paid for. In return for paying the lessor, the lessee does not actually own the property and is typically under no obligation to make tax or lien payments for the said property.

Benefits for the Lessor

The key benefit for the lessor in nearly every case is money. Whether the payment is made monthly, yearly, or at some other agreed upon time period is up to the individual details of the lease. Lessees who don't make these payments on time may find themselves in breach of the lease agreement, and forced to give up using the leased property and potentially pay fines and penalties.

A lease agreement can be made flexible enough to meet the financial requirements of both the parties.

Commercial Lease Terms

- Rent Clause
- Description of the Premises Clause
- Parties Clause
- Term Clause
- Use and Exclusives Clauses
- Maintenance Clause

- Insurance Clause
- Taxes Clause
- Deposit Clause
- Governing law and jurisdiction
- Other Clauses - Security arrangements; Option to renew the lease; Subletting (subleasing); Dispute procedures; Attorneys fees; Foreclosures.

Importance of Leasing

Why is leasing so popular around the globe? Its key benefit is to separate the legal ownership of an asset from its economic use. In a leasing transaction, the lessor retains ownership of the leased assets during the entire contract period, and the leased asset is, therefore, inherent collateral in such a contract. As a result, when entering into a leasing agreement, the lessor is protected in two ways. Moreover, even if a borrower has access to traditional bank lending, leasing can still offer a number of important advantages: leasing is convenient, flexible, less time-consuming, and often tax-advantaged. Other advantages include preserving credit lines, increasing one's purchasing power, providing fixed-rate financing, conserving working capital, and so on.

Leasing can be more important to emerging economies compared to developed economies.

Although leasing is becoming increasingly popular in emerging economies, according to World Leasing Yearbook 2014, leasing penetration rates are still at a very low level, generally less than 10 per cent. From another perspective, the low penetration rates provide tremendous opportunities for developing leasing markets.

Leasing in Aviation

Here, the article has to be concentrated on the leasing in aviation industry as to the 'Title' and it is not possible to discuss here all the perspectives relating to leasing due to prescribed constraints. It also has to be confined within the discipline of the article actually what it is for.

Aviation entities like airport and airlines owners/operators may require leases for their commercial purposes like operating businesses where aeronautical and non-aeronautical assets has to be mobilized for the growth of the business. To this end, such business operators may require funding or capital or say investment to meet related infrastructure investment needs as mentioned in Chapter 2: 2-3 of the Doc 9161 (Manual on Air Navigation Services Economics) and in Doc 9562 (Airport Economics Manual, Chapter 7: 7-12 & 714). The options for financing capital investment include:

- Government Finance;
- Equity Finance;
- Debt Finance; and
- Leasing

Thus, there may be both the leases in aviation: aeronautical and non- aeronautical. Aeronautical leases are concerned with aircraft and non-aeronautical leases are concerned with any other assets in association of aviation entities, which is related with the assets other than the aircraft- airport property (asset) leases related to the land, vehicles etc. for commercial purposes. Nevertheless, here, we focus on aeronautical leases, especially aircraft leases.

Aircraft Leasing

Leasing an aircraft can be an alternative to outright purchase for a variety of reasons like practicality to cash flow. There are a wide variety of leasing options available, each with specific advantages and disadvantages. In general terms, a lease is a transfer of an aircraft without transfer of title. The owner of the aircraft, or lessor, retains legal title to the aircraft, but transfers possession of the aircraft to the lessee. It is important to note that due to the broad range of options available, not all aircraft leases will meet the above definition.

Aircraft leasing is an alternative to purchase that may provide advantages to some companies. There is Tax advantages and Balance sheet advantages in the acquisition of aircraft - that make the option of leasing more desirable than purchase.

Since lessors assume a residual value to the aircraft being leased, they can typically offer a lower rental payment. However, to optimize the cash flow benefit, leases usually must be for a longer term. In addition to freeing up cash, leasing also may help keep your lines of credit open.

Leasing also can remove long-term debt from the balance sheet.

Types of Leases

The ICAO manual on regulations of international transport (Doc 9626) describes a leased aircraft as an aircraft used under a contractual leasing arrangement. To charter an aircraft means that the entire capacity is hired or purchased by one or more entities who may resell it to the public (this occurs most frequently in non-scheduled passenger operations, which is why they are popularly known as “charter flights”). A blocked space agreement is the contract by which an operator leases only a part of an aircraft operating in a scheduled air service on a continuing basis (for example, 15 seats on a specific flight during a season).

From an economic perspective the main division is between financial, capital leases and operating leases. The aim of financial leases is to avoid the substantial capital outlays and debts required for the purchasing of an aircraft and to reduce taxation and other costs. It has the appearance of ownership by the lessee (lessee’s logo, registration in the flag state of the lessee). The lessor can be a bank, an export credit agency, a manufacturer or a long term lessor such as IFLC or GE. Operating leases are designed to meet an air carrier’s need for additional aircraft, often on a seasonal or a short-term basis.

Operating leases are for terms shorter than the expected life of the aircraft, and the asset typically need not appear on the balance sheet. A capital finance lease more nearly covers the term of the useful life of the aircraft. A sale-leaseback arrangement involves purchase of the aircraft and use for a short period of time, followed by sale to the lessor who then leases the aircraft back. An experienced professional can customize provisions and options in your aircraft lease to meet the specific business, tax, and accounting requirements of your company.

From a regulatory point of view, one can also distinguish the dry lease i.e. the lease without a crew and the wet lease i.e. the lease with crew, and even the damp lease i.e. the lease with partial crew. These definitions do not, however, have a universal acceptance. The European Civil Aviation Commission (ECAC), a pan-European organization, defines dry lease as the lease of an aircraft when the aircraft is operated under the Aircraft Operating Certificate (AOC) of the lessee, whereas wet lease is defined as the lease of an aircraft operated under the AOC of the lessor. In turn, this definition partially rejoins the distinction between financial and operating leases in so far as the lessor in case of a financial lease never has an operating certificate.

In general we find the types of lease as under:

- Finance Lease or capital lease where the finance companies finance the aircraft for leasing to the lessee. In substance, a capital lease is considered a purchase of an asset.
- Operating Lease where aircraft is short term leased for operating purposes. It allows for the use of an asset, but does not convey rights of ownership of the asset. An operating lease is handled as a true lease under GAAP i.e. accounting principle.
- Dry Lease which does not include crew but aircraft only is leased for a shorter term
- Wet Lease which includes crew and somewhere we find practice of including maintenance, Insurance as well along with the aircraft and this is also known as ACMI. There is also a practice of damp-lease in some cases to refer to a wet leased aircraft that includes a cockpit crew but not cabin attendants. (Doc 9626, Chapter 5.2: 2-2)

Financial leasing seems, from an economic and regulatory point of view, to belong more to the world of financial services than to the world of air transport.

FAA classifies aircraft leases as either "dry leases" of "wet leases". Under a dry lease, the aircraft owner provides only the aircraft and no crew. If at least one crew member is provided in the lease arrangement, this becomes a wet lease as defined in the FARs. A wet lease is an exception to the simple definition of a lease because it does not involve transferring possession of the aircraft. The lessor maintains operational control of the aircraft under a wet lease. Without a specific exemption, such as a time sharing agreement, or other options found under FAR 91.501, a wet lease requires an FAA commercial operating certificate.

The regulatory and economic context of financial leases and operational leases are extremely different and should be treated separately.

The Concern of GATS

GATS focus on liberalization principle of Market Access, National Treatment and Most Favoured Nations (MFN) i.e. non-discrimination principle. GATS has other general obligations that include Transparency and Increasing Participation of Developing Countries

The Annex on Air Transport Services to the GATS keeps concern to aircraft repair and maintenance services, selling and marketing of air transport services and CRS services i.e. computer reservation. It focuses on party's obligations under bilateral or multilateral agreements that are in effect at the entry into force of the Agreement establishing WTO (Doc 9626 Chapter 3.7). Ultimately GATS emphasizes upon the liberalization of trade of services on the reciprocal basis.

Doc 9587 (Policy and Guideline Material on the Economic Regulation of International Air Transport), Part 8: 8-1 to 8-3 and the Chicago Convention 1944 (Doc 7300) Article 81 to 83bis , Assembly Resolution A23-2 deal with the matters related to aircraft leasing starting from registration existing agreements and new agreements and transfer of certain responsibilities of States under the Convention in connection with the lease, charter, interchange of aircraft.

Doc 9626, Chapter 5.2: 5.2-1 to 5.2-2 deals with definition & type of aircraft and aircraft leasing which is a means of a widespread method used by air carriers to obtain equipment or increase their fleet capacity.

The regulation of leasing is justified by two types of preoccupation: the first is safety, as leasing from abroad creates a risk of introduction in a given market of aeroplanes whose safety oversight is not up to the standard followed by the receiving state. The second preoccupation is economics, as leasing could be a way for a third party lessor from country C to bypass a cabotage monopoly or the limitations of the

bilateral agreement between A and B.

Those regulations are relatively complex in their functioning and cover policies that range from complete protectionism to relative liberalism. For instance one may distinguish three types of clauses related to leasing in bilateral agreements:

- the first requires simple notification of the lease to the competent authorities;
- the second authorizes the lease from a third party only on the condition that this third party does not derive any economic benefit from the bilateral agreement;
- the third demands, in addition to the preceding conditions, "appropriate authority" (i.e the underlying traffic rights) and reciprocity from the state of the lessor.

At national or plurilateral levels the main regulatory developments that have occurred during the period 1993-2000 concern the European region, where two bodies with wider membership, but working in close coordination with the EU, the European Civil Aviation Commission (ECAC) (ECAS's Recommendation on Aircraft Leasing No 21-1 1997 calls for prior approval of all leasing arrangements, lists information to be submitted for such approval, and states that Article 83 bis should normally be used for dry leases) and the Joint Aviation Authorities (JAA) (JAA Regulation No 1.165 regarding leasing distinguishes leases to or from other JAA States and leases to or from third countries), have adopted detailed regulations on the subject, respectively ECAC recommendation on leasing of aircraft 21-1, dated 3 July 1997 and JAR-OPS 1.165-leasing, dated 1 March 1998.

With respect to aircraft leasing in the European Union, Council Regulation (EEC) No. 2407/92 of 23 July 1992 on the licensing of air carriers, recognizes that leased aircraft may be used to meet the requirement that an air carrier have one or more aircraft at its disposal, and allows a Member State to waive the requirement to register an aircraft used by an air carrier on its national register in the case of short-term lease agreements to meet temporary needs of the air carrier or otherwise in exceptional circumstances. The regulation requires prior approval for such agreements and prohibits a Member State from approving agreements leasing aircraft with crew unless safety standards equivalent to those for the issuance of national Air Operator Certificates are met.

In Nepalese context, there is AOCR Chapter 9 (Edition 2013) which deals with the "Operations with Leased Aircraft' in terms of regulating the leasing practices of aircraft in Nepal.

Conclusion

Leasing has been practiced since long as a contract between lessee and lessor who provides the aircraft to the former who pays rentals to the later as consideration. It has been practiced as an alternative to outright purchase of the asset. Here, we also see leverage underlying in this commercial dealing which has been helpful for the business operators to grow their industry even if they have no sufficient fund for the same. This has been quite helpful in the growth of industry and commerce. This practice has been popularly used commercial phenomenon worldwide though it is still rising here in Nepal. Here, we are to be in line with the international principles and practices so as to develop confidence. Our system should be consistent with the international practices.

Reference

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Customer Service Culture at Airports

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Uniquely excellent customer experience does not happen by chance. It is a strategic business decision. Airports Council International had organized a global training programme on "Developing a Customer Service Culture at Airports: Measuring and Benchmarking the Result" in Kuala Lumpur, Malaysia on 17-21 October 2016. We were nominated to participate in the training on behalf of Tribhuwan International Airport Civil Aviation Office. In this article we are trying to to summarize what we learnt during the training and what are the relative circumstances at TIA, Aerodrome and Airport .

As per ICAO definition, an aerodrome is a defined area on land or water (Including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. Similarly, any aerodrome that is designated by the contracting state, in whose territory it is situated, as an airport of entry and departure for international air traffic where the formalities related to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

From a customer's point of view, an airport is a place where airplanes take off and land that has all the services and facilities needed to take care of the airplanes, the customer and cargo. It is a continuum of experiences from landside to airside that are expected to delivered safely, securely, efficiently, professionally, courteously, seamlessly and in a quality manner.

Who is the Customer ?

The customers were traditionally defined as people who purchase services or products. But, today the term "Customer" is used much more broadly as any person or organization that receives services or goods from another person or organization.

There are two types of customers: external and internal. In case of airport the external customers include passengers who are departing from or arriving at the airport, receivers and greeters who come to the airport to meet or drop off passengers and other airport visitors, employees who work at the airport and who consume products or services within the terminal and others business that do business with the airport operator. Similarly, the internal customers are employees or business units who receive services from other employee or business unit of the same organization.

Airport Customer Experience

It is the sum of the experiences a customer has in an airport, and it is judged by the customer based on their individual standards, expectations and perceptions.

Customer centric service philosophy

It refers to putting the customers at the centre while implementing processes, procedures, terminal designs, services, amenities and communications. Infrastructure and facilities should be engineered from the customers' perspective thereby delivering greater value and higher satisfaction to the customers.

Airport Service Delivery Chain

It encompasses all of the organization and companies doing business at the airport which are interconnected and co-dependent in searching the same airport customers either directly or indirectly. Many entities are responsible for the delivery of services at an airport but the airport operator is often held accountable regardless of which link in the service delivery chain fails. An airport manager's job is among the most complex and problematic jobs as the airport operators are fully accountable but not fully responsible for service delivery at the airport. It is not our fault but is our problem - this is the airport operator's dilemma.

Airport Customer Experience Management

It includes the strategies and processes employed by airport management to plan, design, engineer, implement and sustain satisfying customer experiences from the customer's perspective across the entire service delivery chain. Magic is created when an airport has an ability to exceed its customers' needs and expectations and consistently matches the customers' perception that their needs and exceptions are well met.

At airports, customers want safety and security, hospitality, cleanliness, reliable, hassle free excellent concessions, value of money, modern facilities , enabling technology, fun and enjoyable ambience, constant innovation, good signage and way finding, operational efficiency, short queues, friendliness, respect, welcoming attitude, excellent service recovery, wifi, internet, social media, open access, information etc. These exception measure the brand of airports. In this globalized world strong brands extract greater value.

Key players responsible to create excellent customer service at an airport are airport operator, the businessmen, regulatory bodies, stakeholders and airport employees. These key players are important members of the airport community which include civil aviation authority, airlines, customers, immigrations, airport security and airport police, agricultures, concessions, service contractors, ground handling companies, ground transport companies and fixed based operators. The airport operator is the holder of the airport certificate and the entity that exercise control over the operation of the civil airport airfield. It has the responsibility to provide vision and leadership and setting the airport brand in collaboration with the entire airport community.

The role of airport employees

Customers touch points are the interactions that a customer's has within an airport. These interactions can be experienced before, during or after the actual visit to the airports. In spite of all the efforts to create positive customer experiences, sometimes customer touch points fail (because of lost luggage, missed flight or a rude airport employee) and customers become frustrated, agitated and stressed. These rare occurrences are referred to as the moments of truth. Superior handling of moment of truth differentiates airports that aspire to be customer service leaders. A good handling of customer grievance requires a response from frontline (also referred to as customers facing) employees that put the customer's real and emotional needs first. The airports response when customer service breaks down is called service recovery. All frontline staffs, supported by the airport policies and procedures, are often the first responders.

Effective service recovery can transform irate, stressed and sometimes aggressive customers into calm, co-operative and appreciative travelers. So, airport employees are important customer touch points and are essential for the successful moment of truth and service recovery. Finally, they are the face of the airport brand as in the top three best airports in the world - Changi of Singapore, Incheon of South Korea and Munich of Germany.

Customer Service Standards

South Africa successfully experimented its customer service standards airports in South Africa through 'Ubuntu Appearance' during the world cup football 2010 which become very popular. They declared five standards of customer service like this.

1. Eye to eye (Acknowledge and respect) the importance of making eye contact.
2. Greet and smile (Respecting each other, let's get comfortable with it.
3. Set up (Roles people play in our lives, handle conflict)
4. My world (engaging with people in my environment, my customers Journey.
5. I care (It starts with you, be a Johnny)

Our instructor Ms. Joanne Paternoster told us an interesting story of a South African boy Johny. Johny was poor and used to beg in the streets of Johanesberg. He was able to collect some money for his family by begging. On day, his father taught him the courtesy for these who gave money for him. From then John began using some courtesy words to the kind people. After a couple of weeks, he was able to create some new words and phrases of courtesy. People were much influenced by him. Someone advise him to write the words and phrases and sell it to the shops. Luckily, some shopkeepers like his statements and displayed them in their shop by placards and posters. After that, Johny needed not to beg in the street. He began to sell his new statement. A company Ubuntu Appearance, finally use the phrase " Be a Johny" in South Africa airports on the eve of world cup football 2010. The slogan was very popular by that time. Here is a checklist for creating or enhancing your airports service culture.

- Build the airport brand
- Determine customer's priorities
- Adopt and publish service standards
- Develop and implement customer service programmes
- Educate, Engage and Energize all airports employees
- Implement a performance management system
- Collaborate, Collaborate and collaborate
- Communicate, Communicate and communicate

Here are some examples of some brand used by some airports

Changi International Airport - Greet, smile, thank

Munich International Airport - Innovative, efficient, sophistication and sociability

Dublin International Airport - Use of technology for the benefit for our customers

San Francisco International Airport - Modern, California lifestyle

Amsterdam International Airport - Shopping, sense of place, relax, educational

Gatwick International Airport - Deliver the service you expect at every stage of the airport journey

Los Angeles International Airport - The gateway to the finest destination

Puerto Vallarta International Airport - Your friendly airport

The WOW Formula

Customer satisfaction = customer experience- customer expectation

Customer satisfaction less than O = Disappointed

Customer satisfaction O = Ordinary

Customer satisfaction greater than O = WOW

Maya Angelou wrote in the social media - I have learned that people will forget what you said, people will

forget what you did, but people will never forget how you made them feel.

Mrs. Paternoster concluded the training with Mahatma Gandhi's statement:

Keep your thought positive because your thought become your words

Keep your words positive because your words become your behavior

Keep your behavior positive because your behavior become your habits

Keep your habits positive because your habits become your values

Keep your values positive because your values become your destiny

Looking at the Tribhuwan International Airport

As per Airport council International's airport service quality and skytrax star rating for airports 2016, Tribhuwan International Airport is rated as the 10th worst airport in the world. The measuring index were - waiting time in check-in queue, ease of finding your way through airport, waiting time in security inspection, cleanliness of washroom, toilets, internet access/wifi, comfort of waiting areas, availability of washrooms /toilet, restaurant/eating facilities, feeling of being safe and secure, courtesy and helpfulness of security and airport staff. TIA is frequently criticized for lacking standards in each of those elements. In fact, Nepal needs a second International Airport at the earliest because TIA is becoming smaller and narrower to offer finest customer service. The capacity of TIA handling passenger is 1340 per hour but it has been handling 1900 to 2000 passenger per hour in the recent months.

There are many complaints registered at Hello Sarkar against the TIA. Most of the complaints are about narrowness of airport, lack of cleanliness, worst behavior, and poor airlines, immigration, security and airport facilities. TIA civil Aviation office asked the concerned agencies and units about those complaints. When TIACAO gets response from the concerned agencies and units, it replies to Hello Sarkar. TIACAO organizes weakly staff meeting in an effort to address the complaints and solving the problems experienced by the passengers. It also calls airlines, security and other business partners for frequent cooperation and collaboration.

As an airport operator, TIA is the main wing of airport community. Although the government agencies working at the airport are family of the airport community, they have no clear legal status for the same. There is a committee for aviation safety and security at national level. It is necessary to form a national level committee for the airport customer service, too.

To address the customer service, TIACAO has a departmental wing named Airport Operation Department while Terminal Management Division handles facilitation or customer service. Airport Operation Department's another main job is coordination and collaboration with other members of airport community like custom, immigration, security, airlines and airport business partners. There is another task force like rapid action team which includes facilitation or customer service related units like civil maintenance division, terminal management division, electro-mechanical division, corporate division and administration division. The team is headed by the Airport Operation Department. The team has mandate for quick response and recover. Minister for Tourism and Civil Aviation himself looks after the performance of the team. After the team was activated last year, positive results were noticed in maintaining cleanliness, hospitality, hassle-free passenger service, welcoming altitude and good signage.

Civil Aviation Authority of Nepal, Ministry of Tourism and Civil Aviation and ICAO had recognized TIA as Kathmandu International airport but the Airport Customs call it Tribhuvan airport. This is a crucial example of lack of proper coordination between the governmental agencies. This example is not limited to the differences on the name but represents the mentality of government agencies. All members of airport community are fully accountable for their job but not fully responsible for service delivery at the airport. It is the main problem.

प्राधिकरणको अग्रगमनको वाटो

Sanjay Kumar
Manager, CAAN

पृष्ठभूमि

मानव संशाधन कुनै पनि संस्थाको सबैभन्दा महत्वपूर्ण एवं मुल्यवान पूंजी भएकोले यसको सही पहिचान, परिचालन, प्रोत्साहन र प्रयोग संस्थाको स्थायित्व एवं विकासको लागि मुख्य आधार हो । त्यसैले मानवीय पूंजीलाई संस्थाको लक्ष्य, उद्देश्य र कार्यक्रम संग निरन्तर रूपमा आवद्ध राख्दै अधिकतम उपयोग तथा लाभ प्राप्त गर्नका लागि सम्पादन गुर्नुपर्ने कार्य सो को लागि आवश्यक स्रोत साधन, कार्यमैत्री वातावरण, निष्पक्ष तथा पारदर्शी मूल्याङ्कन, उचित पारिश्रमिक, दण्ड तथा पुरस्कारको सुनिश्चित गर्ने प्रभावकारी संयन्त्रको व्यवस्थापन हुन जरूरी हुन्छ ।

नागरिक उड्डयन क्षेत्र अती नै संवेदनशील र गतिशिल रहिरहने भएकोले यसको कार्य सम्पादनमा मानवीय पक्षको भूमिका तथा महत्व अझै वढी सान्दर्भिक हुन जान्छ । विश्वमा विज्ञान तथा प्रविधिको विकास संगै उड्डयन क्षेत्रले पनि ठूलो फड्को मारेको छ । तर पनि एकातिर सुरक्षित उडान सम्पन्न गर्नका लागि मानवीय योगदानको महत्वलाई पूर्णरूपमा विस्थापित गर्न सकिएको छैन भने अर्कोतिर संसारभरि घटिरहेको हवाई दुर्घटनामा झण्डै ८० ५ दुर्घटना मानवीय त्रुटिका कारण भएको दुर्घटना जांचबुझ समितिका प्रतिवेदनले देखाईरहेका छन् । तसर्थ उड्डयन क्षेत्रमा गर्नुपर्ने कार्य र कार्यसंग सम्वद्ध स्रोत साधन अन्तर्राष्ट्रिय नागरिक उडडयन संगठन (ICAO) बाट प्रतिपादित एनेक्स, म्यानुअल, डकुमेण्ट एवम् रेगुलेशनहरूद्वारा निर्दिष्ट प्रावधान अनुरूप हुने भएकोले तोकिए बमोजिमको मापदण्ड अनुसारको हुनैपर्ने वाध्यात्मक प्रावधान रहेको छ ।

नेपालमा हवाई सेवाको सुरक्षा तथा सुविधा अभिवृद्धि गर्न र उडान सेवा प्रति जनमानसमा विश्वसनियता कायम राखिराख्न नागरिक उड्डयन प्राधिकरणलाई आर्थिक, प्राविधिक, भौतिक, मानवीय तथा व्यवसायिक रूपमा सक्षम, सम्पन्न तथा दिगो बनाउन आवश्यक रहेको छ । यसको लागि प्राधिकरण अन्तर्गतका विमानस्थलहरूको भौतिक, प्राविधिक, मानवीय एवं व्यावसायिक स्रोत साधनहरूलाई पहिचान गरी अल्पकालिन तथा दीर्घकालिन रूपमा उपयोगिताको आधारमा परिचालन गर्न महानिर्देशक लगायत हरेक पदाधिकारीले गर्नुपर्ने कार्यहरूको विवरण, कार्य सम्पादन मापदण्ड, मापक सुचकांक र कार्य प्रगति अनुगमन, मुल्यांकन, अभिलेखन तथा विश्लेषण गर्न सक्ने प्रभावकारी संयन्त्रको स्थापना हुनु आवश्यक छ । यसको लागि प्राधिकरणको विद्यमान संगठन संरचना, कार्य संपादन प्रणाली तथा ऐन नियममा समयानुकुल आवश्यक परिमार्जन, परिवर्तन तथा पुनर्गठन गर्नु जरूरी छ ।

प्राधिकरणको लक्ष्य तथा कार्यक्रम निर्धारण

अन्तर्राष्ट्रिय नागरिक उड्डयन संगठन (ICAO) ले कुनै पनि राष्ट्रको हवाई सेवाको स्तर एवम् प्रभावकारिताको मूल्यांकन तथा मापन गर्नका लागि उक्त राष्ट्रमा हवाई उडान सेवाको सुरक्षाको स्तर, हवाई यात्रुले यात्रा अवधिभर पाईरहेको विमानस्थल तथा वायुयान सेवा सुविधाको गुणस्तर, सेवा प्रवाह गरे वापत सेवाप्रदाय संस्थाले प्राप्त गर्ने गरेको सेवाशुल्क, हवाई उड्डयन संरचना र उडान संचालनबाट वातावरणमा परिरहेको नाकारात्मक प्रभाव हरूलाई आधार मान्ने गरेको छ । त्यसैले नागरिक उड्डयन प्राधिकरणको प्रभावकारिता तथा सफलता पनि नेपालको विद्यमान उडान सुरक्षाको अवस्था, त्रि.अ.वि. लगायत विभिन्न विमानस्थालहरूमा यात्रु तथा अन्य व्यक्ति/व्यवसायहरूले पाउने गरेका सेवाको गुणस्तर, विविध सेवा प्रवाह गरे वापत प्राधिकरणले विमानस्थलहरूमा आर्जन गरिरहेको आय, मुनाफा, बचत तथा व्ययको अवस्था, माग बमोजिमको राष्ट्रिय उड्डयन संरचना र उडान सम्पादनवाट वातावरणमा परिरहेको प्रभावको आंकलनको आधारमा नै गर्नुपर्ने हुन्छ । अतः प्राधिकरणले उपरोक्त पाँच वटै क्षेत्रमा नेपालको अवस्थालाई कम्तिमा Asia Pacific क्षेत्रको औसत हाराहारीमा पुग्याउन यी क्षेत्रहरूमा विद्यमान चुनौती तथा समस्याहरूको सहि एवं सूक्ष्म आंकलन तथा विश्लेषण गरि लक्ष्य सहित आवश्यक कार्यक्रमहरू निर्धारण गर्नुपर्ने हुन्छ ।

हवाई सेवा क्षेत्रको विद्यमान चुनौती

क) उडान सुरक्षा

डांडा काँडाले भरिएको विषम भू(धरातल र जटिल मौसमी बनोट रहेको आकाशमा स(साना हेलिकप्टर, ट् वीनअटर देखि बोईङ्ग ७७७ सम्मको विविध प्रकारका अपरेटिङ्ग परफरमेन्स भएका वायुयानहरू संचालन गरेर नेपालको उडान सुरक्षा स्तरलाई एशिया प्रशान्त क्षेत्रीय तथा विश्वको औसत सुरक्षा स्तरको हाराहारीमा कायम राख्नु ,

ख) सेवाको गुणस्तर

निम्न आय भएका श्रमिक, सर्वसाधारणदेखि उच्च आय भएका विशिष्ट स्वदेशी तथा विदेशी यात्रुहरूको लागि अन्तर्राष्ट्रिय मापदण्ड अनुरूप, एउटा निश्चित स्तरको समान किसिमको विमानस्थल तथा वायुसेवाको सेवा तथा सुविधा प्रवर्द्धन तथा व्यवस्थापन गर्नु ,

ग) वित्तीय स्थायित्व

देशको सुगमदेखि दुर्गम क्षेत्रसम्म सर्वसाधारणको पहुंच योग्य र सर्वशुलभ उडान सेवाको प्रत्याभूति गराउंदै, हवाई सेवाको दीगोपन कायम राख्न लगानी तथा प्रतिफल बीच आवश्यक सामन्जस्य कायम राख्न लगानी तथा प्रतिफल बीच आवश्यक सामन्जस्य कायम राख्दै पर्याप्त आय आर्जन तथा बचत गर्न सक्ने अवस्थाको सुनिश्चितता गर्नु,

घ) उड्डयन संरचना

माग बमोजिम देशको सुगम देखि दुर्गम क्षेत्रमा आवश्यक भौतिक तथा प्राविधिक हवाई उड्डयन ९ब्च्चाष्भमि, ब्च्चकउबअभ बलम ब्च्च ल्बखष्नबतष्यल० संरचनाको विकास तथा व्यवस्थ गर्नु ।

ङ) वातावरणीय प्रभाव

नेपालको हवाई क्षेत्रभित्र सम्पादन भईरहेको उडान गतिविधिले गर्दा प्राकृतिक सम्पदाको हिसावले विश्वकै धनी राष्ट्रको रूपमा चिनिएको नेपालको पर्यावरणमा परिरहेको नाकारात्मक प्रभावको आंकलन गर्नु र उक्त प्रभावलाई न्यून गर्न सम्पादित कामकाजमा कार्पोरेट सोसल रेस्पोन्सिबिलिटी जस्ता जिम्मेवारी तथा दायित्वहरूलाई संयो जन गर्नु ।

प्राधिकरणको वर्तमान अवस्था र आवश्यकता

नेपाल नागरिक उड्डयन प्राधिकरण भौतिक, प्राविधिक, मानवीय तथा वित्तिय रूपमा नेपालको सम्पन्न संस्थाहरू मध्ये एक हो भन्ने कुरामा विमति छैन तर यसले आफ्नो संस्थागत क्षमताको यथोचित परिचालन तथा उपयो ग गर्न नसकि उडान सुरक्षा, वित्तीय स्थायीत्व र विमानस्थल यात्रु सेवा सुविधा संग सम्बन्धित विविध चुनौतीहरूको सामना गर्नु परिरहेको तितो सत्य पनि विर्सनु हुदैन । यी चुनौतीहरूको यथास्थितिलाई निम्न आधारमा विश्लेषण गरि वुझ्न सकिन्छ ।

क) मानवीय

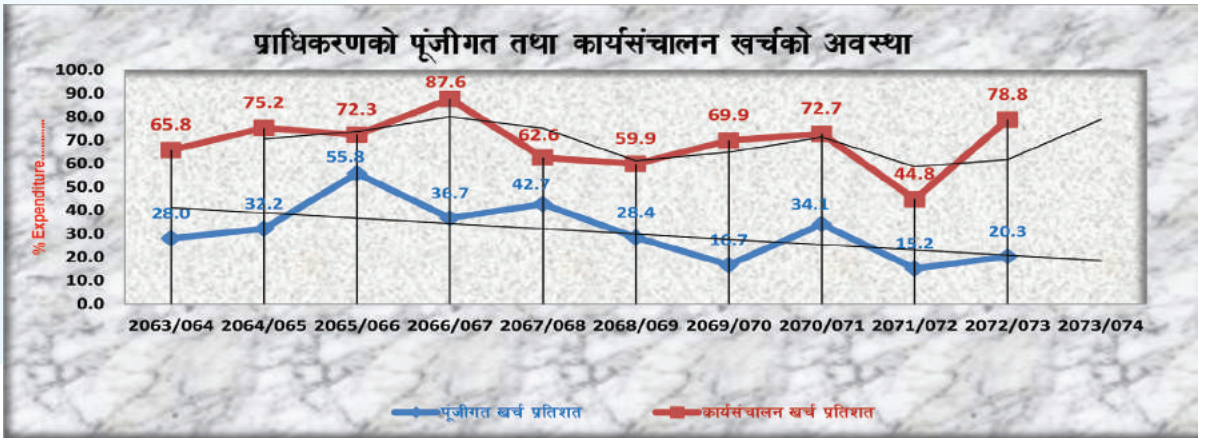
प्राधिकरणले प्राविधिक, प्रशासन तथा विविध सेवा समूह अन्तर्गत कायम रहेका १०६५ दरवन्दी मध्ये हाल रहेका ८०१, करारका ७२ र सेवाप्रदायीका ४७० कर्मचारी मार्फत कार्यहरू सम्पादन गर्दै आएको छ । कार्य प्रकृति तथा जिम्मेवारी अनुसार सबैले आ-आ□ना कार्य सम्पादन गर्दै अएका छन् तर कार्यभार र कार्यप्रकृतिको आवश्यकता अनुसार तो किएको जनशक्तिको संख्या, योग्यता, अनुभव तथा योगदान पर्याप्त छ वा छैन (?) १०६५ दरवन्दी नै किन (?)भन्न सक्ने अवस्था छैन । प्राधिकरणमा सम्पादित हरेक कार्यको अभिलेख राख्ने परिपाटी नरहेको र राख्न चाहेपनि विद्यमान कार्य सम्पादन प्रणाली तथा कार्यशैली अन्तर्गत सम्भव नभएकोले कसले, कहां, के, कति, कसरी दैनिकरसाप्ताहिकर मासिकरवार्षिक रूपमा संस्थाको लागि योगदान पुर्‍याई रहेका छन् त्यसको सही तथा प्रभावकारी रूपमा अनुगमन, मुल्याङ्कन, आँकलन,तथा अभिलेखन गर्ने स्थिति छैन । यस्तो अवस्थामा प्राधिकरण भित्र सम्पादन भईरहेका विभिन्न कार्यहरूको के कस्तो स्थिति छ (रू) के कसरी प्रगति भईरहेको छ (रू) कुन क्षेत्रको कार्य लक्ष्य अनुरूप अगाडी वढिरहेको छ (रू) कुन पछाडी छ (रू) नियमित रूपमा सम्पादन भईरहेको प्रशासानिक तथा उडान कार्य प्रणालीर

प्रकृयामा कहां के कस्ता आर्थिक, प्राविधिक वा सुरक्षात्मक कमजोरी (Safety Deficiencies) हरू भईरहेका छन् (?) आदि कुराहरूको मापन तथा निर्धारण र सम्पादित कार्यको निष्पक्ष तथा पारदर्शी रूपमा मुल्याङ्कन गरि दण्ड तथा पुरस्कार सम्बन्धी व्यवस्था कमजोर रहेको छ ।

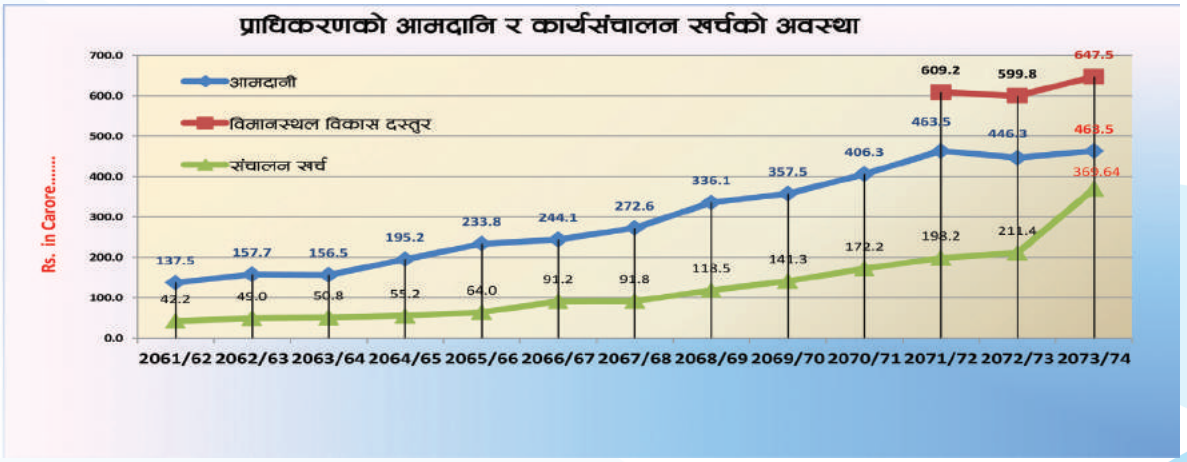
ततसर्थ प्राधिकरणको हरेक क्षेत्र र स्तरमा सम्पादित कार्यको कार्यप्रकृति तथा कार्यभारको आवश्यकता अनुसार भावी एवंम वर्तमान जनशक्तिको पहिचान तथा व्यवस्थापन र हरेक कर्मचारीले आ-आफ्नो स्तरबाट व्यक्तिगत वा सामूहिक रूपमा संस्थाको लागि पुग्याईरहेको योगदानलाई निजले सम्पादन गरेको कार्यको मात्रा, गुणस्तर, समय, लागत, परिणाम आदिको आधारमा यथार्थपरक मुल्याङ्कन गर्न सक्ने प्रभावकारी संयन्त्रको व्यवस्था हुन जरूरी छ ।

ख) वित्तीय

विगत १० वर्षको अवधिमा सरदर कूल बजेटको पूंजीगत तर्फ ७४.३२ ५ र कार्य सञ्चालन तर्फ २५.६८५ विनियोजन भएको तथ्य प्राधिकरणको पूँजीगत र कार्यसंचालन खर्चको विबरणको तुलनात्मक अध्ययनले देखाएको छ । तर खर्चको हकमा कूल वास्तविक खर्चको पूँजिगत तर्फ सरदर २६.६४ ५ र कार्यसंचालन तफ ६४.१७ ५ खर्च भएको छ ।

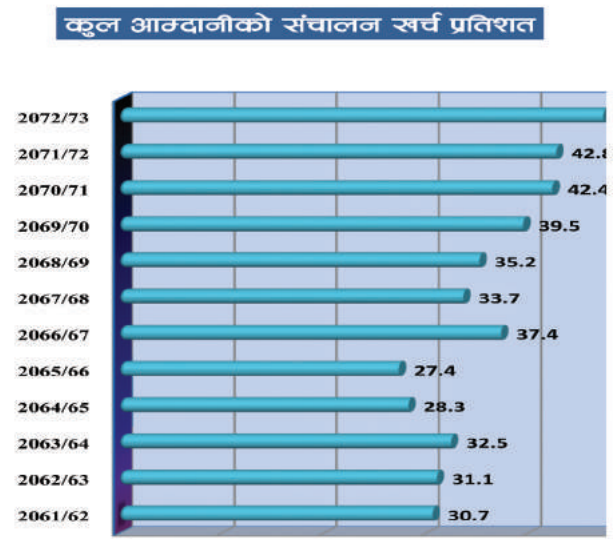


प्राधिकरणको कार्यसंचालन खर्च विगतको वर्षहरूको तुलनामा सरदर बढदो कम्रमा छ भने पूँजीगत खर्च निर न्तर घटदो क्रममा छ । यसर्थ प्राधिकरणले विनयोजित वजेट र भइरहेको खर्च अनुरूप परफरम गर्न सकिरहेको छैन । हाल भईराखेको न्यून पूँजीगत खर्चमा पनि लगानि(प्रतिफल ९च्भतगचल यल क्ष्लखभकक्तभलत० को परिप्रेक्षमा धेरैजसो क्षेत्रको लगानी न्यायोचित तथा मनासिव नहुंदा नहुदै पनि आवश्यक नीति र लगानिको स्पष्ट योजना तथा आधार को आभावमा अनुत्पादक क्षेत्रमा समेत लगानी गर्न वाध्य भईरहेको स्थिति छ । यसले प्राधिकरण माथि अनावश्यक व्यय भार थपिदै गएको छ । त्यस्तै प्राधिकरणले वार्षिक रूपमा आर्जन गर्दै आएको आम्दानि र कार्य संचालन खर्चको अवस्थाको तुलनात्मक स्थितिको अवस्था तल देखाईएको छ । आ.ब. २०६५/६६ पछि प्राधिकरणले निरन्तर मुनाफा आर्जन गर्दै आएको छ र जुन संस्थाको वित्तिय स्थायीत्वको लागि धेरै राम्रो संकेत हो । जसरी क्षेत्रीय तथा विश्वव्यापि रूपमा उडान एवं यात्रुको आवागमनमा निरन्तर वृद्धि भईरहेको छ त्यसरी नै प्राधिकरणको आम्दानि पनि वृद्धि हुने



प्रायः निश्चित छ ।

आम्दानि वीचको अनुपात लगभग ५०-५०% रहेको छ भने प्राधिकरणको ७५-८०% राजस्व Aeronautical आम्दानि माथि नै निर्भर रहेको छ । तसर्थ प्राधिकरणले Non-aeronautical क्षेत्रको आम्दानि वृद्धि गर्ने तीर पहल गर्नु आवश्यक छ । प्राधिकरणको वर्तमान मुनाफाको आधारमा कर्मचारीहरूको अपेक्षा अनुरूप लाभांश दिनु पर्ने दायित्व एकातिर छ भने अर्कोतिर नेपाल सरकारको पूंजी प्राधिकरणले आवश्यकरअनावश्यक, उत्पादकरअनुत्पादक क्षेत्रमा चाहेररनचाहेर वार्षिक रूपमा गर्दै आएको लगानीले मुनाफाको ठूलो भाग नेपाल सरकारलाई डिभिडेन्टको रूपमा बुझाउनुपर्ने दायित्व थपिदै गएको कुरा पनि विर्सनु हुदैन ।



पाधिकरणको कार्यसंचालन खर्चको स्थितिलाई अध्ययन गर्दा आ०व० ०६९/७० पछि कार्यसंचालन खर्चमा लगातार वृद्धि हुदै गएको छ भने आ०व० ०७०/७१ पछि आम्दानि लगभग रू. ४-४.६ अरब को हाराहारीमा स्थिर छ र त्रि.अ.वि. मा विमानस्थल विकास शुल्क (ADF) लागु गरिएको हुनाले भईरहेको आम्दानीमा ३०-३५ % बृद्धि भई रू. ६ अरब नाँघेको छ । तर यो स्थायी आम्दानी नभई यात्रु सुविधा वृद्धिको लागि छोटो अवधिको विकास खर्च हो । आ०व० ०७२/७३ मा कार्यसंचालन खर्च कूल आम्दानीको ४७ प्रतिशतले नांघेको छ, जुन प्राधिकरण जस्तै अन्य अर्न्तराष्ट्रिय संघ संस्थाको कार्यसंचालन खर्चको समान्य औसत २०-२५% भन्दा धेरै नै माथि छ ।

विनियोजित पूंजीगत बजेटको अधिकांश भाग (करीब ८० प्रतिशत) खर्च हुन नसक्नु, उल्लेख्य रकम यथोचित रूपमा लगानी हुन नसकि बैंक खातामा निष्कृय बसिरहनु, लगानी अनुत्पादक तथा अनावश्यक क्षेत्रमा हुनु, संचालन खर्च निरन्तर वृद्धि हुदै जानु, संस्था माथि आर्थिक दायित्व थप हुदै जानु, आदि कुराहरू दिर्घकालिन रूपमा प्राधिकरणको दिगो वित्तीय स्थायित्वको लागि राम्रो संकेत होईन । अतः यस अवस्थावाट वाहिर निस्कन तत्कालै अनुत्पादक क्षेत्रको लगानी माथि अंकूश, अनावश्यक कार्यसंचालन खर्च माथि नियन्त्रण, वित्तीय पूंजी परिचालन र संस्थागत क्षमता वृद्धि गर्नका लागि प्राधिकरणले विशेष पहल गर्न अपरिहार्य छ ।

ग) उडान सुरक्षा

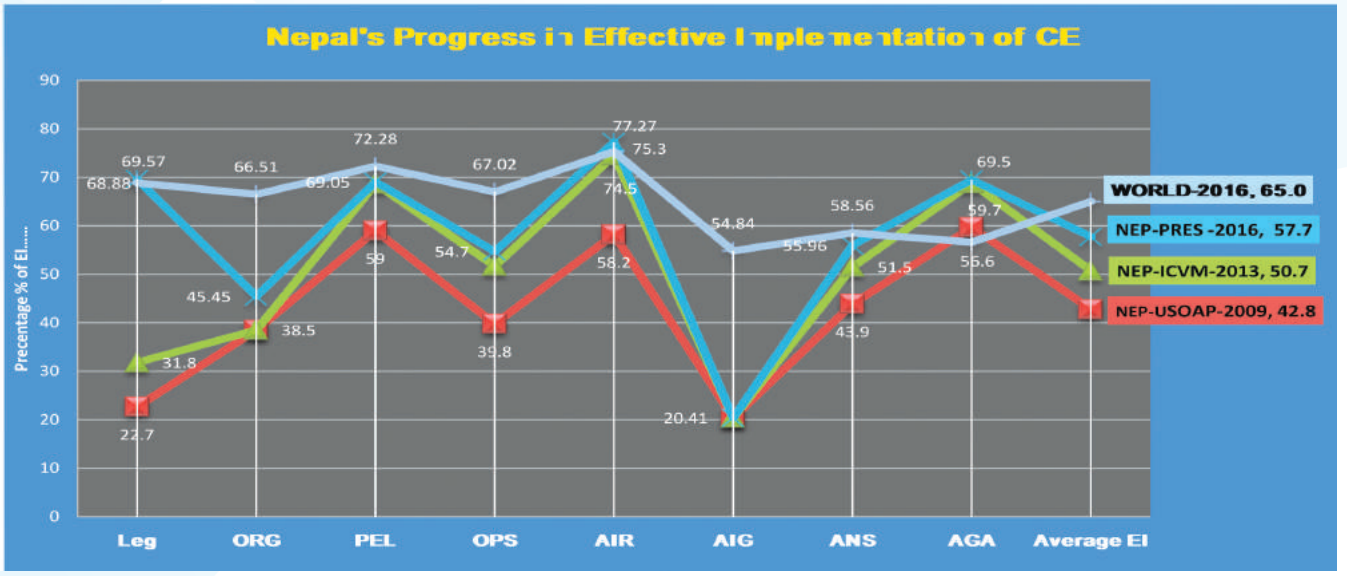
नेपालमा हवाई उडान सुरक्षाको स्तरलाई क्ष्ऋब्ब्ब् ले निर्धारण गरेको मुख्य दुइर्वटा मापदण्डको आधारमा विश्लेषण गर्न सकिन्छ । पहिलो क्ष्ऋब्ब्ब् को USOAP (Universal Safety Oversight Audit Program) ले निर्धारण गरेको ८ वटा Critical Element (CE) को क्षेत्रमा नेपालको अवस्था र दोश्रो नियमित उडानको प्रत्येक १० लाख उडानमा हवाई दुर्घटनाको दर । USOAP Critical Element हरूलाई लागु गर्न नेपाल धेरै हदसम्म प्रभावकारी तथा सफल भएको छ तर उड्डान संचालन प्रमाणपत्र (AOC) जारी गर्दा भएको कमजोरीले आएको SSC (Significant Safety Concern), डिसम्बर २०१३ पछि युरोपियन युनियनको Air Safety List र आन्तरिक वायुयान दुर्घटनाको श्रृङ्खलाले गर्दा प्राधिकरणले अन्तर्राष्ट्रिय जगतमा ठूलो चुनौतीको सामना गर्नु परिरहेको यथार्थ रहेको छ । खासगरि नेपाली वायुयानहरूलाई युरोपियन युनियनले युरोपको आकाशमा उडन प्रतिवन्ध लगाएपछि यो बहस अझ घनिभूत हुन गएको छ ।

१) यूनिभर्सल सेफ्टी अडिटमा नेपालको स्थिति :

USOAP Audit सन् २००९ को अवस्थाबाट सन् २०१३ को ICVM हुदै हालसम्म आईपुग्दा ऋभ को ८ वटा क्षेत्रमा भएको प्रगतिबाट नेपालको EI (Effective Implementation) सरदर ४३५ बाट ५८ ५ को हाराहरीमा पुगेको छ । विगत ७ वर्षको अवधिमा नेपालले ऋभ प्रभावकारी रूपमा लागु गर्न वार्षिक २ ५ ले वृद्धि गर्दै सरदर

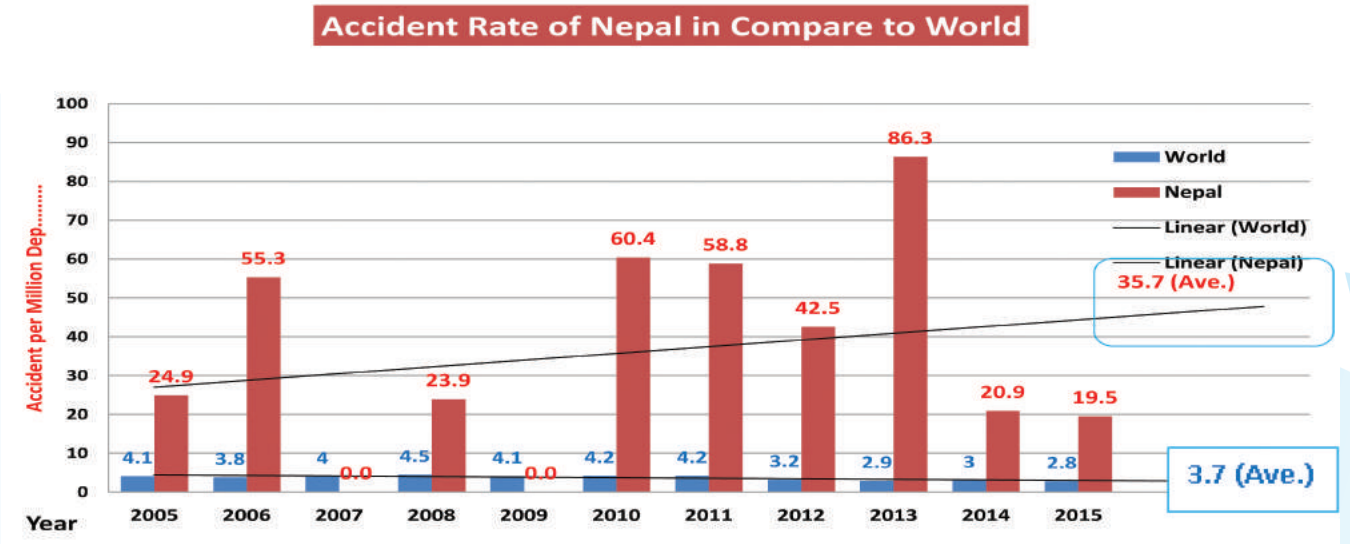
१५५ को वृद्धि हांसिल गरेको छ, जुन विश्वको औसत वृद्धि दर १.५ भन्दा ०.५ ले वढि छ । नेपाल अहिले

Legislation(LEG), Airworthy(AIR) र Aerodrome(AGA) को क्षेत्रमा विश्वको औसत भ्क भन्दा माथि छ । Organization (ORG: 66.51-38.5 =28) / Accident Investigation(AIG: 54.84-20.41 =34.43) क्षेत्रमा नेपाल र विश्वको औसत EI वीचको खाडल धेरै नै वढि रहेकोले यी क्षेत्रहरूमा रहेका एत्तक (Protocal Questions) को सामान्य दायित्वहरूलाई प्रभावकारी रूपमा पूरा गर्न सकेमा नेपालको EI विश्वको हाराहारी वा सो भन्दा पनि माथि पुग्ने प्रायः निश्चित छ ।



२) नेपालमा घटेको हवाई दुर्घटना स्थिति

नेपाल र विश्व स्तरमा सन् २००५ देखि २०१५ को अवधि सम्म प्रत्येक १० लाख नियमित उडानमा रहे का अधिकतम उडान तौल MTOW ५७०० कि. भन्दा माथिका जहाजहरू दुर्घटनाको तुलनात्मक स्थितिको चित्रण यहाँ गरिएको छ । उक्त अवधिमा विश्व र नेपाल भित्र घटेका औसत दुर्घटना दर क्रमशः ३.७ र १०.३ रहेको छ । यो दुर्घटना दर खासगरि विश्वको उडान परिवेशको तुल्नामा नेपालको जोखिमपूर्ण उडान परिवेश, छोटो अन्तरालको Frequent उडान, उडान Vs न्यून यात्रु संख्या र सेफ्टी व्यवस्थापन प्रणाली कार्यान्वयन प्रभावकारी नहुनु जस्ता कारणहरूले गर्दा वढि भएको हो । अमेरिकाको पहाडी क्षेत्रमा अवस्थित अलास्का राज्यको हवाई दुर्घटना दर सन २००८ सम्म अन्य राज्यको औसत दुर्घटना दर भन्दा २.५ गुनाले वढि थियो तर सेफ्टी व्यवस्थापनको विशेष पहल व्दारा त्यहाँको दुर्घटना दर निरंतर कम हुदै आएको छ ।



नेपालमा Certified तथा Authorized व्यक्ति एवं निकायहरू व्दारा उडान कार्यको लागि निर्वाह गर्नुपर्ने दायित्व र निर्धारित Compliance हरूलाई पूरा गर्नमा भईरहेको कमि कमजोरीरूलाई नियन्त्रण एवंम सुधार अपेक्षा अनुरूप सुधार हुननसक्नु, Safety Surveillance System र Safety Resolution Capability को आभाव हुनु, सेफ्टी व्यवस्थापनको कार्यान्वयन हुन नसक्नु जस्ता कारणहरू दुर्घटनाको लागि मुख्य रूपमा जिम्मेवार भईरहेका छन् । खासगरि भईरहेको हवाई घटना तथा दुर्घटनामा Non-Technical Skill संग जोडिएका विभिन्न मानवीय त्रुटी तथा उडान परिवेशलाई पहिचान गरि सो अनुरूप कार्य गर्न नसक्नु नै नेपालको लागि ठूलो चुनौतीको रूपमा रहेको छ ।

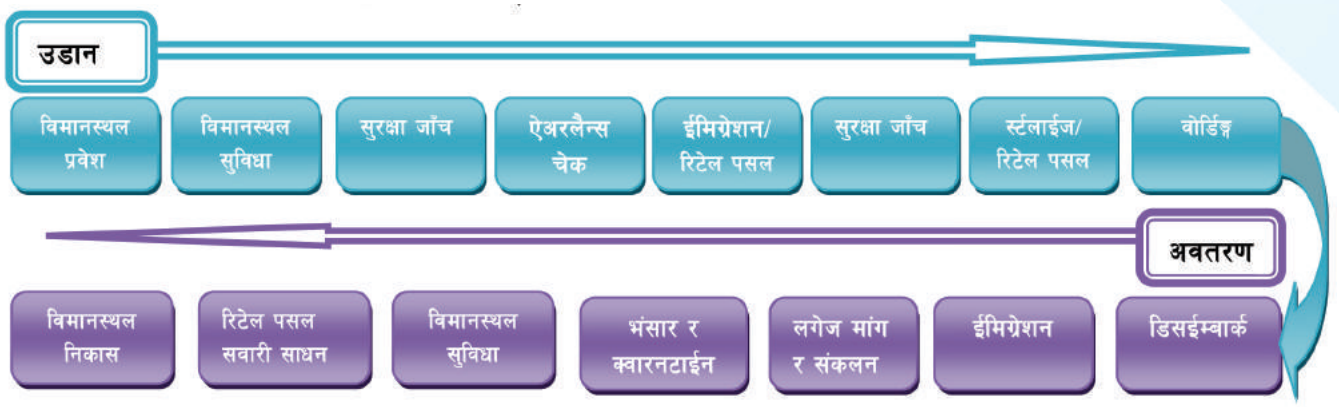
तसर्थः नेपालको जटिल तथा जोखिमपूर्ण उडान परिवेशको यथार्थलाई हृद्याम्कम गरि यहां घटिरहेका हवाई दुर्घटनालाई नियन्त्रण गर्न ICAO USOAP को ८ वटा Critical Elements हरूलाई प्रभावकारी रूपमा लागु गर्दै संचालित उडान सम्पादन कार्यमा उत्पन्न भईरहेका मानवीय, वातावरणीय, व्यवस्थापकीय तथा प्राविधीक जोखिम तथा कमी कमजोरीहरूलाई पहिचान गरि संबोधन गर्न अपरिहार्य रहेको छ ।

घ) यात्रु सेवा सुविधा

कुनै सेवाग्राहीले पाउने सेवा र वस्तुको प्रभावकारीता निजले पाउने सेवाको उपलब्धता, सहजता, गुणस्तर, मुल्य, परिणाम, प्रभाव, सेवाप्रदायको व्यवहार, कर्टसीमा निर्भर गर्दछ । नेपालका विभिन्न विमानस्थल र वायुसेवा कम्पनि मार्फत यात्रा गर्ने हवाई यात्रुहरूले यात्रा अवधिभर पाउने सेवा सुविधालाई निम्न चरणमा वर्गीकरण गर्न सकिन्छ ।

- यात्रुको घरदेखि विमानस्थल सम्म आवतजावत गर्ने सवारी साधन र सुविधाको सहजता
- यात्रु विमानस्थलमा पुगेदेखि जहाजमा प्रवेश गरून्जेल सम्ममा पाउने विमानस्थल सेवा सुविधा
- उडान अवधिभर वायुसेवा कंमपनि व्दारा यात्रुहरूले पाउने सेवा र सुविधा
- जहाजवाट ओर्ले देखि सवारी साधन पाउने स्थलसम्म विमानस्थलमा पाउने सेवा र सुविधा

नेपालको सन्दर्भमा हवाई यात्रुहरू विमानस्थल आवतजावत गर्दा सवारी साधन, विमानस्थल परिसरमा पाउने



खाना, चियापान, विश्रामको सेवा, सुविधाहरू बाहिर झै सस्तो तथा सहज रूपमा पाउने अपेक्षा गरेका हुन्छन् तर विमानस्थलमा पाउने सेवा सामग्रीहरू आम यात्रुको पहुँच भन्दा वाहिर, महँगो हुने गरेका गुनासो प्रायः सुनने् गरिन्छ । साथै यात्रुहरूले विमानस्थलमा चेक जांच गराउँदा छिटो छरितो, सम्मानजनक व्यवहार र समयमै उडान भर्ने ON Time Performance (OTP) अपेक्षा गरेका हुन्छन् भने अवतरण गरे लगत्तै आफ्ना सामानहरू सुरक्षित रूपमा पाउने अपेक्षा गरेका हुन्छन् । नेपालको आन्तरीक विमानस्थलहरूमा यात्रु सेवा, सुविधाको लागि खासै समस्या नभएपनि त्रिभूवन अनतर्राष्ट्रिय विमानस्थल (त्रि.अ.वि.) ले यात्रु सेवा, सुविधा लिएर निरन्तर चुनौतीहरूको सामना गरिरहेको छ । यसैले गर्दा त्रि.अ.वि. अन्य अन्तर्राष्ट्रिय विमानस्थलहरूको परिप्रेक्षमा आलोचित पनि हुदै आईरहेको छ । त्रि.अ.वि.मा एउटा यात्रुलाई उडान तथा अवतरण गर्ने क्रममा निम्न चैनल मार्फत जानु परिरहेको स्थिति छ ।

तसर्थः त्रि.अ.वि.को यी हरेक चरणमा यात्रुले सेवा पाउने क्रममा लाग्ने समय, सेवाको गुणस्तर, तिर्नुपर्ने मुल्य, पाउने सहजता, सेवाप्रदायकको व्यवहार, आदिको अवस्थालाई सूक्ष्म रूपमा मुल्याङ्कन तथा आंकलन गरि ACI, Airport Services Quality / ICAO Annex-9, Facilitation ले निर्धारण गरेको मापदण्ड तथा यात्रु सेवा सुचांकहरूको आधारमा Throughput अध्ययन एवंम विश्लषण गरि आवश्यक सुधार र उडान OTP लाई कायम गर्नसके, त्रि.अ.वि.लाई

विश्व स्तरको अन्तर्राष्ट्रिय विमानस्थलहरूको समकक्षमा उभ्याउन् सकिन्थियो ।

ङ) हवाई उडान संरचना र वातावरण

हवाई परिवहनको राष्ट्रिय आवश्यकता एवं सर्वसाधारणको माग बमोजिम, सुगमदेखि दुर्गम क्षेत्रसम्म सबैको पहुंच हुने किसिमले प्राधिकरणले देशका विभिन्न ठाउँमा विमानस्थलहरूको निर्माण र तदअनुरूपको आवश्यक उडान संचार, उडान पथ प्रदर्शक संयन्त्र तथा यात्रु सेवा सुविधा संग सम्बन्धित भौतिक तथा प्राविधिक पूर्वाधारहरूको विकास तथा प्रबर्धन गर्दै आएको छ । प्राधिकरणको अधिकतम पूंजीको लगानि पनि यसै क्षेत्रमा हुनेगरेको छ । तर हवाई उड्डयन गतिविधि एवं ठाउंको आवश्यकता अनुरूप आवश्यक संरचना तथा पूर्वाधारको संतुलित विकास तथा विस्तार हुन नसकि कुनै विमानस्थलमा Capacity Constrain ले गर्दा जहाज होल्डमा बस्न वाध्य भईरहेको छ भने कुनै विमानस्थलमा वर्षमा एउटा पनि जहाज उड्न सक्ने अवस्था छैन । देशको भू(धरातलिय बनौट तथा डाँडा काँडाले गर्दा आवश्यक CNS/ATM संयन्त्र स्थापना गर्न निरंतर चुनौतिको सामना गर्न परिरहेको छ । साथै विमानस्थल निर्माण, व्यवस्थापन र संचालन वाट वरिपरिको क्षेत्रमा परिरहेको पर्यावरणीय प्रभाव तथा असरलाई मूल्याङ्कन गरि न्यून पार्ने तर्फ पहल हुन सकेको छैन् ।

तसर्थ नेपालको वर्तमान तथा भावि हवाई यातायातको माग बमोजिम, लगानी-प्रतिफल रं आवश्यकता वीच आनश्यक सामन्जस्य कायम गर्दै कहां, के, कस्तो भौतिक तथा प्राविधिक हवाई उड्यन संरचना पूर्वाधारको विकास गर्नु पर्ने हो सो को निर्क्यौल गरि जिबन्त राष्ट्रिय हवाई परिवहन संरचना विकास गुरू योजना तथा नीति तर्जुमा गर्न र ICAO Annex-16 को प्रावधान अनुरूप विमानस्थल निर्माण, व्यवस्थापन तथा उडान संचालन कार्यमा आवश्यक वातावरणीय तथा कौरपोरेट सोसल रेस्पोन्सबलिटिको मापदंडहरूलाई लागु गर्न जरूरी छ ।

प्राधिकरणले गर्नुपर्ने पहल

नेपालमा हवाई उड्यन उद्योगलाई स्तरीय, विश्वसनीय तथा भरपर्दो वनाउन र प्राधिकरणको प्रभावकारिता तथा संस्थागत स्थायित्व एवं दीगो विकासको लागि यसले सामना गरिरहेका विभिन्न समस्या तथा चुनौतीहरूलाई सूक्ष्म रूपमा पहिचान गरी संवोधन गर्न जरूरी छ । यस दिशामा प्राप्त गर्नुपर्ने लक्ष्यहरू सार्थक तथा परिणाममूखी रूपमा हाँसिल गर्न संस्थाको हरेक तहमा प्राप्त गर्नुपर्ने लक्ष्य, उद्देश्य तथा कार्यक्रमहरू कार्यान्वयनात्मक सहजता "निश्चित, मापनयोग्य, प्राप्तयोग्य, सम्बद्ध, समयसीमा" सहितको आधारमा निर्धारण हुन जरूरी छ । यसको लागि निर्धारित लक्ष्य संग आवद्ध सबै क्षेत्र बीच आवश्यक संतुलन तथा सामन्जस्यता कायम गर्दै लक्ष्य संग संवद्ध सम्पूर्ण कृयाकलापहरूको श्रृखलालाई नेतृत्व तहदेखि सहायक स्तरसम्म आवद्ध (Tie-up) गर्दै, एउटा पदले गर्नुपर्ने सम्पूर्ण कार्य तथा गतिवीधिहरूको आंकलन, गर्ने व्यक्तिहरूको चयन तथा पदस्थापन, आवश्यक स्रोत साधनको निर्धारण र कार्य गराउने प्रभावकारी व्यवस्थापकीय संयन्त्रको विकास निम्नबमोजिमको आधारमा गर्न सकिन्छ :

- **गर्नुपर्ने कार्य :** सम्पादन गर्नुपर्ने हरेक कार्यको कार्यस्तर मुख्यतः कार्यको मात्रा (Quantity), गुणस्तर (Quality), समय (Time), nfut (Coast) र परिणाम/प्रभाव (Result/Affect) संग जोडिएको हुन्छ । तसर्थः कुनै कार्यको कार्य प्रकृति, जोखिम, मात्रा, गुणस्तर, लागत, समय, मापन सूचक, परिणाम, आदिको अवस्था के कस्तो छ सो को स्पष्ट विवरण ।

- **कार्य गर्ने व्यक्ति :** कार्यको प्रकृति र आवश्यकता अनुसार कसले गर्ने, कति गर्ने, व्यक्तिको योग्यता, क्षमता, अनुभव, योगदान के र कस्तो हुने, गर्ने व्यक्तिको संख्या कति हुने, एक्लै वा समूहगत रूपमा के कसरी गर्ने, कार्य संपादन मूल्याङ्कन सूचक के हुने आदि । अर्थात संस्थाभित्र गर्नुपर्ने सम्पूर्ण कार्यको लागि आवश्यक मानव संशाधनको पहिंचान र योजना (HR Need Assesment and Planning) र तीनको पदपूर्ती (Recruitment), विकास (Development), अधिकार प्रत्यायोजन (Authorization), परिचालन (Utilization), प्रोत्साहन (Motivation), सेवा निरन्तरता (Retaintion) पुरस्कार तथा सजाय (Rewad and Punishment), अवकाश (Termination) आदिको प्रभावकारी योजना तथा व्यवस्थापनको स्पष्ट व्यवस्था ।

- **स्रोत साधन, वातावरण :** गर्नुपर्ने कार्यसंग सम्वद्ध जुनसुकै क्षेत्रको सूचना तत्कालै Lively कार्यस्थलमा प्राप्त गर्न र कार्यलाई विना कुनै रोकटोक प्रभावकारी, सुरक्षित एवं मितव्ययी रूपमा योजना तथा अपेक्षा अनुरूप नै संपादन गर्न गराउन के कस्तो भौतिक, प्राविधिक संयन्त्र (MIS) हुने, कामको प्रकृति र कार्यगर्ने व्यक्ति दुईटैको

परिप्रेक्षमा कार्यमैत्री तथा कर्मचारीमैत्री कार्यस्थलको वातावरण कसरी कायम राख्ने, कार्यसंग सम्वन्धित SOP, JD, Manual, Guidance Material हरू के कस्तो हुने, आदि ।

❖ **कार्यान्वयन गराउने व्यवस्थापन :** कार्यहरूलाई निर्धारित लक्ष्य तथा योजना अनुरूप तोकेको स्तर, लागत तथा समय भित्र नै पूरा गर्न गराउन प्रभावकारी नेतृत्व, नियंन्त्रण तथा व्यवस्थापनको ठूलो भूमिका हुन्छ । तसर्थः सम्पादन भईरहेका कार्यहरूको प्रगति निरंन्तर अनुगमन, मूल्यांकन, समन्वय, निरीक्षण, निर्देशन गर्न के कस्तो संयन्त्र तथा प्रावधान हुने ? उच्च तहका कार्यकारी तथा व्यवस्थापक र कार्यसंपादक महाशाखारशाखा प्रमुख तथा कर्मचारीहरू वीच के कस्तो कार्य सम्झौता वा व्यवस्थापन सम्झौता हुने ? कार्य संपादनको क्रममा हुनसक्ने संभावित तथा आक्सिमिक जोखिम, विध्न वाधालाई तत्कालै संवोधन गर्न सक्ने के कस्तो कन्टिजेन्सी योजनाहरूको व्यवस्था गर्ने ? कार्य योजना तथा कार्य सम्झौता अनुरूप कार्य पूरा भए नभएको अवस्थामा के कस्तो दंड, पुरसकारको प्रावधान हुने ? आदि ।

प्रधिकरणको सम्पूर्ण कृयाकलाप उडान सुरक्षा, यात्रु सेवा सुविधा र सो संग सम्बन्धित आर्थिकरवित्तीय कारोवार तथा आय आर्जन संग जोडिएको छ । हाल प्राधिकरणले यी क्षेत्रहरूमा सामना गरिरहेका चुनौतीहरू उडानमा संलग्न रहेका जहाज, चालक, मेन्टिनेन्स तथा सो संग आबद्ध ईन्जिनीयर, एयर ट्राफिक कन्ट्रोलर, एरोनटिकल कम्यूनिकेशन ईन्जिनीयर, फ्लाईट डिस्पैचर तथा अन्य प्राबिधिक कर्मचारीहरूको अपरेशनल, पेशागत र व्यक्तिगत तथा वित्तीय गतिविधिसंग प्रत्यक्ष रूपमा जोडिएका छन भने एअरलाईन्स, एयरपोर्ट र प्राधिकरणको प्रशासनिक तथा व्यवस्थापकीय निर्णय, निर्देशन, अनुगमन तथा नियन्त्रणसंग अप्रत्यक्ष रूपमा जोडिएका छन । नेपालको उड्डयन उद्योगको उडान सुरक्षा र वित्तीय स्थायित्वमा यी विभिन्न निकाय, व्यक्तिहरू व्दारा सम्पादन भईरहेका गतिविधि एकअर्का संग सम्वद्ध तथा अन्तरनिहित रहेको र एकअर्काको कार्यमा प्रभाव पार्ने भएको हुँदा हरेक संस्था एवं निकायको व्यक्तिगत तथा संस्थागत दक्षता, कार्यकुशलता एकल एवं सामूहिक रूपमा स्तरिय, प्रभावकारी तथा स्थिर वनाई राख्नुपर्ने भएकोले माथि चर्चा गरे अनुरूप हरेक निकाय ४ वटै दृष्टिकोणले संस्थागत रूपमा पूर्ण सवल एवंम सक्षम हुन जरूरी छ ।

यसको लागि नियामक निकाय र अन्तर्गत विभाग, विमानस्थल, वायुसेवा कम्पनि लगायत सेवाप्रदायक संस्थाहरूको Organizational Health Index (OHI) र Organizational Risk Profile(ORP) मापन संयन्त्रलाई, SMS (Safety Management System), AIM (Aeronautical Information Management), IFRS(International Finance Reporting System), MIS (Management Information System), ERP (Enterprises Resources Planning), आदिको अवधारणा तथा आवश्यकता अनुरूप स्थापना गर्न जरूरी छ । यसले कुनै पनि संस्थाको मानविय, वित्तीय, प्राविधिक तथा व्यवस्थापकिय क्षमताको आधारमा अपरेशनल तथा सेफ्टी परफरमेन्सको अवस्था तत्कालै प्राप्त हुन्सक्ने भएकोले उक्त संस्थाको परफरमेन्स स्तर स्वीकारयोग छ, छैन् (?) स्वीकारयोग विन्दु कायम राख्न सम्बन्धित संस्था, प्राधिकरण वा राज्य स्तरवाट कहाँ के, कस्तो कार्यहरू गर्नु पर्ने हो (?) सो को स्पष्ट खाका प्राप्त हुने भएकोले तत्कालै Action मा गई आवश्यक सुधार गरेर हरेक स्टेकहोल्डरको परफरमेन्स आवश्यक स्तर सम्ममा मेन्टेन राखि केही वर्ष मै नेपालको समग्र सेफ्टी परफरमेन्स र यात्रु सेवा सुविधाको स्तर विश्वको हाराहारीमा पु-याउन सफल हुनेथियौ ।

उपसंहार

प्रधिकरणले एउटा स्वायत्त संस्थाको रूपमा १८ वर्ष पूरा गरिसकेको छ । जे जस्तो लक्ष्य तथा उद्देश्य लिएर तत्कालिन हवाई विभाग प्राधिकरणमा परिणत भयो त्यस अनुरूप आफ्नो कार्यसम्पादनमा खरो रूपमा उत्रन सकेको छैन । माग वमोजिमको राष्ट्रिय तथा अन्तर्राष्ट्रिय हवाई सेवालाई निरन्तरता दिदै नेपालको उडान सुरक्षाको स्तर कम्तीमा विश्व औसतको हाराहारीमा पुर्याउन र प्राधिकरणको नियामक तथा सेवाप्रदायक भूमिकालाई सशक्त एवम् प्रभावकारी बनाउदै संस्थालाई मानवीय तथा वित्तीय रूपमा सवल र स्थिर वनाउने कार्य हाल प्राधिकरण समक्ष ठूलो चुनौतीको रूपमा रहेको छ ।

प्राधिकरण स्वायत्त संस्थाको रूपमा स्थापना भएको १८ वर्ष बितिसक्दा पनि लक्ष्य अनुरूप संस्थालाई समग्र रूपमा सुदृढ गरी सशक्तीकरण गर्ने तर्फ हालसम्म सही पहल हुन सकेको देखिदैन । तसर्थ, प्राधिकरण भित्र रहेका विद्यमान भौतिक, प्राविधिक, आर्थिक, व्यवसायिक तथा मानवीय श्रोत एवं शक्तिलाई संस्थाको लक्ष्योन्मूख एकीकृत, समन्वयात्मक तथा प्रभावकारी रूपमा परिचालन तथा प्रयोग गर्न नितान्त जरूरी छ । यसको लागि माथि चर्चा गरे अनुरूप विश्व स्तरमा संगठन व्यवस्थापन तथा कार्य सम्पादनमा आएको परिवर्तन तथा प्रचलनहरूलाई आत्मसात गर्दै

सेफ्टी व्यवस्थापन, मानव संशाधन व्यवस्थापन, वित्तीय व्यवस्थापन, निर्माण व्यवस्थापन र सुचना प्रविधि व्यवस्थापनका लागि आवश्यक नीति, ऐन, नियम, विनियम, कार्यक्रम र कार्यान्वयन रणनीति, लागत, समय, जिम्मेवार निकाय सहितको कार्ययोजना वनाई, सो अनुरूप प्राधिकरणको संगठन संरचना लगायत सबै क्षेत्रका कार्यसम्पादन प्रणालीमा आवश्यक परिमार्जन गर्दै कार्य अगाडि वढाउनु अपरिहार्य भएको छ । यसको लागि प्राधिकरणको नियामक तथा सेवाप्रदायकको दुईटै भूमिका अन्तर्गतका यी ५ वटै क्षेत्रको प्रक्षेपित कार्यक्रमहरूलाई पूरा गर्न **प्राधिकरण भिजन सन् २०२०** नामक कार्यक्रम निश्चित गरि प्रोजेक्टको रूपमा कार्य अगाडी वढाउने । प्रोजेक्टको पहिलो चरणमा सन् २०१८ भित्र प्राधिकरणले नियामक तथा सेवाप्रदायको (संयुक्त वा छुट्टै) भूमिकामा गर्नुपर्ने सम्पूर्ण कार्य, सोको लागि आवश्यक दक्ष जनशक्ति र व्यवस्थापकीय र कार्यसम्पादन संयन्त्र तयार पार्न युद्ध स्तरमा कार्य गर्ने र दोश्रो चरणमा सन् २०१९ सम्म प्रक्षेपित लक्ष्य अनुरूप संस्थाको हरेक तह, निकायमा कार्य स्तरीय एवं प्रभावकारी रूपमा सम्पादन भईरहेको नभईरहेको अनुगमन, मुल्याङ्कन, जाँच, परिक्षण गरि आवश्यक सुधारको लागि निरन्तर पहल गर्ने र सन् २०२० भित्र प्राधिकरणलाई जसरीपनि दुईवटै भूमिकामा मापनयोग्य परफरमेन्सको आधारमा पूर्ण क्षमतामा संचालन गर्ने लक्ष्य निर्धारण गर्ने । नेपालको उड्डयन उद्योगले हाल सामना गरिरहेको चुनौती तथा अन्यौलताको स्थितिवाट वाहिर निकाल्न, उल्लेखित योजना प्राधिकरणलाई सुदृढ गरि प्रतिष्पर्धी वनाउनमा कोषे ढुंगा सावित हुनसक्ने मैले विश्वास लिएको छुँ । ।।..धन्यवाद..।।


Simikot

Self-motivation at the Workplace

Manju Paudyal
Manager, CAAN

Self motivation, in its simplest form, is the force that drives you to do things. Self-motivation is far from being a simple topic; there are many books, webpages and articles that attempt to explain self-motivation and some top academicians have dedicated their life's work to trying to understand, model and develop motivation theory.

Self-motivation is a key life skill and something that everybody interested in personal development should think carefully about. It is also a key part of emotional intelligence, one of the three areas of personal skills that are integral to the concept.

What is motivation?

Motivation is what pushes us to achieve our goals, feel more fulfilled and improve overall quality of life.

Daniel Goleman, the author of several seminal books on Emotional Intelligence, identified four elements that make up motivation:

1. Personal drive to achieve, the desire to improve or to meet certain standards;
2. Commitment to personal or organizational goals; Initiative, which he defined as 'readiness to act on opportunities'; and
3. Optimism, the ability to keep going and pursue goals in the face of setbacks.

There are many advantages of self-motivation. People who are self-motivated, for example, tend to be more organised, have good time management skills and more self-esteem and confident. Understanding and developing your self-motivation can help you to take control of many other aspects of your life.

What is your motive?

Fundamental to self-motivation is understanding what motivates you to do things. This may sound straightforward but sometimes your motivation is hidden behind your consciousness. Your motivation may well change from hour-to-hour, day-to-day and through life. As this happens, your needs, wants and goals change and evolve.

There are two main types of motivation: 'intrinsic' and 'extrinsic' motivation. In their simplest form you can think about these two types of motivation as:

Intrinsic = love, because we want to.

Extrinsic = money, because we have to.

A more detailed definition is:

Intrinsic: To perform an action or task based on the expected or perceived satisfaction of performing the action or task. Intrinsic motivators include having fun, being interested and personal challenge.

Extrinsic: To perform an action or task in order to attain some sort of reward, including money, power and good marks or grades.

Different people are motivated by different things, and at different times in their lives. The same task may have more intrinsic motivators at certain times and more extrinsic motivators at others, most tasks have a combination of the two types of motivation. For instance, Hari works because he has to pay his mortgage and feed himself and his family. He gets no satisfaction from his job and there is no chance of promotion. His motivators are purely extrinsic.

On the other hand, Nira works because she loves what she does, she gets enormous satisfaction and self-fulfillment from her work. Nira has enough money that she does not need to work, she owns her house outright and can afford to buy what she wants when she wants it. Her motivators are purely intrinsic.

Clearly Nira and Hari are at different ends of the spectrum when it comes to self-motivation. Most people, however, fall somewhere in the middle. Most people do have to work in order to earn money, but at the same time they also find their day-to-day work life rewarding or satisfying in other intrinsic ways - job satisfaction and the chance to socialize with colleagues, for example.

We all have a tendency to work better when we love what we are doing. It's easier to get out of bed in the morning, we are happier in our work, and happier in general. Research shows that this is particularly important when we're under stress. It's much easier to cope with stress and long hours if we generally enjoy the work. When thinking about what motivates you to perform a certain task, think about both intrinsic and extrinsic motivators – if you have trouble getting motivated to perform specific tasks it may be useful to write them down and list the motivators for each.

The importance of obligation

What if a task has neither intrinsic nor extrinsic motivators? The obvious conclusion is that we are unlikely to do it, because it will be pointless. We all know it doesn't always work like that. There is a further issue: feelings of obligation.

Obligation motivators are not necessarily strictly intrinsic or extrinsic but can still be very powerful. Obligation comes from our personal ethics and sense of duty, what is right and what is wrong.

You may feel obliged to go to a party because you were invited by somebody you know – there will be no obvious extrinsic or intrinsic benefit to you in attending the party but you may worry if you don't go. You are more likely to enjoy the party you feel obliged to attend if you go with a positive and open attitude – this way you have also added an intrinsic motivator, fun and enjoyment.

Skills involved in self-motivation

There are a number of skills involved in self-motivation.

These include:

1. Setting high but realistic goals.
2. Taking the right level of risk.
3. Seeking constant feedback to work out how to improve.
4. Being committed to personal or organizational goals and going the 'extra mile' to achieve them.
5. Actively seeking out opportunities and seizing them when they occur.
6. Being able to deal with setbacks and continue to pursue goals despite obstacles.
7. Those who are motivated also find it much easier to motivate others. This can be particularly important in leadership roles.
8. Keep Motivated.

Finally, it is important to keep track of what you want to achieve and stay motivated to do so. To keep your motivation levels up try to:

A. Learn and acquire knowledge

→ Read, study and talk to people – knowledge and information are keys for feeding your mind and keeping you curious and motivated.

→ Keep the company of enthusiastic people.

→ Try to avoid negative people and seek out positive, well-motivated people.

→ Keep a positive attitude, see problems and set-backs as learning opportunities.

→ Know your strengths and weaknesses.

→ Work on ironing out your weaknesses and building on your strengths.

B. Do it

Try not to procrastinate, assess the risks but keep working towards your goals.

Second International Airport: At A Glance

Er. Hari Adhikari
Manager, CAAN

Background:

Nepal is a small landlocked country with 27.8 million people. Tribhuvan International Airport (TIA) is the only one gateway connecting to the international community. Current air transportation system including TIA is not fully capable to address all the requirements according to the existing national and international standards. For example, there is single runway and narrow air space i.e. located within the bowl-shaped Kathmandu valley which cannot cope with the increased number of flights and passenger movements. In addition, there are limited facilities and almost no room for further expansion. Even with the further expansion, TIA cannot meet the rising demands of tourist arrival in Nepal in the near future. The reason for current existing situation in aviation system is due to the geographical constraint and insufficient aviation infrastructure. Therefore, the construction of fully facilitated modern airport is the basic requirement for the development of national aviation sector.

The objective of National Aviation Policy 2063 is to develop the national air transportation system and aviation industry in a sustainable and effective manner so that the modes of air transportation will be safe, regular and accessible to the general public. To overcome different drawbacks in current aviation sector and develop the aviation system as per the objective of National Aviation Policy, sufficient aviation infrastructure like standard modern airport construction is essential.

Department of Civil Aviation (DCA) conducted a pre-feasibility study of Second International Airport (SIA) in 1995 in eight different places throughout the country.

The objective of the pre-feasibility study was to identify an alternative site for international airport which could ensure optimum airspace and air route management regulating the air traffic in a safe and economical manner for fast growing international airlines market in future. Those alternative sites were evaluated on the basis of factors such as land features, terrain features, runway orientation, distance from the wildlife sanctuary, distance from major towns, air route, airspace, holding pattern, road accessibility, cost of land acquisition, availability of land, population density, forest density, river control measures, construction materials, and the resettlement problems. A comparative assessment of the above factors identified the site located in Bara district (previous Dumarwana/Kakadi VDC and current Gadhimai/Kolhawi Municipality) as the most potential site for SIA development.

Korean Company Land Mark Worldwide (LMW), completed the detail feasibility study of the SIA project in August 2011, after signing the agreement between Ministry of Culture, Tourism and Civil Aviation (MOTCA) and LMW on March 2010, with the aim of building the project as per the BOOT model. Unfortunately, development work has not started yet and the detailed feasibility report prepared by LMW has been stuck at the Ministry and there were no action on the report.

In recent years, Government of Nepal (GON) has taken some initiatives for the development of airport. For that, GON declared the airport area specifying its boundaries in four sides (with its control points and coordinates) in 13 March 2015, which was published in Nepal gazette i.e. part 64; No. 47; dated 13th April 2015.

Nepal Government Cabinet decided (May 5th, 2016), to build SIA by the GON by acquiring the land immediately as per the Land Acquisition Act 2034. Similarly, land covered by forest should be handed over to CAAN and the process should be managed by Ministry of Forest and Soil Conservation. Likewise, the unregistered land which is not covered by forest, is also required to be handed over to CAAN, and this should be managed by Ministry of Land Reform and Management.

Second International Airport and its Importance:

Air transportation in Asian Countries, including South Asian region, is growing in the faster pace

than the other regions of the world. Nepal is located nearly in equal distance to East Asian Countries in eastern side and Gulf Countries in western side. Similarly, it lies between two economic superpowers, China and India. Therefore, we have wide range of opportunities in expanding our air transportation system i.e. the connectivity to the medium range to long range aviation, according to the development of our economy and air transportation industry.

Obviously, Nepal has high potential of tourism due to its geographical features, bio-diversity, social & cultural diversity, weather and other natural phenomena. We have to develop affordable, reliable and sustainable air transportation system to facilitate more tourists to visit Nepal. Similarly, we have compulsion to upgrade our air transportation system equal to the international standard with a special focus on the long haul connectivity to the other continent of the world i.e. Europe, America, Australia and Africa.

The Tribhuvan International Airport and other two new international airports being constructed in Pokhara and Bhairahawa are not able to facilitate the operation of newer larger wide body aircraft due to its geographical constraint. There is very less room to expand these airport in the future for further development. Therefore, site for the construction of SIA is selected in the Bara district near Nijgadh which is widely spread to 80 Sq. Km. area that is available for development of all type of infrastructures required for modern airport.

The construction of SIA will be one of the major agents of change in the socio-economic scenario of Nepal. Several sectors of the economy will be directly or indirectly benefited by the proposed SIA. The immediate beneficiaries are tourism, agricultural and production industry, export/import, services employment, education, and health. Thus, SIA facilitates as a transportation, economic and tourism centre.

Beside the facts mentioned above, there are other advantages of Constructing the Second International Airport in Bara:

- It will be full-fledged international hub which will be directly connected to the major cities in Europe, Australia, Asia, Africa and America.
- Larger commercial jet aircraft will be in operations without any restriction which will provide better operational benefits to airline operators and cheaper fare for travelling public.
- It will serve as a transit hub for long haul flights, so it will increase the income of the airport and country as well.
- Catchment area of the proposed airport is not only limited to Nepal but also the northern part of India, so it will serve large population of major cities both in India and Nepal.
- Socio-economic activities will be automatically increased throughout the nation due to increased number of employment, trade and tourism.
- Aviation safety and security will be increased.
- It will serve as the alternative airport to rescue the people in the other part of country in case of emergency/disaster like earthquake, landslide and flood etc.
- It can accommodate any types of new facilities required for the airport in future.
- It will be suitable for generating more non-aeronautical revenue for its sustainability by providing other recreational facilities like hotels and shopping malls.
- It will accommodate wide verities of fleet, so it will help to strengthen the aviation industry in Nepal.
- New International routes will be increased which increase the income from over flight.
- Alliance of private air companies with multinational companies which will increase the business opportunities of national carriers in the international markets.
- More Bilateral and multilateral Air Service Agreements will be established with different countries, which will promote the national aviation industry by providing more opportunities.

Project Implementation Framework:

Ultimate goal of SIA is to make a full-fledged International transit hub with different aviation facilities; Aviation hub & Fixed Base Operator (FBO) facilities, Maintenance Repair & Overhaul (MRO) facilities, Fuelling and Cargo facilities and other airport related developments including Defence and Aviation Manufacturing Industry.

Generally, Airport construction is not completed in single stage. Airport master plan is the major tool for step-wise construction with optimum utilization of facilities as per traffic demand and it also helps to decide the optimum investment.

The area declared for the airport construction is almost government owned land and total area of the airport boundary is about 80 square kilometer (11,875 Bigaha). About 87 per cent (about 10,500 Bigaha) of the total area of the proposed airport is covered by the forest. Only one per cent land is privately owned. Similarly, 6.3 per cent of land is occupied by squatters (land occupants) in Tangia Basti. Remaining 5.7 percentage of land is covered by river, ponds, nursery etc.

Project preparatory works i.e. land acquisition, environmental and social impact assessment, preparation of resettlement plan, preparation of detail project report including master plan and detail design are in progress. Likewise, resettlement of about 1,450 household and about 10,000 people from the project site is a major challenge for the development of SIA.

According to the preliminary estimate, total cost for the construction of SIA will be USD 1208.76 million. This cost covers the initial phase construction works including investment on the basic requirement of different airport facilities.

Passenger forecast studied by INECO in 2013 for Tribhuvan International Airport showed that, total passenger movement in 2033 will be 15 million. Similarly, from the chart shown below, the total passenger movement by 2023, will be about 10 million and International Pax will be about 6 millions. In reference to the traffic data of TIA, we have to develop the SIA to provide all airport facilities to accommodate 8 million international passengers in the first phase development.

Similarly, airside infrastructures and cargo terminals will be designed to facilitate the projected number of aircraft flights and cargo movements up to 2028 for the first phase development.

Table: Tentative Implementation Framework

Phases	Estimated Capital Costs ($ Millions)	Pax (Millions)	Start Time	Construction Period (Year s)	Major Components
Phase I	1,208	8	2019	4	Single runway & single terminal with other basic airport facilities.
Phase II	-	15	2028	5	Double runway with at least two terminals, airport hotels.
Phase III	-	30	2035	5	Double runway with two or more terminals, hanger complex (MRO), airport hotels, shopping malls, aviation park, Defense etc.
Ultimate	-	60	2050	5	Double or more runways, more terminals, aviation manufacture and MRO station, airport city etc.

The Airport Master Plan will include overall airport development plan and the decision making tool for preparing the different phases of development. Master plan preparation work including detail design of first phase development work has been started this year. In the first phase, basic airport facilities will be developed. It should be economically justified with the corresponding aviation demand. Later,

other phases of development will be initiated as per the growing demand. Table below shows an example of tentative plan for the development of facilities.

Division		Airport System				
		Phase	Phase I	Phase II	Phase III	Ultimate Development of Facilities
		Target Y	2023	2033	2040	
		Open Y	2019	2028	2035	
Runway		m	4000x60	-	-	4000x60 4000x60
Parallel Taxiway		m	4000x45	-	-	4000x45 4000x45
Rapid Exit Taxiway			4	-	-	4
Apron	Passenger	Stands	19	24	32	172
	Cargo	Stands	2	4	4	12
Passenger Terminal	Intl.	Sq.m.	90,000	100,000	-	2,50,000
	Dom.	Sq.m.	15,000	-	-	25,000
Cargo Terminal		Sq.m.	15,000	15,000	100,000	150,000
Airport control Tower		Sq.m.	2,000	-	2,000	4,000
Airport Rescue & Fire fighting Facilities		Sq.m.	1,500	-	-	1,500
Aircraft Maintenance Complex		Sq.m.	-	50,000(4BAY)	1,00,000	2,50,000
Flight Catering Facilities		Sq.m.	10,000	80,000	70,000	90,000
GSE Maintenance Facilities		Sq.m.	2,000	-	10,000	1,200
Meteorological Facilities		Sq.m.	200	-	-	200
Facilities Maintenance Complex		Sq.m.	8,000	4,000	10,000	2,500
Airport Administration Building		Sq.m.	2,000	-	10,000	12,000
Security Facilities		Sq.m.	15,000	-	-	20,000
Curbside		m.	500	-	-	1000
Car Parking		Spaces	2500	3,000	4,000	12,000
Bus Station		Spaces	4	6	-	12
ILS	Localizer	Sets	2	-	-	2
	Glide slope	Sets	2	-	-	2
	DME	Sets	2	-	-	2
DVOR/DME	DVOR	Sets	1	-	-	1
	DME	Sets	1	-	-	1
ATC communications		Ch	8	-	-	8
ASR/MSSR		Lots	1	-	-	S/W Upgrade
AMOS		Sets	2	-	-	2
GBAS		Sets	-	1	-	1
ADS-B		Sets	-	-	1	1
ASDE		Sets	-	-	1	1
Operation Category CAT I		Lot	1	-	-	1
Visual Aids system	Distribution Panel	Sets	8	-	-	8
	Power source	Sets	3	-	-	3
	CCR System	Sets	20	-	-	20
	Cables	Km	200	-	-	200
	A G L	Nos	1077	148	-	1225
	Exterior Lights	Nos	323	23	-	346
Sewage Treatment Plant		Set	1	-	1	2
Waste Disposal Plant		Set	1	-	1	2
Fuel Storage		Kilo litre	10,000	20,000	30,00	60,000
Electrical Power Supply		MVA	10	7	7	24
Boarding Gates		EA	6			

Tentative airside development plan, (Ref: feasibility Study by LMW; with modification

Conclusion:

Second International Airport is the national priority project, so the government should have high priority for the implementation of the project. It should be implemented as soon as possible without any delay. Further delay in the implementation will further weaken the national aviation sector as well as Nepalese aviation industry.

विमानस्थलमा गैह्र हवाई सेवा आयको स्थिति र बृद्धिका उपाय

सुनिल मूल
उपप्रवन्धक, ने.ना.उ.प्रा.

"प्राधिकरणको आय बृद्धिमा सम्भावनायुक्त एक बलियो खम्बा गैह्र हवाई सेवा आय हुन् ।"

पृष्ठभूमी :

नेपालमा हवाई सेवा क्षेत्रको बिकास, बिस्तार गर्ने कार्यका निम्ति राज्यस्तरबाट तत्सम्बन्धी सम्पूर्ण कार्य सम्पादन गर्ने जिम्मेवारी नेपाल नागरिक उड्डयन प्राधिकरणलाई दिइएको छ । यस अर्थले नेपालको हवाई सेवा क्षेत्रलाई सुरक्षित, नियमित, सर्वसुलभ र विश्वसनीय तुल्याउनु प्राधिकरणको कर्तव्य हुन आउँछ । यसै सन्दर्भमा प्राधिकरण ऐन, २०५३ मा भएको व्यवस्था अनुसार यसको गठन नेपाल नागरिक उड्डयन (सिभिल एभिएशन) को विकास तथा बिस्तार गर्न राष्ट्रिय तथा अन्तरराष्ट्रिय हवाई उडान, हवाई सञ्चार, हवाई पथ प्रदर्शन, हवाई परिवहन सेवाको सुरक्षित, नियमित, स्तरीय र प्रभावकारी बनाउन प्राधिकरण स्थापना गरिएको हो । प्राधिकरणबाट आयश्रोत जुटाउन सक्ने विभिन्न विषयगत व्यवस्थाहरूलाई दफा १० मा निर्दिष्ट गरिएको छ । त्यसैगरी प्राधिकरणको सञ्चालनमा व्यापारिक सिद्धान्त अनुशरण गर्नुपर्ने ऐनको दफा १८ ले स्पष्ट गरेको छ । प्राधिकरण ऐनले गरेको व्यवस्था अनुसार आय आर्जनका श्रोतहरूको प्रभावकारी कार्यान्वयन हुन सकिएमा यसले प्राधिकरणको सिंगो वित्तीय स्वास्थ्यमा मात्र हैन, मुलुकको आर्थिक क्षेत्रमा समेत महत्वपूर्ण टेवा पुग्ने तथा पर्यटन क्षेत्रको विकास, विस्तारमा टेवा पुऱ्याउँदै समग्र राष्ट्रको अर्थतन्त्र समेतमा उल्लेख्यनीय योगदान पुग्न जाने निश्चित छ ।

प्राधिकरणको आय आर्जनका क्षेत्र :

प्राधिकरणबाट हुने क्षेत्रगत आयआर्जन सम्बन्धमा केलाउनु पर्दा मूख्यतः प्राधिकरण ऐन, २०५३ र सो अन्तरगत बनेका नियमावलीहरू नै प्राधिकरणका आय आर्जनका कानूनी आधारहरू हुन् । यी नियमावलीहरूमा प्राधिकरण ऐन अन्तरगत जारी गरिएका विमानस्थल सेवा शुल्क नियमावली, २०६७, नागरिक उड्डयन नियमावली, २०५८ र आर्थिक प्रशासनसम्बन्धी नियमावली, २०५७ प्रमुख रहेका छन् । विद्यमान नियमावलीहरूमा भएका व्यवस्थाअनुसार प्राधिकरणबाट आय हुने विभिन्न विषयगत आय आर्जनलाई चार भागमा विभक्त गरी चर्चा गर्न सकिन्छ :

(क) एरोनटिकल आय/हवाई सेवा आय (Aeronautical Income) :

नागरिक उड्डयनको भाषा अनुसार प्रत्यक्ष वायुयानहरूको संचालन गतिविधि र विमानस्थलमा हुने क्रियाकलापबाट हुने आयलाई हवाई सेवा आय अन्तरगत राखी व्याख्या गर्ने गरिन्छ । यसमा खासगरी वायुयानहरूको आवागमन र वायुयानसँग सम्बन्धित सेवा सुबिधाका विषयहरू समावेश हुन्छन् । यस आयका विषयगत व्यवस्था विमानस्थल सेवा शुल्क नियमावली, २०६७ ले गरेको छ । उक्त नियमावलीले गरेको व्यवस्था अनुसार उदाहरणका निम्ती वायुयान अवतरण, विसान, संचार तथा उड्डयन सहाय, ग्राउण्ड ह्याण्डलिङ्ग, हाउजिङ्ग र यात्रु सुबिधा सेवा शुल्क पर्दछन् ।

(ख) नन्एरोनटिकल आय/गैह्र हवाई सेवा आय (Non aeronautical Income) :

विमानस्थलमा वायुयान गतिविधि वाहेक प्राधिकरणले आय आर्जन गर्न सक्ने एक महत्वपूर्ण श्रोत गैह्र हवाई सेवा आय हो । यसमा विमानस्थल तथा विमानस्थल क्षेत्र भित्र विभिन्न व्यापार व्यवसायहरू सञ्चालनबाट प्राप्त हुने आम्दानीहरू पर्दछन् । यस प्रकारको आय आर्जन गर्न सकिने प्राधिकरण ऐन, २०५३ ले प्रदत्त गरे बमोजिम सो ऐन अन्तरगत बनेको विमानस्थल सेवा शुल्क नियमावली, २०६७ रहेको छ । जसलाई विमानस्थल र विमानस्थल क्षेत्रबाट आय हुने विभिन्न विषयगत जस्तै विभिन्न प्रकारका कोठा बहाल, विमानस्थल प्रवेश शुल्क, सवारी पार्किङ्ग, विज्ञापन, चलचित्र छायांकन, भवन वाहाल, जग्गा बहाल, क्याटरिङ्ग सेवा आम्दानीहरू यसमा रहेका छन् । यस आयअन्तर्गत विशेषगरी विभिन्न व्यापार व्यवसाय सञ्चालन गर्नेहरूबाट संकलन

गरिने भाडा तथा रोयल्टी रकम रहेका छन् यस प्रकारको आय आर्जनलाई नन्एभिएशन आय (Non-Aviation Income) वा व्यापारिक आय (Commerciel Income) पनि भन्ने गरिएको छ ।

(ग) हवाई नियमन आय (Aviation Regulatory Income):

नियमन आय सम्बन्धी सम्पूर्ण व्यवस्था नागरिक उड्डयन नियमावली, २०५८ ले गरेको छ । यसले प्राधिकरणबाट हुने हवाई नियमन कार्यका लागि ऐनमा भएको व्यवस्था अनुरूप लाग्ने शुल्क दै-दस्तुरको व्यवस्था स्पष्ट तोकेको छ । यस अन्तरगत वायुसेवा संस्था दर्ता, वायुयान दर्ता, क्रु तथा विभिन्न प्रकारको रेटिङ्ग लाईसेन्स दस्तुर, उडान अनुमति, वायुयान भाडामा लिने दिने, नामसारी, उडान योग्यता, नविकरण, खारेज वा निलम्बन शुल्कसम्बन्धी आय पर्दछन् ।

(घ) अन्य आय/प्रशासनिक आय (Administration and Other Income):

माथि उल्लेख गरिएका विषयगत आय भित्र नपरेका तर सो को प्रशासनिक कार्यमा लाग्ने दस्तुर तथा जरिवाना, दण्ड जस्ता रकमहरूका अलावा आर्थिक प्रशासन सम्बन्धि नियमावली, २०५७ मा रहेको व्यवस्था बमोजिम लिलाम बिक्री, बोलपत्र दस्तुर जस्ता प्रशासनिक आयहरू यसअन्तर्गत पर्दछन् । यसमा ब्याज आम्दानी समेत पर्दछ भने यस प्रकारको आयलाई गैह्र कार्य सञ्चालन आय (Non-Operating Income) भनेर पनि मान्न सकिन्छ ।

विमानस्थलमा गैह्र हवाई सेवा आय स्थिति :

प्राधिकरणका आय आर्जन श्रोतहरू मध्ये एरोनटिकल र नन् एरोनटिकल आय नै प्रमुख आयहरू हुन् । विमानस्थलहरूमा हवाई यात्रु, आउजाउ गर्ने संख्या र विमानहरूको आवागमन गतिबिधिहरूमा निर्भर हुने आय रकम एरोनटिकल आय हो । यस्तो आम्दानी नियमितरूपमा वृद्धि हुने संभावना कम हुन्छ किनभने यस प्रकारको गतिविधिहरूमा विभिन्न कारणहरूबाट प्रभाव पर्न गई आयमा उतारचढाव आउन सक्दछ । त्यसैले यस आयलाई अनिश्चित आय मान्न सकिन्छ । तर नन् एरोनटिकल आय एउटा यस्तो आय श्रोतको क्षेत्र रहेको छ जुन कुशल व्यवस्थापनबाट नियमित र बढोत्तरी गर्दै लान सकिने हुन्छ । खासगरी यस प्रकारको आयश्रोतमा व्यापार व्यवसायसँग प्रत्यक्ष सम्बन्धित रहेको हुँदा आय बृद्धि गर्दै लान सकिने प्रचुर सम्भावना रहेको हुन्छ । आयको दृष्टिकोणबाट हेर्दा एरोनटिकल भन्दा नन् एरोनटिकल आय बृद्धि राम्रो रहेका विमानस्थलहरू लाई वित्तीय रूपमा स्वस्थ्य विमानस्थलको रूपमा लिइने गरिन्छ । जुन कुराको अन्तरराष्ट्रिय मान्यता पनि रहेको छ । यसो हुनुमा विशेषगरी विमानस्थल सञ्चालन गर्ने सिलसिलामा विमानस्थलहरू बीच तिब्र प्रतिस्पर्धा हुने कारणबाट नन् एरोनटिकल आयमा केन्द्रित हुनुपर्ने देखिएको हो । त्यसैगरी अन्तरराष्ट्रिय नागरिक उड्डयन संगठन (ICAO)को मार्ग निर्देशनमा विमानस्थलहरूमा गरिने लगानी लागत आपुरण सिद्धान्तबाट सेवा शुल्क लगाउनु पर्ने कुरामा जोड दिइएको पाइन्छ । जसका कारण नन् एरोनटिकल आय बढोत्तरी गर्दै एरोनटिकल शुल्कहरू भरसक कम गर्दै लानुपर्ने हुन्छ । यसको लागि Cost Recovery Principal अनुरूप सेवा शुल्कबाट नन् एरोनटिकल आय बृद्धि गर्नमा महत्वपूर्ण भूमिका खेल्न सक्ने हुन्छ । तथापी नेपालको सन्दर्भमा हेर्दा प्राधिकरणले गर्ने आयगत विषयहरूमा नन् एरोनटिकलको हिस्सा उतिसारो बढ्न सकेको छैन । एरोनटिकलको तुलनामा नन् एरोनटिकलको अंश अत्यन्तै न्यून रहेको पाइन्छ । विश्वमा रहेका अन्तर्राष्ट्रिय विमानस्थलहरूको तथ्यांक केलाउने हो भने केही प्रमुख अन्तर्राष्ट्रिय विमानस्थलहरूको नन् एरोनटिकल आयको हिस्सा सन् २०१० देखि २०१३ सम्ममा ४२ प्रतिशत देखि ६४ प्रतिशतसम्म रहेको देखिन्छ । जसमा इन्चुअन, कोरिया ६४%, सिङ्गापुर ५५%, क्वालालम्पुर, मलेशिया ५४%, वन्दरानायके, श्रीलंका ५३%, सिडनी, अस्ट्रेलिया ५२%, साउथ अफ्रिका ४२%, बेइजिङ्ग, चीन ४२% रहेका छन् । यी विमानस्थलमध्ये क्वालालम्पुर मलेशिया र बेइजिङ्ग, चीन पिपिपि मोडलमा सञ्चालित छ भने सिड्नी, अष्ट्रेलिया निजी कम्पनीले सञ्चालन गरिरहेको छ । बाँकी विमानस्थलहरू सरकारी स्वामित्वका हुन् । पूर्णतया सरकारी स्वामित्वमा रहेर सञ्चालित अन्तर्राष्ट्रिय विमानस्थलको रूपमा रहेका सिभिल एभिएशन नेपाल र एअरपोर्ट अथोरिटी भारतको स्थितिलाई हेर्ने हो भने त्यहाँ माथि उल्लेख गरिएका विमानस्थलहरूको दाँजोमा अत्यन्तै कम मात्र नन् एरोनटिकल आयको अंश रहेको देखिन्छ । सोही वर्षको आधारमा हेर्दा नेपालको २६.९७ प्रतिशत र भारतको २५ प्रतिशत मात्र नन् एरोनटिकल आय रहेको देखिन्छ ।

यसै सन्दर्भमा, Airport Council International (ACI) ले विमानस्थलहरूमा नन् एरोनटिकल आयको योगदान ५० प्रतिशत हुनुपर्ने भनि सुझाव दिएको छ । तर, नेपालले सुझाव अनुरूपको स्तरसम्म नन् एरोनटिकलको

हिस्सा पुऱ्याउन सकेको छैन । प्राधिकरणले गत बर्ष गरेको आय हेर्दा आव २०७३/७४ मा एरोनटिकल आय ७६% र नन् एरोनटिकल आय २४% रहेको देखिन्छ । प्रस्तुत आँकडा हेर्दा अन्तरराष्ट्रियस्तरबाट दिइएको सुझाव अनुरूप न्यून देखिए तापनि यस शिर्षकअन्तरगतको आयमा क्रमशः बृद्धि हुँदै आइरहेको तथ्यांकले सन्तोष भने दिएको देखिन्छ भने आर्थिक वर्ष २०६३/६४ देखि २०७३/७४ सम्मको ११ वर्षको तथ्यांकमा आ.व. ०७१/७२ मा नन् एरोनटिकलको आय हिस्सा २७.८८ सम्म पुगेको देखिन्छ । तथापि यस क्षेत्रको आय बृद्धि गर्न सकिने प्रचुर सम्भावनालाई दृष्टिगत गर्दै यस तर्फ विशेष ध्यान केन्द्रित गर्नुपर्ने कुरामा भने चुक्नु हुंदैन ।

प्राधिकरणको एरोनटिकल र नन् एरोनटिकल आय
(आ.व.२०६३।०६४ देखि २०७३।०७४) - रू. करोडमा

आ.व.	एरोनटिकल आय		नन् एरोनटिकल आय		जम्मा
	आय	प्रतिशत	आय	प्रतिशत	
२०६३/०६४	१३३.७७	८५.३६%	२२.९४	१४.६४%	१५६.७१
२०६४/०६५	१४७.६७	७५.६२%	४७.६१	२४.३८%	१९५.२९
२०६५/०६६	१७०.८१	७३.०२%	६३.१२	२६.९८%	२३३.९३
२०६६/०६७	२०३.१७	८३.१०%	४१.३२	१६.९०%	२४४.४८
२०६७/०६८	२१६.७२	७९.१५%	५७.०८	२०.८५%	२७३.८१
२०६८/०६९	२४७.११	७३.४२%	८९.४४	२६.५८%	३३६.५४
२०६९/०७०	२६२.४०	७४.१६%	९१.४२	२५.८४%	३५३.८२
२०७०/०७१	२९५.५८	७३.०३%	१०९.१७	२६.९७%	४०४.७५
२०७१/०७२	३२४.७४	७७.०६%	११७.५१	२७.८८%	४२१.४३
२०७२/०७३	३१८.७५	७५.६४%	१०२.६८	२४.३६%	४२१.४३
२०७३/०७४	३५२.३१	७६.००%	१११.२६	२४.००%	४६३.५७
जम्मा	२६७३.०४	८५.३६	८५३.५५	१४.६४	३५२६.५८

गैह्र हवाई सेवा आय बृद्धिका उपायहरू :

प्राधिकरणबाट आय आर्जन हुने विविध विषयगत मध्ये महत्वपूर्ण आय श्रोत भनेकै गैह्र हवाई सेवा आय हो । प्राधिकरणको वित्तीय व्यवस्थापनमा प्रभावकारी भूमिका खेल्न सक्ने प्रचुर सम्भावना बोकेको गैह्र हवाई सेवा आय बृद्धिका उपायहरू प्रस्तुत गर्नु पूर्व यसका विद्यमान चुनौतीहरू केलाउनु सान्दर्भिक हुनेछ । अतः गैह्र हवाई सेवा आय बृद्धि गर्नमा देखा परेका समस्या एवं चुनौतीहरूलाई निम्न अनुरूप जनाउन सकिन्छ :

(१) गैह्र हवाई सेवा अभिबृद्धि गर्ने स्पष्ट योजना/कार्यक्रम तयार गरी लागु गर्न नसक्नु ।

(२) सार्विक अन्तरराष्ट्रिय विमानस्थलको विद्यमान अवस्था साँघुरो रहनु ।

(३) सुरक्षा र सुविधावीच उपयुक्त तालमेलको अवस्था नहुनु ।

(४) ड्युटी फ्री पसलसम्बन्धी स्पष्ट सरकारी नीति नहुनु ।

(५) व्यवसायिक योजना तयार नहुनु ।

(६) सेवा शुल्क नियमावली लचिलो हुनु ।

(७) बन्द तथा घाटामा रहेका विमानस्थलहरू सञ्चालन सम्बन्धमा स्पष्ट व्यवस्था नहुनु ।

(८) नियमित अनुगमन/मूल्यांकन गर्ने परिपाटी बसाल्न नसक्नु ।

(९) आर्थिक विश्लेषण (खासगरी लागत लाभ विश्लेषण) अनुरूप विमानस्थल बन्न नसक्नु ।

(१०) एयर कार्गो व्यवस्थापन गर्नमा ढिलाई हुनु ।

माथि उल्लेख गरिएको समस्या एवं चुनौतीलाई प्राथमिकताको आधारमा दृष्टिगत गरी समुचित सम्बोधन गर्न सकिएमा प्राधिकरणको गैह्र हवाई सेवा आय बृद्धि गर्नमा महत्वपूर्ण योगदान पुग्नेछ । यसका अतिरिक्त विमानस्थलहरूमा नन् एरोनटिकल आय बृद्धि गर्न निम्न उपाय अबलम्बन गर्न सकिन्छ :

(१) अल्पकालीन/मध्यकालीन/दीर्घकालीन गैह्र हवाई सेवा आय बृद्धिका रणनीतिक योजना तर्जुमा गरी लागू गर्ने ।

(२) विमानस्थलहरूको खाली जग्गा जमीनलाई व्यवसायिक उपयोगमा ल्याउने । जस अन्तरगतः

(क) खाली जग्गामा कृषि, जडिबुटी तथा अन्य कृषि उत्पादन गर्न भाडामा दिएर ।

(ख) विमानस्थल बाहिर सडक छेउहरूमा पसल कवल तयार गरी भाडामा लगाएर ।

(ग) विमानस्थलभित्र छेउमा कार्गो भण्डारण गर्ने गोदाम गृहहरू निर्माण गरी भाडामा दिएर ।

(घ) पूर्वाधार जडित भूभागमा फलफुल तथा नर्सरी खेती लगाएर ।

(ङ) टर्मिनल भवनभित्र पर्यटक प्रवर्द्धन र स्थानीय कलासंस्कृति झल्किने र चमेना गृह तथा पसल सञ्चालन गरेर ।

(च) विमानस्थलभित्र व्यापार व्यवसाय र विमानस्थल क्षेत्रमा व्यावसायिक गतिविधि सञ्चालन गरेर ।

(३) विमानस्थल सेवा शुल्कमा समसामयिक बृद्धि गरेर ।

(४) निष्क्रिय वित्तीय मौज्दात व्यवस्थापन गरेर ।

(५) एयर कार्गो व्यवस्थापनलाई प्रतिष्पर्धा गराई प्रभावकारी कार्यान्वयनमा ल्याएर ।

(६) ग्राउण्ड ह्याण्डलिङलाई प्रतिस्पर्धाको आधारमा कार्यान्वयनमा ल्याएर ।

(७) विमानस्थलमा आराम गृह, गेष्ट हाउस, सपिङ कम्प्लेक्स, मनोरन्जन गृह संचालनमा ल्याएर ।

निचोडः

प्राधिकरणको आय आर्जनमा उल्लेखनीय भूमिका खेल्न सक्ने बलियो सम्भावना रहेको गैह्र हवाई सेवा आयको प्रभावकारी कार्यान्वयनबाट प्राधिकरणले मनग्य आयआर्जन गर्न सक्ने सम्भावनालाई मध्यनजर गरी यसका लागि आवश्यक नयाँ रणनीति र सोच तयार हुनु पर्दछ । मुलुकभर छरिएर रहेका विमानस्थलहरूको आय अंशमा नन् एरोनटिकल आय निकै न्यून रहेको र आन्तरिक विमानस्थलहरू तर्फ ९ वटा विमानस्थल मात्र सञ्चालन वचतमा देखा परेको स्थितिमा एकातर्फ वर्षेनी ऋणको दायित्व बढ्दै आएको तथ्य, अर्कोतर्फ चालु खर्चमा बर्षेनी बढ्दो व्ययभारबाट खर्च र दायित्व धान्न मुस्किल हुँदै जाने अवस्थालाई हृदयंगम गरी नन् एरोनटिकल आयको हिस्सालाई बढोत्तरी गर्ने लक्ष्य सहित प्राधिकरणले रणनीति बनाउनु पर्छ । यसका लागि सरकारको स्वीकृतिमा स्वदेशी वा विदेशी लगानीकर्ताहरूसँग संयुक्त लगानी गरी प्राधिकरणले योजना तथा कार्यक्रम तर्जुमा गर्न सकिने प्राधिकरण ऐन, २०५३ को दफा १२ मा समेत व्यवस्था रहेको हुँदा तत्सम्बन्धीको कार्यदिशातर्फ केन्द्रित भई कार्यान्वयन गर्न सकिएमा प्राधिकरणको वित्तिय सुधारमा थप टेवा पुग्न जाने निश्चित छ ।

Civil Aviation Academy: An Introduction and Functional Activities

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Civil Aviation Academy (CAA), Civil Aviation Training Center (CATC) came into existence in 1974 AD, under the assistance of UNDP/ ICAO project in Nepal. CATC began its functional activities in 1976 in collaboration with the International Telecommunication Union (ITU), Tribhuvan University (TU), ICAO/UNDP and Government of Nepal. The old CATC was transformed into the Civil Aviation Academy (CAA) when the Department of Civil Aviation (DCA) was developed as an autonomous Civil Aviation Authority of Nepal (CAAN) on 31 December 1998.

The Civil Aviation Academy is extending their helping hand as a sole training institution to produce skilled and professional aviation human resources required to the Civil Aviation Authority of Nepal in various disciplines. Now Air Traffic Services Faculty, Rescue and Fire-fighting Faculty, Aviation Security Faculty, Engineering Faculty, Quality Assurance Division, Flight Safety Training Division, Curriculum Development Division, administrative and account section are in existence to impart various training for safe, regular and efficient for air transportation operations as required.

Almost all Air Traffic Controllers and Rescue and Fire Fighters, that are providing air transportation service at the International and Domestic Airports of Nepal, are the product of this Academy. Basic Air Traffic Service Course and Basic Aerodrome Rescue & Fire Fighting Courses are the key training solution for Nepalese Aviation arena. Whole ATC and RFF personnel are providing their services on managerial and functional level at the international airport and various domestic airports. Aviation Security Faculty is another vital part of the academy which provides training to the Nepal Police, Airlines Operators, Custom Staffs regarding the aviation security for the enhance of the airport operations. Flight Safety Division provided various trainings on the flight safety such as Safety Management system Training (SMS) to CAAN staffs or other agencies, Flight Dispatcher Training to airline staffs, Human Factors Principle Training to various agencies, Ramp Safety Training to CAAN Staffs or other agencies and so on.

The provision of Instructor's Authorization Certificate program has been commenced recently as per CAA work conduction and training directive-2064. So, around nineteen instructor personnel has been certified from this certificate program. It was the great achievement for the instructors and their instructional capability. The Instructor's Authorization Certificate program was not organized for a long time due to lack of proper environment. It will bring new change in terms of instructional activities and professional empowerment. In this connection, CAA is extending their activities and programmes to make capable professional instructors on the aviation administration and management field. The instructors will be self-motivated, patient, and enthusiastic and maintain discipline in the classroom after receiving instructor's certificate.

The provisions of the various types of domestic trainings are launched by Civil Aviation Academy in coordination with related training institutions for the sake of human resource development of CAAN for the administration and management functions. Many more CAAN staffs have been benefitted from

the training with new knowledge and opportunities. May trainings were organized on the topics like administrative and financial management, human resource management, public administration system, assets & liability management, supervisory & leadership skill, coordination within the organization on different level, accounting system on organization, procurement process on public institution, supply and delivery of public goods, quality control, dispute resolution arbitrary & contract management, decision making on managerial level, monitoring and evaluation techniques and information technology.

The Civil Aviation Authority of Nepal (CAAN) has granted Aviation Training Organization Certificate especially for conducting air traffic controllers' training. The CAAN has provided authority to operate Approved Aviation Training Organization under the provision of the specific operating procedures. The granted permission of ATO certificate will assist in conducting performance and competency based trainings. It will create a new opportunities on the area of aviation technology based training.

The Training and Procedure Manual (TPM) has also been developed for Approved Training Organization. The Director General of the Civil Aviation Authority of Nepal has approved the manual. The Training and Procedure Manual has been prepared under the civil aviation regulation-2002, Rule 82 to provide necessary guidelines for effective performance of instructional function after the completion of CAA missions. This TPM provides policies and procedures for performing the duties and responsibilities and instructional information for the implementation of approved training program. The instructors should be competent or qualified in the instructional techniques as per the training procedure manual. The Accountable Executive/head of training is entrusted for the effective execution of the Training & procedure manual. The duties and responsibilities of Accountable Executive are to manage, supervise and control the training activities of Civil Aviation Academy as per TPM.

CAA has obtained an associate membership of the ICAO TRAINAIR Plus Program on 1st April, 2012. Nowadays, TRAINAIR Plus Program is a global mission to improve the safety and efficiency of air transport through the establishment and maintenance of high standards through qualified aviation manpower in the international aviation market. The Civil Aviation Academy is going to prepare new standardized Training Package (STP) to obtain full membership of TRAINAIR Plus Program. The budget for the fiscal year 2073/74 has the provisions for the STP preparation, ICAO Expertise service purchase, STP Validation and approval of STP. Therefore, Civil Aviation Academy has been creating linkage with the ICAO TRAINAIR Plus program to make the training programme standard and create uniformity in the training activities.

To achieve the instructional goals, CAA is trying to establish an integrated mission of co-operation and co-working with other training institutions, academic institutions, concerned stakeholders, international agencies and Civil Aviation Authority of Nepal. Quality assurance, making a self-sustainable and autonomous academic institution and enhancing human capital developments are another future perspective on aviation sector. The duties and responsibilities of Accountable Executive, Quality Manager, Instructional Service Manager, Instructor, Course Coordinator and Maintenance Manager under the organization management structure of TPM are defined for the purpose of successful completion of approved trainings by the Civil Aviation Academy.

The Civil Aviation Academy has developed different types of new training courses in accordance with the changing environment of aviation management functions. The following major training courses are designed from the different faculties and division to provide technical and administrative knowledge regarding the air transportation development:

Courses under the Air Traffic Service (ATS) Faculty:

- ATC Licensing, Aerodrome Control and AFIS Course
- Approach and Area Control Course
- Approach Control RADAR Course
- Aerodrome Control Refresher Course
- Approach Control Refresher Course

- Area Control Refresher Course
- ATC Teamwork Enhancement Course
- Basic ATS Course
- ATS Refresher Course
- AIS Orientation Course
- Civil Aviation Air Law and Operation Procedure
- Instructors' Training Course
- Search and Rescue Course

Courses under the Rescue and Fire Fighting (RFF) Faculty:

- Basic Aerodrome Rescue and Fire Fighting course
- Advanced Rescue and Fire Fighting Course
- Aerodrome Rescue and Fire Fighting Refresher Course
- Aerodrome Rescue and Fire Fighting Field Based Course
- Breathing Apparatus Course
- Fire Fighting Orientation Course

Courses under the Aviation Security (AVSEC) Faculty:

- *Basic Aviation Security Course*
- *Aviation Security Field Based Course*
- *TIA AVSEC Orientation Program*
- *Pre-board Passenger Screening Course*
- *Aviation Security Instructor's Certification Course*
- *Aviation Security Screeners Certification Course*
- AVSEC Awareness Training Program

Courses under the Engineering (Eng) Faculty:

- Induction Course for Civil Engineer
- Induction Course for Mechanical Engineer
- Induction Course for Electrical Engineer
- Induction Course for Electronic and Telecommunication Engineer
- RADAR/RDPS Course
- ATSEP Licensing Course
- Security Equipment Course

Courses under the Flight Safety Training division:

- Flight Dispatcher Course
- Ramp Safety Course
- Safety Management System Course
- Human Factor Course
- Terminal Management Course
- Airside Operation and Management course
- Basic Safety Management Course

Conclusion:

The Civil Aviation Academy is relocated at Sanothimi along with 25 permanent staffs and 12 outsourced manpower. Despite various difficulties caused by the devastating earthquake and blockade, CAA had accomplished it scheduled program within the given timeframe. The old RADAR Training Building in Sanothimi will not be adequate to perform their scheduled task sufficiently. In the mean time, new Pre-Fabricated house has been constructed at Sanothimi periphery for instructional and administrative functions.

Dangerous Goods and the Potential Hazards

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Dangerous items are, in the specific context of aviation security, defined as those articles, devices or substances which may be used to commit an act of unlawful interference against civil aviation or may endanger the safety of aircraft and its occupants or installations and the public. The dangerous items must never be taken into the Security Restricted Area (SRA) and in particular inside cabin of an aircraft and must be prevented inside the public areas of airport installations.

Dangerous goods or hazardous goods are solids, liquid, or gases that can harm people or other living organisms or the property or environment. They are often subject to chemical regulations. In some countries like United States and United Kingdom and to some extent in Canada too, dangerous goods are commonly known as hazardous materials and abbreviated as HAZMAT or Hazmat. These include the obvious things such as explosives, radioactive materials, flammable liquids and dangerous or volatile chemicals, strong and concentrated acids, compressed gases, poisons and aerosols. Items, including toiletries, aerosols, tools and lithium batteries, that we use everyday also can cause problems.

Aircraft carrying explosives and dangerous goods will normally be directed to land at the closest military installation or the isolated areas nearby when an emergency situation arises. If the aircraft is forced to land at an airport other than its intended destination, the pilot will give the pertinent information to the receiving airport about his cargo for example where the cargo is stored, class of explosives and the possible time factor allowed for firefighting prior to the detonation.

Depending on type, size and purpose the location and the storage of explosive cargo is different in different types of aircraft. Fighter aircraft carry the explosive cargo on wings of aircraft, inside or along the fuselage. On Cargo aircrafts they are stored on fore and aft of fuselage and similarly on Bomber aircraft they are carried under the wings and the bomb bay area.

And these explosive items may endanger the safety of an aircraft or persons on board it. The air transportation of these dangerous materials can either be forbidden or restricted. The definition of standards for documentation, handling and training, as well as their promotion and use, contributed to achieve a very high degree of safety in the air transportation. Dangerous goods are items or substances that when transported by an aircraft are risk to health, safety, property or the environment.

1. *Figure indicating Explosive materials*

If when dangerous goods are reported on aircraft during an aircraft accident or incident then the HAZMAT procedure is designed for use by trained and qualified emergency responders.

Radioactive materials and its hazard

Most people think radioactive materials as harmful as manmade materials. In fact, most radioactive materials occur naturally in the environment and are around much longer than humans. Firefighters need to be concerned with Alpha radiation contamination more than high explosives detonation. And this Alpha contamination may be expected in the immediate accident area and downwind where the radiation particles are present. In case anyone inhaled these particles, there is a higher possibility of radiation hazard. Recent reports on cancer and mortality of firefighters conclude that they are at an increased risk of cancer. Firefighters are exposed to a long list of recognized or probable carcinogens in combustion products which enter into human body via respiration. It is all due to the exposure of firefighter to Electromagnetic Field (EMF) and radiofrequency radiation (RFR) while firefighting.

The response to the radiological and chemical emergencies are very similar, the first responders may

not be able to detect the hazardous levels of materials present. In this case initial response is often carried out based on secondary indications of hazards such as labels, signs or placards indicating the presence of a hazardous material.

2. *Figure indicating Radioactive material*

The major goals of the responding the radiological and chemical emergency is to protect the public and to protect personnel during response. Responders generally, have no experience with radiation emergencies as they are very rare. Any item, material or device that can cause radiation exposure is called a source. The radioactive material in the form of smoke, dust or liquids is called contamination and if such material gets on a surface, object or person, they become contaminated.

Protection from radiation hazard:

After arriving at the scene of radiological emergency, the first responder should establish a safety perimeter and cordon the area for public and other responders too. The sizes of cordon are based upon the amount of radioactive materials present.

Fire fighting personnel should enter into the emergency area by wearing the prescribed clothing and breathing equipment which would cover the entire body while firefighting procedure.

The following table shows the safety perimeter chart for a radiological emergency or other explosives related emergencies:

Table 1: Safety perimeter on emergency scenario

S.N.	Emergency Situation	Safety perimeter
1.	Unshielded or damaged potentially dangerous source	30 meter around
2.	Major spill from a potentially dangerous source	100 meter around
3.	Fire, explosion or fumes involving a potentially dangerous source	300 meter radius
4.	Suspected bomb, exploded or unexploded	400 meter radius or more

Nuclear weapon: A Nuclear weapon is an explosive device that derives its destructive force from the nuclear reactions, either fission (fission bomb) or a combination of fission and fusion (thermonuclear weapon). In fission and fusion, there is release of vast quantities of energy from relatively less amount of matter. The presence of nuclear weapons in an aircraft poses less danger comparatively the presence of explosives.

Nuclear weapon fires: Depending on the design of the weapon and the environment in which it is detonated the energy distributed to those categories can be increased or decreased. The blast effect is created by the coupling of immense amount of energy, spanning the electromagnetic spectrum with the surroundings.

Fighting nuclear weapon fire: If the nuclear weapon is detected on the aircraft, the fire fighting procedure must be basically concentrated on the controlling the fire and cooling the area surrounding the weapon or component preventing the further spread. The volume application of foam or water fog will be most effective.

Fire fighting procedure according to the types of explosives

There are three types of explosives and they are as below:

Class A Explosives: These type of explosives are highly hazardous explosives. The detonating materials like bombs, black powder, and dynamite, nitroglycerin, blasting caps and detonating primers fall in this category. The hazard from these types of explosive is always double fold, one is from the blast

and the other is from the fragments that are projected. Fire fighting time factors after the crash range from 0-5 minutes. The minimum withdrawal distance for firefighter is 1200 feet and for the public is 2000 feet.

Class B Explosives: Flammable hazards like smokeless powder, flash powder, some pyrotechnic signal devices and liquid and solid propellant explosives are categorized as class B explosives. This type of explosive burns with intense heat and may project fragments of burning material. Fire fighting time factors after the crash range from o minutes to unlimited time. The minimum withdrawal distance for the public is 2000 feet from the crash site.

Class C Explosives: These types of explosives include the components either of class A or Class B explosives or both in the optimum quantities. Munitions of this class are expected to burn with small or minor explosions and with the hot fragments blow with the low velocity in comparative to class A and class B explosives.

Besides, these explosives, radioactive and nuclear weapons, there may be hundreds of other hazardous materials present or scattered at accident site. Therefore, fire fighters or the first responders need to be very careful. Damage or incident/accident to modern aircraft can result in release of dangerous materials at the accident site. These dangerous materials may be like:

Fuel: Aircraft fuel is a primary hazard in case of a post crash aircraft fire. If ignited, they pose danger to survivors, rescue and fire services personnel and others at the accident scene.

Avgas: It is high octane aviation petrol which is used in piston engine aircrafts and has relatively low flash point. It is highly flammable and volatile.

Avtur: It is kerosene type fuel and used in all jet or turboprop aircraft. It burns longer and more intense than Avgas.

Diesel: Diesel is also used in some general aviation aircraft and has similar characteristics to Avtur.

Water Methanol: It is alcohol based toxic compound which used in small quantities to provide extra power for some turboprop aircraft like Metro aircraft. It burns without a visible flame. If ignited during a crash, alcohol foam may be required to extinguish the flames. If this substance is suspected on aircraft full Personal Protective Equipment (PPE) should be worn.

Composite Materials: So far, composite materials from which the aircrafts are made of, are electrically conductive. Therefore, first responders must be sensitive while operating portable electrical appliances near the accident site. These days, modern aircraft use larger amount of carbon fiber, fiberglass, Kevlar in epoxy resin. When these materials catch fire, they may give off toxic fumes and fibers are released in the smoke plume which is very toxic and carcinogenic too. So, full PPE with SCBA should be worn while fire fighting.

Batteries: Aircraft batteries are also ignition source at the accident site, especially when large quantity of fuel has been released from aircraft fuel tanks. Before any electrical action is carried out near the accident/incident site, the battery should be disconnected otherwise the scattered fuel may find the first source to get flashed within a fraction of seconds. Fire fighters and emergency responders should be trained for disconnecting batteries.

Similarly, if the materials such as Magnesium and aluminum metals in various mixtures used in aircraft construction were subjected to intense heat, they can produce hazardous situation.

Magnesium creates the intense heat while burning and radiates powerful light and water should not be applied as an extinguishing agent because it may cause explosion.

Fighting aircraft fire is well dealt with every possible technique, tactics and strategies. But fighting with incidents/accidents of aircraft carrying cargo of explosives and radioactive elements are new and emerging with the growth of the aviation sector. Simple fault or ignorance may lead to unbearable loss. So to address the situation, emergency responders or the first responders should be well trained and qualified with the emergency procedures.

Reference: Wikipedia, NFPA Handouts, Aviation Manual and Journal.

पर्यटकीय जिल्ला बन्दैछ ओखलढुंगा

✍ नारद गौतम
पत्रकार, गोरखापत्र संस्थान

नेपालको पश्चिमी क्षेत्रमा भैं पूर्वी क्षेत्रमा स-साना भुरे टाकुरे राजाहरूले राज्यस्थापना गरेको ऐतिहासि क सूत्र फेला परेको छैन । छुट्टै ऐतिहासिक वर्णन नपाइए तापनि प्राचीन राज्यको भौगोलिक सिमानाको रूपमा ओखलढुङ्गा जिल्लाको पूर्वी सिमाना दूधकोशीको उल्लेख पाइएकाले यस क्षेत्रको प्राचीनता किराँत शासनपूर्व आभिर वंशदेखि नै रहेको छ । कर्कपेट्रिक वंशावलीअनुसार आभिर अर्थात् महिषगोपाल वंशी शासकहरूद्वारा शासित राज्यको भौगोलक सिमाना पूर्वमा दूधकोशी पश्चिमा त्रिशूली, उत्तरमा नीलकण्ठ पहाड र दक्षिणमा चित्लाङसम्म फैलिएको छ ।

हाल यस जिल्लाको पूर्वी सिमाना दूधकोशी भएकाले यो क्षेत्र आमिरवंशी राज्य अन्तर्गत रहेको छ । आभिरवंशी राजा भुवनसिंहलाई पराजित गर्ने प्रथम किराँती राजा एलम्बरको राज्य कालमा किराँत राज्यमा रहेको यो जिल्ला अद्यावधि वल्लोकिराँत नामले चिनिन्छ । किराँत शासनपछि उपत्यकाको शासन लिच्छवी वंशमा गएको देखिन्छ । राजा मानदेवले पूर्वमा दूधकोशीसम्म पुऱ्याएको र त्यस बखत यो क्षेत्र मानदेवको राज्याधिकार क्षेत्रभित्र परेको देखिन आउँछ । मल्लकालमा भने यो कहिले बनेपा, कहिले भक्तपुर र कहिले काठमाडौंको अधीनमा रहेको छ (जि.वि.स.ओ, २०५६: पृ. १) ।

ओखलढुंगा नामकरण :

हाल एक नम्बर प्रदेशमा पर्ने ओखलढुङ्गाको नाम कसरी रह्यो भन्ने प्रसङ्ग पनि रोचक छ । झण्डै ४०० वर्ष अगाडि राजा नरसिंह मल्लको समयमा उनका (ज्वाईं) काजी भीम मल्लको नेतृत्वमा गएको फौजले तिब्बतका धेरै भाग जितेको थियो । यसैगरी, पूर्वतिरका किराँत प्रदेशको चढाइँ गर्ने क्रममा हालको ओखलढुङ्गा सदरमुकाममा सो फौजको बास पर्दा खानेकुरा केही नपाई वरपरबाट बटुलेर ल्याएको धान एउटा ओखलजस्तै खाल्डो परेको ढुङ्गामा राखेर ढुङ्गाकै मुस्लीले कुटेर छाक टारेछन् । त्यस दिनदेखि यस ठाउँको नाम ओखलढुङ्गा रह्यो भन्ने जनश्रुति पाइन्छ । जिल्लाको सदरमुकाम ओखलढुङ्गाकै केन्द्रमा ओखल आकारमा रहेको छ (खड्का २०६२ : पृ. ११) ।

भूगोलको हिसाबले पहाडी जिल्ला मानिने ओखलढुंगा प्राचीन कालमा राजा जनकद्वारा शासित मिथिला राज्यमा पर्दथ्यो भन्ने किम्बदन्ती छ । महाभारत कालमा भीमले यहाँ रहेको ओखल जस्तो गहिरो खोपिल्टो परेको ढुङ्गामा मुसलको सहायताले धान कुटी खाएकाले यहाँको नाम 'ओखलढुङ्गा' रहन गएको भन्ने भनाइ पनि छ (जिल्ला पाश्वचित्र, ओखलढुंगा जिविस, २०६९) ।

ओखलढुङ्गा भू-बनोटका दृष्टिकोणले हेर्दा डाँडाकाँडाले ढाकिएको पाखा-पखेरोले भरिएको खाल्डोखुल्डी परेको टार र सोतो घुसेको अवस्थामा देखिन्छ । यस जिल्लाको सदरमुकाम ओखलढुङ्गाबाट पूर्वी भाग थोरै र पश्चिमीभाग धेरै तथा चौडाइमा भने धेरै फरक नभएको पूर्वतिर ढल्केको चिया खाने कपको आकारको छ । यस जिल्लाको सबैभन्दा अग्लो भाग लाम्जेडाँडा समुद्र सतहदेखि ३६२७ मिटर र सबैभन्दा होचो भाग जोर्तिघाट ३९० मिटर उचाइमा रहेको पाइन्छ । यो जिल्ला राजधानी काठमाडौंबाट १४४ किलोमिटर पूर्वमा, सगरमाथा अञ्चल सदरमुकाम राजविराजबाट १२८ किलोमिटर उत्तरमा र विश्वको सर्वोच्च शिखर सगरमाथाको फेदीबाट १२२ किलोमिटर दक्षिणमा रहेको छ (जि.वि.स.ओ., २०५६ : पृ. २) ।

उक्त ढुङ्गाको ओखल हालको ओखलढुङ्गा जिल्लाअन्तर्गत सिद्धिचरण नगरपालिकाको वडा नम्बर ५ मा अवस्थित सिद्धिचरण पार्कसँगै जोसुकैले सहजै अवलोकन गर्न सक्ने गरी सुरक्षित रूपमा राखिएको छ । तत्कालीन श्री ५ पृथ्वीनारायण शाहको एकीकरण अभियान पश्चात काजी भीमसेन थापाको प्रशासनिक विभाजनअन्तर्गत ३२ जिल्ला मध्य पूर्व ३ नम्बरको रूपमा ओखलढुंगा, खोटाङ र सोलुखुम्बु एउटै क्षेत्र थियो । त्यतिखेर पुर्व ३ नम्बरको

सदरमुकामको रूपमा हालको ओखलढुंगा सदरमुकाम नै थियो । पछि विक्रम २०१८ सालमा राजा महेन्द्रले १४ अञ्चल ७५ जिल्लाको विभाजन गर्ने क्रममा ओखलढुंगा जिल्ला सगरमाथा अञ्चलमा रहन गएको हो । यस जिल्लाका मुख्य बजारहरू ओखलढुंगा, रामपुर, रूम्जाटार, मानेभन्ज्याङ, खिजीफलाटे, खानीभन्ज्याङ, कोशहाट, घोराखोरी आदि हुन् । यस जिल्ला डाँडाकाँडा, भिरपाखा, खोल्साखोल्सी, वनजङ्गल, टार,बेसी आदि विविधतायुक्त धरातलीय स्वरूपको छ ।

ऐतिहासिक, धार्मिक र पर्यटकीय स्थलहरू

ऐतिहासिक स्थल : ओखलढुङ्गा जिल्लाका ऐतिहासिक स्थलका बारे चर्चा गर्दा नेपाल राष्ट्रको एकीकरण अघिसम्म पुग्नुपर्ने हुन्छ । ओखलढुङ्गा सदरमुकाम नजिकै रहेको खोलामा भीम मल्लको फौजले आफ्नो नियमअनुसार पूजापाठ गरी चन्दन लेप गरेकाले त्यस खोलाको नाम चन्दने खोला रहेको भन्ने भनाइ छ । सदरमुकामकै टापु परेको ठाउँमा सो फौजले आफ्नो डेरा जमाएकाले त्यसलाई भीमल ठाना भनेर मानिसहरु पुकार्दै आएका छन् भने ढुङ्गाको ओखलमा धान कुटेर खाएकाले ओखलढुङ्गा जिल्लाकै नामकरण गराउने ऐतिहासिक स्मारकका रूपमा बहुचर्चित छ ।

यसैगरी कोट कडेनी, ओखलढुङ्गा, चिसंखु, तलुवा, चौरास, भालुथुम्का, भीमलदूलो च्यानमजस्ता कोट वा गढीहरु राष्ट्रनिर्माता पृथ्वीनारायण शाहको पालामा उनका पूर्वी सेनापति रामकृष्ण कुँवर शक्तिका पुजारी भएकाले आफ्नो फौजको क्याम्प रहेको ठाउँमा गढी बनाइ देवीको स्थापना गरी आराधना गर्ने चलन चलाएको र हालसम्म पनि यस्ता गढीहरूमा देवीस्थान भेटिनुले यस कुराको पुष्टि हुन्छ ।

धार्मिक स्थलहरू : ओखलढुंङ्गा जिल्लामा जतातै धार्मिक स्थलहरु रहेका छन् । यी धार्मिक स्थलहरूमा एक रातदेखि एक महिनाभन्दा बढीसम्म मेला लाग्छ । यस जिल्लाका प्रायः सबै गा.वि.स. हरूमा आठ दसवटा देव-देवीहरूका स्थल रहेका छन् । अधिकांशको नाम कुनै न कुनै नामका महादेव, चम्पादेवी, जानुकादेवी, कालिकादेवी, सिंहदेवी, चण्डेश्वरी, पाँचकन्या, तीनकन्या, भुमे विजुवाथान आदि रहेका छन् । तीमध्ये प्रमुख धार्मिक स्थलहरु यसप्रकार छन् :-

क) ककनी : कटुन्जे, बिलन्दू, फूलबारी फेदीगुठ र हर्कपुर गा.वि.स. हरूको सिमानामा ककनी (श्रीचम्पा) नामको देवीस्थान रहेको छ । करिब २५ फिट उचाईबाट झरेका सातवटा झरनाको दायाँ-वाँया देवीका मन्दिर छन् । यस ठाउँमा लक्ष्मीपूजादेखि ठूलो एकादशीको पूर्णिमासम्म वर्षको एकचोटि ठूलो मेला लाग्छ । त्यसबेला यहाँ पश्चिम लम्जुङ र पूर्वमा संखुवासभासम्मका मानिसहरु पनि दर्शन गर्न आउँछन् । जनश्रुति अनुसार जे चाहना वा माग लिएर देवीको दर्शन गरेको छ सो पूरा हुन्छ भन्ने जनविश्वास रहेको छ । यो देवीस्थान सदरमुकामदेखि १०.५ कोस पश्चिमपट्टि रहेको छ ।

ख) लगलगे ककनी : 'क' मा उल्लेख भएको ककनी देवी नै २०१८ सालमा सल्लेरी गा.वि.स. को लगलगेमा प्रकट भएकीले यहाँ पनि ककनी देवीस्थान छ र लक्ष्मीपूजादेखि ठूली एकादशीसम्म मेला लाग्छ । यो स्थान सदरमुकामदेखि २ कोस दक्षिण बेतिनीमा रहेको छ ।

ग) नर्मदेश्वर महादेव : ओखलढुङ्गाको पश्चिम रामेछापको सिमानामा बग्ने लिखू खोलाको किनारमा नर्मदेश्वर महादेवको मन्दिर छ । यहाँबाट रामेछापको साँघुटार बजार नजिकै छ । यस ठाउँमा गणेश, नारायन सरस्वती हरि, धर्मेश्वर महादेव, गडुल, हनुमान, महादेवको वाहन, साँढेको मूर्ति र तुलसीको मठ पनि स्थापना गरिएको छ । यहाँ बालाचर्तुदशीका दिन महाद्वीप बाल्ने र सतबीज छरिनुका साथै धूमधामसँग मेला लाग्छ । यसदिन यहाँ रामेछाप, सिन्धुलीका साथै ओखलढुङ्गाका अधिकांश गा.वि.स. का श्रदालु भक्तजनहरु आउँछन् । यी महादेवको उत्पत्ति कथा पशुपतिनाथसँग मिल्दोजुल्दो छ । यो स्थान सदरमुकामबाट १५ कोस पश्चिम नर्मदेश्वर गा.वि.स. मा रहेको छ ।

घ) कुन्तादेवी : कुन्तादेवी गा.वि.स. को बुङनाम र ज्यामिरे गा.वि.स.को खोदम्पामा कुन्तादेवी एउटै नामबाट देवीस्थल स्थापना गरिएका छन् । यीमध्ये दिदी कुन्तादेवी ब्राह्मण जातकी बुङनामा र बहिनी कुन्तादेवी ज्यामिरेमा मगर जातकी भएकीले यिनका पुजारीहरूमा एकजना ब्राह्मण र एकजना मगर छन् । यहाँ नित्य पूजा हुने र

सुनभेडीको पूजागर्नु अनिवार्य छ भन्ने उल्लेख पाइन्छ (जि.वि.स.ओ, २०५६: १०) । यी स्थलहरु सदरमुकामबाट एकडेढ कोश पश्चिमतर्फ रहेका छन् ।

ङ) तीनकन्या (पञ्चवती) : मोली गा.वि.स. मा जिल्लामा मात्र नभएर छिमेकी जिल्लामा समेत ख्याति कमाएकी तीनकन्या देवीको मन्दिर छ । यी देवीसँग कुनै पनि भाकल गरे पूरा हुने जनविश्वास अझै छ । प्रत्येक वर्ष मार्गशुक्ल पञ्चमीका दिनदेखि यस ठाउँमा ३-५ दिनसम्म मेला लाग्छ । यो स्थान सदरमुकामदेखि ६ कोस दक्षिणपूर्वमा रहेको छ ।

च) रघुवीरेश्वर महादेव : सदरमुकाममा रहेको यो शिवालय वि.सं. १९०६ मा स्थापना गरिएको हो । सेर्ना गा.वि.स. छहरे निवासी रघुवीर थापाले स्थापना गरेकाले यसको नाम रघुवीरेश्वर रहन गएको भनिन्छ । यस शिवालयको नजिकै गणेशको पनि स्थापना गरिएको छ । यी महादेवको नाममा ओखलढुङ्गा गा.वि.स. भित्रका धेरै जग्गाहरु गुठीका स्वमा रहेका र हाल ती जग्गाहरुमा विवादमा रहेको बुझिन्छ ।

छ) ओखलढुङ्गा सरस्वती स्थान : सदरमुकामको रमणीय डाँडामा १९७१ सालमा तत्कालीन मालपोत कार्यालयका हाकिम खरदार विष्णुचरण श्रेष्ठबाट यी सरस्वतीको मन्दिर स्थापना गरिएको बुझिन्छ । यी देवीका नाममा केही जग्गा रहेको र पुजारीका स्वमा भोजपुरबाट आएका श्रेष्ठ जातिहरु रहेका छन् । यसबाहेक ओखलढुङ्गा जिल्लामा बौद्धधर्मालम्बीहरुको पनि बसोबास भएकाले यहाँ बौद्ध गुम्बाहरु पनि रहेका छन् । ती गुम्बाहरुमा प्रमुख छन्- पाल्लेको थालिङ, रिपाल र दोराखर्क, भुसिङगाको किमुरदिङ, केतुकेको केतुके र खिजी फलाटेको भीरखर्क गुम्बा उल्लेखनीय छन् ।

पर्यटकीय स्थलहरू :

ओखलढुंगा जिल्ला हिमाल पहाड र तराईलाई जोड्ने भौगोलिक हिसाबमा रणनीतिक महत्वको जिल्लामा पर्दछ । कटारी-ओखलढुंगा सिद्धिचरणमार्ग निर्माण भएपछि तराईको सिधा सम्पर्क ओखलढुंगासँग भएको हो । सुनकोशी नदीमा पुल बनेपछि दक्षिणबाट गएका गाडी उत्तरतर्फको रहेको सोलुखुम्बुसम्म सजिलै पुग्न सक्छन् । मध्यपहाडी राजमार्गमा ओखलढुंगा जोडिएपछि राजधानीबाट झन नजिकिएको छ ओखलढुंगा । काठमाडौंबाट सडकमार्गबाट सुनकोशी नदीको किनारै किनार रमणीय दृश्यहरूको अवलोकन गर्दै ओखलढुंगा, सोलु र खोटाङको हलेसीसम्म पुग्न सकिन्छ । हिमालको दृश्य अवलोकन गर्न भारतबाट सडक मार्ग भएर आएका पर्यटकहरू मिर्चैयाबाट कटारी हुँदै ओखलढुंगा, सोलु र खोटाङ जान थालेका छन् । यसरी ओखलढुंगा प्रवेश गर्ने पर्यटकहरूलाई बास बस्नका लागि पूर्वको टोक्सेल हर्कपुर, थाक्ले, मानेभन्ज्याङ, केत्तुके, लगलगेमा राम्रो होटलहरू निर्माण गर्नुपर्ने देखिन्छ भने खोटाङ जाने पर्यटकका लागि हिलेपानी राम्रा होटल बनाउन सके अझै राम्रो हुने देखिन्छ । ओखलढुंगाको पश्चिमतर्फ साँघुटारमा पुल बनेको हुनाले यस क्षेत्रमा रहेका पर्यटकीय स्थलको अवलोकन गर्न पनि बाटो खुलेको छ ।

ओखलढुंगा जिल्ला साहित्यकार युगकवि सिद्धिचरण श्रेष्ठ र राष्ट्रिय गीतका रचनाकार व्याकुल माइलाको जन्मथलो हो, जहाँ जातिगत कला, संस्कृति, रीतिरिवाज र भेषभूषाको प्रचुर विविधता पाइन्छ । यसको साथै यो जिल्ला प्रकृतिक स्रोत तथा सम्पदाले पनि उत्तिकै सम्पन्न छ । ओखलढुङ्गा जिल्ला मनोरम हावापानी, नागबेली परेर बहेका विभिन्न नदीनाला, छङछङ गर्दै झर्ने झरनाहरु, हराभरा देखिने टार र बेंसीहरु र उच्चस्थानमा देवी स्थानहरु रहेकाले यहाँ धेरै पर्यटकीय स्थलहरु पाइन्छन् । ती मध्ये उल्लिखित धार्मिक स्थलहरु नै पर्यटकीय दृष्टिकोणले पनि महत्वपूर्ण छन् । यी बाहेक रूम्जाटार, लिब्जु, पाल्ले, गौरीवन, थामडाँडा पनि महत्वपूर्ण पर्यटकीय स्थल हुन् । लिब्जुबाट सगरमाथाको चुचुरो र तराईको फाँट देखिन्छ भने पाल्लेबाट दूधकुण्ड हिमाल देखिन्छ । गौरीवन १३ गा.वि.स. को मध्ये भाग र सिमानामा रहेको छ । यो जिल्लाकै सबैभन्दा ठूलो वन र चरिचरन क्षेत्र हो । यस वनभित्र धेरै समतल मैदान र चौरहरु रहेका छन् । यसको क्षेत्रफल लगभग १२४४९ हेक्टर छ र यो समुद्री सतहको २०००-३३३६ मिटरको उचाइमा रहेको पाइन्छ (जि.वि.स.ओ. २०५६: पृ. १२) ।

रूम्जाटार अति रमणीय स्थलका स्प्मा रहनुका साथै यसलाई नदेख्नेका मुखमासमेत घुमिफिरी रूम्जाटार भन्ने उखान बनाउन सफल भएको छ । फूलबारी घोराखोरी थाम डाँडा वपीको जङ्गलको लाली गुराँस र डाँडामा पुगेपछि वरिपरि अति रमणीय स्थलहरु देख्न सकिने हुनाले पर्यटकीय स्थलका स्प्मा रहेको छ । जन्तरखानी, भुसिंगा, रावादोलु, खिजीफलाटे, श्रीचौर, रंगनी आदि ठाउँ पनि उल्लेखनीय पर्यटकीय स्थल हुन् ।

जलयात्राको सम्भावना

यहाँका प्रमुख नदी दुधकोशी, लिखु र सुनकोशी नदी हुन् । सुनकोशी र दूध कोशीमा जलयात्राको राम्रो सम्भावना छ । सुनकोशीमा धेरै पर्यटकहरू जलयात्रामा सहभागी हुने गरेका छन् । यहाँका दर्शनीय झरनाहरूमा १३१ मिटर अग्लो २ हिस्सा भएको पोकली, सेप्ली, सेर्ना, ढिकुरे, सेलेले छन् । यी झरनामध्ये पोकली झर्ना सबैभन्दा बढी चर्चित छ । पोकली झरना, गौरीवन, ककनी, कोतगढी, ओखलढुंगा, जन्तरधाप, सातले गुफ, पञ्च पोखरी, भकारी ढुंगा गुफा, हलेसी कुईभिर गुफा, तिनतले भिर छाँगा, सिस्नेरी मुलखर्क मालिंगे डाँडा, देम्बा डाँडा, दर्पन ढुंगा, तेम्पा गुफा, सेप्ली छागा, कालो छाँगा आदि यस जिल्लाका उल्लेखनीय प्राकृतिक सम्पदा हुन् । जिल्लामा भौगालिक विविधता र आकर्षक गन्तव्य स्थलका साथै धार्मिक तथा मनोरम दृश्यका रूपमा रहेका यी स्थानहरूलाई पर्यटनका दृष्टिले प्रर्वद्धन र विकास गर्न सकेमा जिल्लामा आन्तरिक र बाह्य पर्यटन व्यवसायको ठूलो सम्भावना देखिन्छ ।

भौगोलिक अवस्था

यस जिल्लामा लेकाली, पहाडी र टार तथा बेसीहरु रहेको तीन प्रकारको भौगोलिक अवस्था छ । लेकाली प्रदेशमा औसत २५०० मिटर अग्ला डाँडाले भरिएको यो प्रदेश निकै ढुङ्गे र भिरालो पाइन्छ । यस क्षेत्रमा मानिसको बसोबास कम रहेको देखिन्छ । यस्तै, पहाडी प्रदेशमा मोलुङ खोलाले ओखलढुङ्गा जिल्लालाई मोटामोटी दुई भागमा बाँडेको छ । मोलुङ खोलाको पश्चिमतिर ककनीडाँडा उत्तर-दक्षिण शृङ्खलाबद्ध स्प्मा फैलिएको छ । यसको समानान्तर नै पूर्वपट्टि अर्को पहाडी शृङ्खला उत्तर-दक्षिण फैलिएर रहेको छ । जिल्ला सदरमुकाम ओखलढुङ्गा यसै पहाडी क्षेत्रअन्तर्गत १८८३ मिटरको उचाइमा रहेको पाइन्छ । अन्य अग्ला डाँडाहरुमा ककनी डाँडाको पश्चिमपट्टि चुप्लु आलाडाँडा, बतासे डाँडा, लहरनीडाँडा आदि र पूर्वपट्टि पात्लेडाँडा, कमेरेडाँडा, छेवाभिञ्जस्ता धेरै डाँडा रहेका देखिन्छन् ।

यस जिल्लका टार तथा बेसीहरुमा पूर्वाञ्चलकै बहुचर्चित रूम्जाटार यहाँका सिस्ने खोलो र ठोट्ने खोलाको प्रायद्वीपमैं बनेर रहेको देखिन्छ भने गाम्नाङटार, रामपुरटार, विगुटार, कुइभिरटार, जरायोटार, सोक्माटार, कुमालटार, माझीटार, हर्कपुरटार, ऱ्यायलटार, देवीटार आदि पनि यस जिल्लाका उल्लेखनीय टार हुन् ।

यसैगरी यस जिल्लाको सिमानाको स्प्मा क्रमशः पूर्वमा दूधकोशी, पश्चिममा लिखू (हिमगंगा) र दक्षिणमा सुनकोशी तथा बीचमा बहने मोलुङ खोलाको आसपासमा धेरै बेसीहरु छन् । तीमध्ये सिल्खू, सेर्ना, जलजले, नौबिसे, शेरा आदि उल्लेखनीय छन् । यी बेसी र टारहरु जिल्लाकै अन्नभण्डारका स्प्मा रहेका छन् । ओखलढुङ्गा जिल्लामा नेपाल राज्यको १२०० मिटरदेखि २१२५ मिटरसम्म पाइने समशीतोष्ण मनसुनी जलवायु पाइन्छ । यहाँको तापक्रम ग्रीष्मका धेरै गर्मी नहुने र हिउँदमा कठ्याङ्ग्रिने जाडो पनि नहुने खालको छ । यहाँ ग्रीष्मका अधिकतम ३२° सेन्टिग्रेडसम्म र जाडोमा न्यूनतम २° सेन्टिग्रेडसम्मको तापक्रम पाइन्छ ।

प्रमुख नदी-नालाहरू :

दूधकोशी (१२७ किलोमिटर), सुनकोशी (२२७ किलोमिटर), लिखू (७३ किलोमिटर) ओखलढुङ्गा जिल्लाका सिमाना भएर बहने प्रमुख नदी हुन् । अन्य खोलानालाहरूमा मोलुङ, ठोट्ने, सिस्ने, सिल्खू, शेरा, ढाँड, फेदी, बगरे, साल्बू, जुके, रुम्दी पत्ताले, फेदी नामका खोलाहरू प्रमुख छन् । ती बाहेक डुंडे, लिप्पे, सिम्ले, सोलुङ लगायतका विभिन्न खोला खहरे र खोल्सीहरू यस जिल्लामा रहेका छन् । जमिनको झुकाव दक्षिणतिर भएकोले जिल्ला भरको पानी तीन प्रमुख नदीहरू लिखू, दूधकोशी र सुनकोशीबाट सोहोरिएर जिल्लाकै सबैभन्दा होचो भाग जोर्तिघाट भई दक्षिणतर्फ बहन्छ ।

प्रमुख झरनाहरू : ओखलढुङ्गा जिल्लाको पश्चिम भेगको पोकली गा.वि.स. मा पर्ने सोही नामको पोकली छाँगा यस

जिल्लाकै प्रमुख झरना हो । यो झरना १३१ मिटर अग्लो छ । यस झरनाको तल ठूलो दह बनेको छ, त्यसलाई हाँडी दह भनिन्छ । जिल्लाका अन्य प्रमुख झरनाहरूमा सेप्ली, सेर्ना, सेलेले, ढिकुरे आदि रहेका छन् ।

प्रमुख शिखर र भञ्ज्याङहरू

प्रमुख शिखर : ओखलढुङ्गा जिल्लामा उल्लेखनीय शिखर तथा टाकुराहरु छैनन् । ३६२७ मिटर अग्लो लाम्जेडाँडा जिल्लाकै सबैभन्दा अग्लो शिखर हो । अन्य केही अग्ला शिखरहरूमा नेचे, पिके, ककनीडाँडा, रमाइलोडाँडा, चुप्लु आलडाँडा, तारेभिरडाँडा, बिलाटेडाँडा, कमेरेडाँडा, लिब्जुडाँडा, छेवाभिङडाँडा, लहर्नीडाँडा, बतासेडाँडा, थामडाँडा आदिको नाम लिन सकिन्छ ।

प्रमुख भञ्ज्याङ : ओखलढुङ्गा जिल्लामा रहेका उल्लिखित डाँडाहरूका बीचमा भञ्ज्याङहरु रहेका छन् । यीमध्ये मानेभञ्ज्याङ, खानीभञ्ज्याङ, चुप्लुभञ्ज्याङ, कोशभञ्ज्याङ, फलाटेभञ्ज्याङ, पलापूभञ्ज्याङ, पोखरीभञ्ज्याङ प्रमुख छन् ।

सामाजिक अवस्था

विभिन्न किसिमका जातजातिहरूको समूह मिलेर ओखलढुङ्गा जिल्लाको समष्टि समाजनिर्माण भएको छ । यस जिल्लाको सामाजिक परिपाटी प्रत्येक गाउँ टोल र क्षेत्र विशेषमा फरक-फरक किसिमले विकास भएको छ । यस जिल्लाको सामाजिक बनोटलाई हेर्दा पृथ्वीनारायण शाहको "नेपाल चारजात छत्तीस वर्णको साझा फूलबारी हो" भन्ने तथ्यपूर्ण उक्ति हालको यस जिल्लाको सामाजिक स्परेखामा पनि लागू हुन्छ । यहाँ क्षत्री- ब्राह्मण, राई, मगर, तामाङ, शेर्पा, गुरूङ, नेवार, सुनुवार, दमाई, कामी, भुजेल, माझी आदि धेरै जातका मानिसहरु एक आपसमा आ-आफ्नो क्षेत्रमा क्षेत्र अनुसारको समाज एवं सामाजिक परिपाटी निर्माण गरी बसोबास गर्दै आएका देखिन्छन् । प्रत्येक समाजमा बौद्धिक व्यक्तिको नेतृत्व भएको पाइन्छ । बहुभाषी बहुजाति समाज भए पनि अनेकतामा एकताको भावना उत्कृष्ट सामाजिक नमुनाका स्वमा छ ।

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हवाई सेवाको अधोगति किन ?

अच्युत पुरी
बिजनेश रिपोर्टर, नयाँ पत्रिका

नेपाल प्राकृतिक सुन्दता र भौगोलिक विविधताले सजिएको भूपरिवेष्ठित मुलुक हो । सोहीकारण यहाँ जलयातायातको संभावना ज्यादै कम छ । विशिष्ट प्रकारको भौगोलिक बनावटका कारण सडक यातायातका पूर्वाधार निर्माण गर्न सहज छैन भने निर्माण गरिएको सडक पूर्वाधार अपेक्षाकृत सुरक्षित हुन पनि सकेका छैनन् । यस अवस्थामा सुरक्षित र सहज यातायातको खोजी हुनु स्वाभाविक हो । यसको विकल्प हवाई यातायात बनेको छ । नेपालमा २००६ सालबाट संस्थागत हवाई सेवा प्रारम्भ भएको इतिहास छ । विश्वमा एक शताब्दी नाघिसकेको हवाई सेवाको इतिहास नेपालमा पनि ६७ वर्ष पुगिसकेको छ । त्यसबेला शाही नेपाल वायुसेवा निगमका रूपमा शुरू भएको व्यवसायिक हवाई यात्राको दौडमा आज करीब डेढ दर्जनभन्दा बढी वायुसेवा कम्पनी समावेश भइसकेका छन् ।

अनुत्तरित प्रश्न

नेपालमा आर्थिक विकासलाई गति दिने हो भने पर्यटन क्षेत्रलाई प्राथमिकता दिनुको विकल्प छैन । यो तथ्य नेपालको राजनीतिक र प्रशासनिक नेतृत्वलाई राम्रोसँग थाहा छ । पर्यटन विकास गर्न हवाई यातायात फस्टाउनु पर्छ । तर, सेवा प्रारम्भ भएको ६७ वर्ष नाघिसक्दा पनि हामीसँग हवाई पूर्वाधारको दयनीय अवस्था किन ? यति ठूलो संभावना र बजार हुँदाहुँदै पनि वायुसेवा कम्पनी किन धराशयी हुन्छन् ? प्रत्येक वर्ष पर्यटक आगमन र नेपालीको औसत आम्दानी बढेको अवस्थामा हवाई यात्रु किन बढ्दैनन् ? हवाई दुर्घटनाका श्रृंखला किन रोकिएनन ? यी र यस्ता धेरै प्रश्न छन्, जसको उत्तर राजनीतिक नेतृत्वमात्र होइन, हवाई उद्योग संचालनको जिम्मेवारी पाएका सरोकारवाला निकाय र विज्ञले पनि दिन सकिरहेका छैनन् ।

पर्याप्त छन् यात्रु ?

त्रिभुवन अन्तरराष्ट्रिय विमानस्थलको तथ्यांकअनुसार अन्तरराष्ट्रिय उडानतर्फ विगत एक दशकयता यात्रु र उडान संख्या संतोषजनक अवस्थामा छ । बेरोजगारी समस्याका कारण हरेक दिन १ हजारदेखि १५ सयको हाराहारीमा बाहिरिने नेपाली दाजुभाईको संख्याले अन्तरर्राष्ट्रिय उडानका यात्रु र उडान संख्या धानेको छ । नेपाली हवाई सेवाका लागि यो संख्या अल्पकालीन हो । हवाई सेवाको दीर्घकालीन विकासका लागि पर्यटक आगमन बढाउनुको विकल्प छैन । नेपालले सन् १९९८ मा मनाएको नेपाल भ्रमण वर्षकै साल चार लाख ६३ हजार ६ सय ८४ जना पर्यटक नेपाल आएका थिए । त्यसको ठीक १७ वर्षपछि सन् २०१५ मा नेपाल आएका पर्यटकको संख्या पाँच लाख ३८ हजार नौ सय ७० रहेको छ । नेपाली पर्यटन र हवाई सेवाका लागि यो भन्दा लाजमर्दो अरू के हुन सक्छ ? नेपालमा अन्तर्राष्ट्रियतर्फ औसतः २६ लाख र आन्तरिकतर्फ १२ लाख हाराहारी यात्रु उड्ने विमानस्थलको तथ्यांक छ । तर, यो संख्यामा हुने वृद्धिदर ज्यादै न्यून छ । अझ कतिपय वर्ष त अघिल्लो वर्षको तुलनामा यात्रु संख्या घटेका उदाहरण पनि छन् । यस्ता तथ्यले नेपालको हवाई उद्योग अधोगतिको बाटोमा भएको प्रमाणित गर्छन् ।

लगानी विमानस्थलमा/प्रयोग गौचरणमा

नेपाल नागरिक उड्डयन प्राधिकरणको तथ्यांकअनुसार नेपालमा रहेका कूल ५७ विमानस्थलमध्ये दुई दर्जन विमानस्थल मात्र सबै मौसममा उडान गर्न योग्य छन् । ६ वटा विमानस्थल निर्माणाधिन अवस्थामा छन् । त्यसबाहेक अन्य आधाभन्दा धेरै विमानस्थल गौचरणमा परिणत भएका छन् । यी विमानस्थलमा नेपाल सरकारको ठूलो लगानी रहेको छ । एकातर्फ कतिपय गन्तव्यमा पुग्न नागरिक यातायात सेवाको आधारभूत सुविधाबाट बन्चित भइरहेका छन् भने अर्कातर्फ कतिपय स्थानमा यात्रु या जहाज अभावको कारण देखाउँदै निर्माण भइसकेका विमानस्थल बन्द हुने अवस्थामा पुऱ्याइएको छ । नेपालको विकासमा दीर्घकालिन सोचको अभाव कति रहेछ भन्ने यसले प्रष्ट पार्छ । राजनीतिक नेतृत्वले आफ्नो निर्वाचन क्षेत्रमा सुविधा पुऱ्याउन वा थप्न हचुवाका भरमा विमानस्थल आयोजना अगाडि

बढाउँदा सरकारको ठूलो स्रोत अनुत्पादक क्षेत्रमा गएको तर्फ अब भने सचेत हुने बेला आएको छ । अहिले कतिपय दूर्गम स्थानसम्म सडक यातायात पुगेपछि हवाई यातायातको बाध्यता हटेको पक्कै हो । मुलुकका शान्ति सुरक्षा कायम भएको अवस्थामा पनि स्वाभाविक स्वमा सडक यातायातका प्रयोगकर्ता बढ्ने गर्छन् । तर, पछिल्लो समय आन्तरिक गन्तव्यमा घुमघामका निस्कने, व्यापार व्यवसाय गर्ने र समग्रमा नेपालीको आम्दानीमा वृद्धि भएको तुलनामा हवाई उद्योगले जुन अनुपातमा प्रगति गर्नु पर्ने थियो, त्यो भने हुन सकेको छैन ।

एनएसी धराशयी/निजी सुगममुखी

नेपालमा वायुसेवाले अपेक्षित विकास गर्न नसक्नुमा नियामक निकाय र सरकारको जति धेरै हात छ, त्यति नै भूमिका वायुसेवा प्रदायक कम्पनीहरूको पनि छ । कुनै बेला आन्तरिक र वाह्य उडानमा बजार कब्जा गरेर राखेको नेपाल वायुसेवा निगम (एनएसी) अहिले आन्तरिकतर्फ धरासायी हुने अवस्थामा पुगेको छ । करीबकरीब जहाजबिहिन अवस्थामा पुगेको निगम अहिले विगतमा डुबेको छवि उकास्ने प्रयासमा छ । निगमको यो हालतपछि निजी क्षेत्रले नेपालको आन्तरिक उडानलाई केही हदसम्म भएपनि थामेको थियो । तर, बिडम्बना हिजो नेपाल वायुसेवा निगमले उडान गर्ने हिमाली र पहाडी भेगमा आज नियमित जहाज उड्न छाडेको छ । धनाढ्यले चार्टर गर्दा सहजै उडान अवतरण गर्न मिल्ने विमानस्थलमा सर्वसाधारणको लागि हुनुपर्ने नियमित उडान गर्न भने पूवार्धार नपुगेको तर्क गरिन्छ । वायुसेवा कम्पनी सुगम स्थानका विमानस्थलमा उडानका लागि तछाडमछाड गरिरहेका छन् । यति हुँदाहुँदै पनि यात्रुले प्रतिस्पर्धी मूल्य नपाउने अवस्थाले गर्दा अन्ततः नेपालको हवाई उद्योग अझै पनि प्रगतिउन्मुख देखिएको छैन ।

कहाँ चुक्यो नेपाल ?

जब नेपालले १९९८ लाई भ्रमण वर्षका रूपमा मनाउँदा मनग्य पर्यटक आकर्षित गऱ्यो, त्यसबेला देखि नै हवाई सेवाका लागि बलियो पूर्वाधार निर्माणमा लाग्नु पर्ने थियो । आजभन्दा करीब चार दशकअघि निर्माण भएको त्रिभुवन अन्तरराष्ट्रिय विमानस्थलले वर्तमानको अत्यन्त ठूलो यात्रु चाप थाम्नु कम्ति चूनौतिपूर्ण छैन । एउटा मात्र धावनमार्गमा थोरै समस्या आउँदा पनि नेपालको अन्तरराष्ट्रिय हवाई सम्बन्ध पूर्णतया विच्छेद हुने अवस्था छ । आजभन्दा १०/१५ वर्ष अगाडि नै दोस्रो अन्तर्राष्ट्रिय विमानस्थल निर्माणको थालनी हुनुपर्थ्यो । तर, त्यसो हुन सकेन । विकास निर्माण गर्दा साँघुरो सोचबाट बाहिर आउनु जरूरी छ । समयमा काम नगर्ने कम्पनीलाई दण्ड र राम्रो काम गर्नेलाई पुरस्कृत गर्ने परिपाटी बसाल्नु जरूरी छ । नत्र भने पूर्वाधारको दयनीय अवस्था ज्यूँका त्यूँ रहने छ । वर्तमान पुस्ताले बारामा प्रस्तावित दोस्रो अन्तरराष्ट्रिय विमानस्थल देख्न पाएन भने पनि अचम्म नमाने हुन्छ ।

कमजोर सुरक्षा सूचकांक

हवाई उद्योगको इतिहासमै नेपाल अहिले सबैभन्दा संवेदनशील अवस्थामा छ भन्दा फरक पर्दैन । अन्तर्राष्ट्रिय नियामक निकायहरूले नेपालको समग्र हवाई उद्योगको परिचालनमा प्रश्न उठाइरहेको अवस्था छ । हवाई उद्योगमा अन्तर्राष्ट्रिय मापदण्डअनुसार देखिनु पर्ने सकारात्मक सूचकांक प्राप्त हुन सकेका छैनन् । यस्तो अवस्थामा पनि हवाई उद्योग प्रगतिउन्मुख छ भन्न सकिन्न । उद्योगका स्वमा हेर्दा विगतको तुलनामा पक्कै परिवर्तन आएको छ । संख्यात्मक र सेवाको गुणस्तरमा पनि कम्पनीहरूले राम्रो गरिरहेका छन् । तर, आन्तरिकतर्फ भने यात्रु संख्या घट्ने क्रम जारी छ । यो लगानीकर्ता र समग्र हवाई उद्योगका लागि सकारात्मक संकेत होइन ।

नेपालमा भौगोलिक वनावटको दृष्टिकोणका आधारमा समुन्द्री सतहबाट केवल ७२ मिटर उचाईको विराटनगरदेखि ३ हजार ७ सय ८० मिटर उचाईमा अवस्थित स्याङबोचे विमानस्थलसम्म रहेका छन् । यस्तो फरकफरक धरातलमा जहाज चलाउनु वास्तवमै चूनौतिपूर्ण छ । सोहीकारण नेपालका विमान चालक संसारकै साहसिक मानिन्छन् । छिनछिनमा परिवर्तन हुने मौसमको चूनौति चिर्दै यात्रुलाई सुरक्षित गन्तव्यमा पुऱ्याउन विमान चालकलाई पक्कै पनि त्यति सजिलो छैन । यस अवस्थामा नेपालले दक्ष जनशक्ति उत्पादन र उनीहरूलाई नेपालमै टिकाउने अवस्था सिर्जना गर्नेतर्फ पनि काम गर्नुपर्ने आवश्यकता छ ।

कमजोर नियमन/प्रविधि

नेपालमा नीतिनिर्माण तहमा बस्ने जनशक्ति व्यवहारिक रूपमै दक्ष हुनुपर्ने आवश्यकता ठानिंदैन । विकसित मुलुकमा अनुभवी र सेवानिवृत्त चालक, ईन्जिनियरलाई मन्त्रालय तथा उड्डयन विभागमा विशेष जिम्मेवारी दिने अभ्यास छ । हामीकहाँ भने आफ्नो करियर अवधिभर सिकेको अनुभव र तालिम सेवानिवृत्त भएसँगै बेकामे साबित हुने गर्छ । अनुभवी विज्ञसँगको संलग्नतामा हुने अभ्यासले नीतिगत तहबाटै यस क्षेत्रमा हुने कमीकमजोरी हटाउन सहयोग पुग्छ । नेपालसँग विश्वस्तरीय नीतिनियम छन् । तर, त्यसको सही कार्यान्वयन नहुने हो भने नीतिनियम बनाउनुको औचित्य के ?

चाँदीको घेरा

यदि, कुनै अवरोध नआउने हो भने सन् २०२० भित्र मुलुकमा थप दुई (भैरहवा र पोखरा) अन्तर्राष्ट्रिय विमानस्थल संचालनमा आइसक्ने छन् । आन्तरिकतर्फ थुप्रै विमानस्थलको स्तरोन्नतीको काम जारी छ भने ति विमानस्थलमा पूर्वाधार थप गर्ने योजना रहेको प्राधिकरणका अधिकारीहरु बताउँछन् । निजी वायुसेवा कम्पनी धमाधम नयाँ जहाज थप गर्ने क्रममा छन् भने नेपाल वायुसेवा निगम (नेवानि) अहिले शुद्धिकरण अभियानमा छ । नेवानिका लागि अन्तर्राष्ट्रिय उडानको प्रयोजनका लागि दुई जहाजका लागि खरीद प्रक्रिया जारी छ । आन्तरिकतर्फ पनि अतिरिक्त जहाज थप गर्ने क्रममा निगम रहेको छ । यी सबै काम समयमा पूरा हुने हो भने नेपालको हवाई उद्योग छिट्टै प्रगति उन्मुख हुनेछ । कुनै पनि क्षेत्रमा आजको भोली नै सुधार आउन सक्दैन । जनता पनि त्यो अपेक्षा गर्दैनन् । तर, भोलीको काम आजै सुरूवात गर्नुपर्छ । यो एउटा प्रक्रिया हो । यस्तो प्रक्रियाले दीर्घकालीन रूपमा सकारात्मक परिणाम दिन्छ । त्यसबेला यो उद्योग स्वतः प्रगतिउन्मुख देखिने अपेक्षा गर्न सकिन्छ ।

Ramechhap Tower

पर्यटनमा आक्रामक मार्केटिङको आवश्यकता

राजु बास्कोटा
बिजनेश रिपोर्टर, अन्नपूर्ण पोष्ट्

नेपालको आर्थिक विकासको प्रमुख मेरुदण्ड हुनसक्ने संभावना बोकेको पर्यटन क्षेत्रले बिस्तारै सकारात्मक गति लिन थालेको छ । २०७२ वैशाख १२ को विनाशकारी भूकम्प र असोज पहिलो सातादेखि करीब पाँच महिना जारी रहेको नाकाबन्दीको मारमा परेको पर्यटन क्षेत्र छोटो समयमै तङ्ग्रिएको छ । सन् २०१५ मा ५ लाख ३९ हजार रहेको पर्यटकीय आगमन सन् २०१६ मा ७ लाख पुग्ने अनुमान छ । सन् २०१४ मा नै ७ लाख ९० हजार रहेको पर्यटक आगमन पछिल्लो समय पुरानै तथ्यांकमा पुऱ्याउन, पर्यटन क्षेत्रलाई पुनर्ताजगी प्रदान गर्न र पर्यटकीय क्षेत्रले सन्तोषजनक नतिजा प्राप्त गर्न भने अझै एक वर्ष पर्खनुको विकल्प छैन ।

विश्व बजारमा संभावना देखिएको पर्यटन क्षेत्र आवश्यक पूर्वाधार अभाव र कमजोर सरकारी सक्रियताका कारण कमजोर बनेको छ । नेपालको संभावना पर्यटन भएकोमा दुविधा छैन । तर, पर्यटन विकास गर्न आक्रामक मार्केटिङ र ब्राण्डिङको भने खाँचो रहेको छ ।

पर्यटन मन्त्रालयले उपलब्ध गराएको नेपाल राष्ट्र बैंकको तथ्यांक अनुसार पछिल्लो तीन वर्षमा पर्यटन क्षेत्रको आम्दानी बढ्दै गएको छ । नेपालमा आउने विदेशी पर्यटकको तथ्यांक थपघट भइरहे पनि पर्यटन क्षेत्रको आम्दानी भने हरेक वर्ष बढ्दै गएको देखिएको छ । पछिल्लो चार वर्षको तथ्यांक हेर्ने हो भने पनि पर्यटक आगमन सन् २०१२ को ८ लाख ३ हजार, सन् २०१३ मा ७ लाख ९७ हजार, सन् २०१४ मा ७ लाख ९० हजार र सन् २०१५ मा ५ लाख ३९ हजार रहेको छ । पर्यटन क्षेत्रबाट हुने आम्दानी भने पछिल्लो तीन वर्षसँग तुलना गर्ने हो भने ३४ अर्बबाट ४६ अर्ब हुँदै ५४ अर्ब रूपैयाँ पुगेको छ । सन् २०१६ मा पर्यटन क्षेत्रको आम्दानी २५ प्रतिशतले बढ्ने अनुमान गरिएको छ ।

किन आक्रामक मार्केटिङ ?

पर्यटन विकास र प्रवर्द्धनको गर्न आक्रामक मार्केटिङ गर्नेपर्छ । नेपालमा पर्यटकीय संभावना छ भनेर मात्रै बस्नु भएन । पर्यटकीय गन्तव्य तथा गतिविधिको ब्राण्डिङ गरेर पर्यटनको आक्रामक मार्केटिङ गर्नु अहिलेको आवश्यकता हो । विसं २०७२ वैशाख १२ गतेको विनाशकारी भूकम्पले नेपालको पर्यटन र पर्यटकीय गन्तव्यको छविलाई केही समय पछाडि पारेको छ । त्यसो त भूकम्प नगएको भए पनि पर्यटन प्रवर्द्धन अन्तर्राष्ट्रिय गन्तव्यसम्म गर्नेपर्थ्यो । पर्यटन प्रवर्द्धन गर्नु भनेको भएकै स्रोत साधानको सदुपयोग गरी पर्यटन आगमन बढाउनु हो । त्यसैले, नेपालमा आउने विदेशी वायुसेवालाई पर्यटकीय गन्तव्यमा केन्द्रित गर्नुपर्छ, अनि विदेशी वायुसेवाको संख्या हैन गुणस्तर अभिवृद्धि गर्नुपर्छ । त्यसका लागि दक्ष जनशक्ति सिर्जनामा ध्यान दिनु पर्छ र त्यस्तो दक्ष जनशक्ति विदेशिनबाट रोक्नका लागि वातावरण बनाउँदै जानुपर्छ ।

नेपालको पर्यटन क्षेत्रको अन्तर्राष्ट्रियस्तरमा प्रवर्द्धन र विकास गर्न गरिएको खर्चलाई जबसम्म लगानिको स्वमा हेरिदैन, तबसम्म पर्यटन विकासले गति लिन सक्दैन । पर्यटनलाई सकारात्मक स्वमा अगाडि बढाउन सबैभन्दा पहिले आन्तरिक अबरोध हटाउनुपर्छ । नेपाल आउने पर्यटकको उत्साहलाई बचाइराख्नु अहिले चुनौतिपूर्ण छ । यसर्थ, ट्राभल तथा टुर एजेन्सीले पनि एक डेढ वर्षको योजना बनाउने र भूकम्पपछि नेपालको पर्यटन सामान्य अवस्थामा आइसेको सन्देश अन्तरराष्ट्रिय बजारमा प्रवाह गर्नुपर्छ । यो काम नेपाल सरकार तथा पर्यटन बोर्डले पनि आआफ्नै ढंगले गरिरहेकै छन् । यसमा निजी क्षेत्रको पनि उत्साहपूर्ण साथ र सहयोग हुनुपर्छ ।

पर्यटन प्रवर्द्धन गर्ने भनेकै मार्केटिङ र ब्राडिङ गर्ने हो । यसका लागि मास मिडिया क्याम्पेन अहिलेको आवश्यकता पनि हो । पर्यटन क्षेत्रले उपभोक्तामूखी कार्यक्रम तय गरेर अगाडि बढ्नुपर्छ । नेपाल पर्यटन बोर्डमा भएको उपभोक्तामुखी भिजनमा एउटा कन्जुमर मार्केट फोकस गर्ने र अर्को डिजिटल मार्केट फोकस गर्ने भन्ने रहेको छ । नेपाल बाहिरका मिडिया फोकस गरेर पर्यटन प्रवर्द्धनको कार्यक्रम ल्याउनुपर्छ ।

प्रवर्दनमा लगानी

पर्यटन प्रवर्द्धन र प्याकेज विक्री गर्ने भनेको अन्य बस्तु बजार जस्तो होइन । पर्यटनबाट तत्काल लाभ नहुन

पनि सक्छ । यसले त प्रवर्द्धन तथा मार्केटिङ गरेको चारपाँच वर्षपछि पनि फाइदा दिन सक्छ । पर्यटन प्रवर्द्धनमा गरिएको खर्चलाई लगानीको रूपमा हेर्नुपर्छ । पर्यटन बोर्डले आगामी आवका लागि अन्तर्राष्ट्रिय संचार माध्यम बीबीसीसहित भारतीय च्यानलमा पनि विज्ञापन गर्ने तयारी गरिरहेको छ । करीब ४० करोड रूपैयाँ मिडिया मार्केटिङकै लागि खर्चने निर्णय बोर्डले गरिसकेको छ । यो सकारात्मक कदम हो । तर, नेपालको ब्राण्डिङ गर्ने भनेको अन्तर्राष्ट्रिय बजारमा गरिने खर्च मात्रै हैन । नेपाललाई नै प्रविधिमैत्री बनाउने, नेपालमै अन्तर्राष्ट्रिय सभा सम्मेलन, सेमिनार र बैठक (माइस) पर्यटन प्रवर्द्धन गर्नुपर्छ । नेपाललाई विदा पर्यटनको उपयुक्त गन्तव्य बनाउनुपर्छ ।

नेपालले सन् १९९८ मा पर्यटन वर्ष मनाउँदा सन् १९९९ मा पर्यटक बढेको थियो । यसैगरी २०११ मा पर्यटन वर्ष मनाउँदा राजनीतिक अस्थिरता र बन्द हड्तालका बीच पनि त्यसपछिका वर्षमा पर्यटक आगमन सन्तोषजनक देखिएको थियो । पर्यटनका लागि अब नेपालले गर्ने भनेकै पर्यटकीय पुर्वाधार निर्माण र पर्यटकीय प्रडक्टको मार्केटिङ नै हो । यसैका लागि बोर्डले विसं २०७३ लाई आन्तरिक भ्रमण वर्ष मनाउने घोषणा गरेको छ । त्यस्तै, आगामी सन् २०१८ लाई अन्तर्राष्ट्रिय पर्यटन भ्रमण वर्ष मनाउने निर्णय पनि सरकारले गरिसकेको छ । पर्यटनको बजारीकरणकै लागि बोर्डले सानातिना योजनामा बजेट नछर्ने नीतिलाई पनि अगाडि सारेको बताएको छ ।

पर्यटन वर्ष र योजना आफैमा कमजोर हुनु भने भएन । सरकारले यस अघि ल्याएको लुम्बिनी भ्रमण वर्ष सन् २०१२ तथा पर्यटन भिजन २०२० आफैंमा असफल योजना होइनन्, सरकारी कमजोरीले असफल भएका हुन् । यस्तै नियति अहलै चलिहरहेको घुमफिर वर्ष र अगामी नेपाल भ्रमण वर्षको नहोस भन्नेमा सबै सरोकारवालाहरू सचेत हुनुपर्छ ।

आवश्यकता व्यवसायिक प्रतिवद्धताको

भूकम्प र आर्थिक नाकाबन्दीका वीच पनि पर्यटन क्षेत्रप्रतिको बुझाई भने विस्तारै सकारात्मक हुँदै गएको छ । भूकम्पको पहिलो ६ महिनासम्म नै २० प्रतिशत भन्दा कम रहेको होटल अकुपेन्सी पछिल्लो पर्यटकीय सिजनसम्ममा ८० प्रतिशत पुग्यो । गत वर्षको पर्यटकीय सिजनमा त झन होटलहरू ख्वाखच छन् । यसले गर्दा पर्यटन क्षेत्र करिब आफ्नो लयमा आएको छ । दुईतीन वर्षदेखि कम हुँदै गएको बन्द हड्ताल, नेपालमा बढेको सस्तो भाडादर (बजेट) एयरलाइन्सको बृद्धि, नेपाल सुरक्षित र सस्तो पर्यटकीय गन्तव्य हो भनेर गरिएको प्रचारले सकारात्मक गति लिन सुरू गरेकै समयमा गएको भूकम्पले पर्यटन क्षेत्रलाई पछाडि धकेलेको देखिएको थियो । तर, छोटो समयमा नै भएको सकारात्मक प्रभावले यो क्षेत्रका व्यवसायीको उत्साह बढेको छ ।

नेपालमा भएको पर्यटनको सकारात्मक गतिले गत वर्ष २०७१ लाई उपलब्धिको वर्षका रूपमा चिनाएको भएपनि २०७२ लाई भने पर्यटनको लागि सबैभन्दा कमजोर वर्ष बन्यो । २०७३ साल भने हालसम्म सन्तोषजनक नै देखिएको छ । बढ्दो लगानी, प्रचारप्रचार तथा पर्यटकीय गतिविधिका कारण पर्यटन क्षेत्रले सुधारको गति लिएको छ । साथै, प्रति पर्यटक दैनिक खर्च पनि बढेको छ । पर्यटकको दैनिक खर्च सन् २०१४ मा ४६ डलर थियो भने सन् २०१५ मा ५३ डलर पुगेको पर्यटन, संस्कृति तथा नागरिक उड्डयन मन्त्रालयले जानकारी दिएको छ । सरकारले गरेको आँकलनअनुसार २०७३ सम्म यस्तो पर्यटकको खर्च ८० डलर प्रतिदिन पुऱ्याउने लक्ष्य भएपनि यसलाई भेट्टाउन भने मुस्किल पर्ने देखिन्छ ।

सेलाएको छैन उत्साह

धमाधम पर्यटकीय पूर्वाधार निर्माण हुनु तथा पर्यटनप्रतिको चासो बढ्न थाल्नुले व्यवसायीमा उत्साह भरेको छ । त्यसैले पर्यटन विकासका लागि अबको लक्ष्य ब्राण्डिङ र मार्केटिङ नै हुनुपर्छ । प्राकृतिक विपत्तिले पुऱ्याएको भौतिक क्षतिलाई अलग राखेर हेर्ने हो भने अहिलेसम्मको व्यवसायिक लगानीको उत्साह तथा नीतिगत सुधारलाई नै पर्यटनको उपलब्धि मान्नुपर्ने हुन्छ । २०७१ सालमा पूर्वाधार विकासमा सक्रियता, होटलमा लगानीको प्रतिवद्धता, सरकारी क्षेत्रबाट भएको नीतिगत सुधार, पदायात्रा क्षेत्रमा सुधार तथा पर्यटन बोर्डमा गरिएको सुधारको संकेतलाई पर्यटनले लिएको सकारात्मक बाटो मान्दा हुन्छ ।

नेपालको पर्यटनको अन्तर्राष्ट्रिय ब्राण्डिङ तथा प्रवर्द्धन गर्न सकेको अवस्थामा नेपालमा विदेशी पर्यटकको खर्च र आम्दानी दुबै बढाउन सकिने हुन्छ । नेपालमा अन्तर्राष्ट्रिय सभा सम्मेलन तथा ट्राभल मार्ट गर्ने हो भने अझै पर्यटक बढाउन सकिन्छ । यसका लागि सरकारी चासो तथा हवाई यातायातको सहज पहुँचले नै बलियो भूमिका निर्वाह गर्छ । अहिले नेपालमा बार्षिक करीब २० प्रतिशतसम्मले पर्यटन क्षेत्रमा लगानी बिस्तार भइरहेको अनुमान पर्यटन व्यवसायीको छ ।

पर्यटनका सकारात्मक सूचकको आधार

- बेलायती राजकुमार ह्यारीको नेपाल भ्रमणले दिएको सकारात्मक सन्देश ।
- नेपालमा धार्मिक पर्यटक वृद्धि ।
- नेपाल र भारतबीच संयुक्त पर्यटन प्रवर्द्धनको काम सुरू ।
- पर्यटन व्यवसायीबाट बुद्ध सर्किट पश्चात हिन्दू सर्किटको प्रचार ।
- डेढ दर्जन पाँचतारे होटल निर्माण सुरू ।
- पर्यटन क्षेत्रको १० वर्ष विकास र पाँच वर्षे रणनीतिक योजना तयार ।
- सन् २०२५ सम्ममा २५ लाख पर्यटक नेपाल भित्र्याउने योजना सार्वजनिक ।
- पर्यटकको औषत दैनिक खर्च प्रतिव्यक्ति ४६ डलरबाट बढेर ५३ डलर पुग्नु ।
- गेमिङको माध्यबाट पर्यटक बढाउने अधार भएको क्यासिनोको पुनः संचालन ।
- अन्तर्राष्ट्रिय संचार माध्यमले नेपालको पर्यटकीय गन्तव्यको प्रचार गरिदिनु ।
- ग्रामिण पर्यटन प्रवर्द्धनले प्राथमिकता पाउनु ।
- नेपालमा सभा सम्मेलन, गोष्ठी तथा सेमिनार (माइस पर्यटन) बढ्दै जानु ।
- भैरहवा तथा पोखरामा अन्तर्राष्ट्रिय विमानस्थल निर्माणको काम सुरू हुनु ।
- नेपाल वायुसेवा निगमको लागि वाइड बडी जहाज खरीदको तयारी हुनु ।
- पर्यटकीय पूर्वाधारको विकासले सकारात्मक गति लिनु ।

खाँचो विमान र विमानस्थलको

नेपालबाट लामो दूरीको गन्तव्यमा यात्रा गर्न सक्ने (लङ हल)का जहाजको आवश्यकता टड्कारो हुँदै गएको छ । नेपालबाटै युरोप र अमेरिकासम्म उडान गर्न सक्ने विमान हुनु नेपाली उड्डयन क्षेत्रको आवश्यकता हो । लामो दुरीमा उडान गर्न र ति गन्तव्यबाट नेपालसम्म विदेशी वायुसेवा कम्पनीको सेवा दिन पूर्ण क्षमताको विमानस्थल नै जरूरी रहेको छ । अहिले नेपालले विमान र विमानस्थल दुबैको आवश्यकता पूरा गर्न सकेको छैन् ।

नेपालबाट अन्तराष्ट्रिय उडान गर्ने राष्ट्रिय वायुसेवाको अवस्था कमजोर भएको फाइदा विदेशी वायुसेवाले लिइरहेका छन् । राष्ट्रिय ध्वजाबाहक नेपाल वायुसेवा निगमको कमजोर उपस्थितिका कारण बर्षौदेखि नेपालबाट विदेशी वायुसेवाले अर्बौं रूपैयाँ लैजान्छन् । अहिले नेपालमा नियमित उडानका अन्तर्राष्ट्रिय वायुसेवाको संख्या २८ वटा छ । यी वायुसेवामध्ये नेपालमा सेवा दिने सबै विदेशी वायुसेवा नाफामा नै सञ्चालन हुने गर्छन् । जसरी नेपालको वायुसेवा विदेशी गन्तव्यमा जानु पर्दा घाटाको बजारलाई हेर्दैन, त्यसैगरी विदेशी वायुसेवा पनि नेपालमा उडान गरी सञ्चालन घाटा व्यहोर्न तयार हुँदैन । हवाई सेवा जोखिमको क्षेत्र भएकाले पनि सामान्यता घाटामा व्यवसाय सञ्चालन हुँदैन । नेपालमा हुने उडानमा कुनै प्रकारले घाटा लागेको अवस्थामा विदेशी निजी वायुसेवाले तत्काल उडान फिर्ता लिन्छन । तीन वर्षको अवधिलाई मात्रै हेर्ने हो भने पनि नेपालमा उडान गरिरहेका वायुसेवा पाकिस्तान एयर, गल्फ एयर, बहराइन र ऱ्याक एयरले घाटाको कारण देखाउँदै काठमाडौं उडान बन्द गरेका छन् । ती वायुसेवाको आन्तरिक कारण जेजस्तो भएपनि तिनले उडान बन्दको कारण भने घाटा नै भएको तर्क दिएका छन् । अहिले नियमित उडान गरिरहेका वायुसेवा नाफामा नै सञ्चालन भइरहेको दावी नेपाल वायुसेवा निगमको छ । नेपालबाट अन्तर्राष्ट्रिय उडान गर्ने बुद्ध एयरले पनि चार्टर उडान गर्ने गरेको छ । तीन वर्ष अगाडि घाटाकै कारण संचालनको तीन महिनामै बीबी एयरवेज बन्द भएको थियो ।

नेपालमा हाल निर्माणधिनसहित ५७ वटा विमानस्थल भएपनि ३५ वटा नियमति संचालनमा छन भने अन्तर ार्ष्ट्रिय विमानस्थल भने एउटा मात्रै छ । भैरहवाको गौतमबुद्ध विमानस्थललाई क्षेत्रीयस्तरको बनाउनका लागि निर्माण कार्य भइरहेको छ । पोखरामा नयाँ क्षेत्रीय अन्तर्राष्ट्रिय विमानस्थल निर्माण भर्खर सुरू हुने तर्खरमा छ ।

जबसम्म नेपालको राष्ट्रिय ध्वजाबाहक नेपाल वायुसेवा निगमले लामो दुरीको गन्तव्यमा उडान गर्न सक्ने जहाज ल्याउन सक्दैन तबसम्म नेपाली उड्डयन क्षेत्रले आशातित प्रगति गर्न सक्ने अवस्था पनि देखिदैन । नेपालको उड्डयन क्षेत्रमा प्रवेश गर्ने निजी क्षेत्रको पटकपटकको प्रयास असफल भइसकेको छ । ठूलो लगानी र जोखिम बहन गर्न सक्ने क्षमता नभएकै कारण निजी क्षेत्रले अन्तर्राष्ट्रिय उडान गर्न नसकेको देखिएको छ । आवश्यकता भने निजी क्षेत्रको पहुँच विस्तार र सरकारी वायुसेवाको क्षमता विस्तार नै हो । यसका लागि विमान र विमानस्थल नै आजको पर्यटन विकासका आधार हुन् ।,

घुमफिर वर्ष २०७३

अमृत भादगाउँले
नागरिक पत्रिका

भुकम्पले विदेशी पर्यटक आवागमनमा कमी आएपछि आन्तरिक पर्यटन प्रवद्धर्धन गर्न नेपाल पर्यटन बोर्डले वि.सं. २०७३ लाई घुमफिर वर्षका रूपमा मनाइरहेको छ । नेपालीहरू स्वदेश भित्र आ-आफ्नै हिसाबले घुमिरहेका छन् । केही वर्ष अघिसम्म सहरी भेक र धार्मिक सम्पदा भ्रमणमा सिमित रहेका नेपाली अचेल पदयात्रामा पनि निस्कन थालेका छन् । जुन दिगो पर्यटनका लागि सुखद खबर हो ।

विदेशी लाखौं खर्चेर नेपाल घुम्न आउँछन् भने हामी हाम्रै देश घुम्न किन ढिला गर्ने ? आउनुस् आजै घुम्न सुरू गरौं । हिमाल, पहाड र तराई जता घुमे पनि हुन्छ । शिक्षा, मनोरञ्जन र सूचना मिल्छ घुमफिरबाट । सुविधायुक्त गन्तव्य धेरै छन् हाम्रो देशमा ।

जनकपुर

राजा जनक र सीता माताको जन्मथलो हो जनकपुर । खासमा जनक सीताका धर्मपिता हुन् । जनक वंश हो थर होइन । सीताका धर्मपिताको नाउँ शिरध्वज जनक थियो । उनी जनक वंशका २१ औं राजा थिए । उनलाई राजर्षि जनक भनिन्छ । एउटै मान्छे, राजा पनि ऋषि पनि ! जनक दर्शनले भन्छ, 'जीवनमा कर्म गर, भोग गर, त्याग गर तर लोभ नगर' । घर गृहस्थीमै बसेर पनि आत्मज्ञान प्राप्त गर्न सकिन्छ ।

जनकपुरमा छ जानकी मन्दिर । जहाँ बशिष्ठ, सतानन्द, सुनयना, राम, लक्ष्मण, भरत, शुत्रुध्न राम, सीता, जनक आदिका मूर्ति छन् । टिकमगढ, भारतकी महारानी भानु बृषकुमारीले यो विशाल मन्दिर बनाउन लगाएकी हुन् । उनले जानकी मन्दिरको भाकल गरेपछि छोरा प्राप्त भएकाले बनाइदिएकी । विसं १९५२ मा मन्दिर शिल्यान्यास गरिएको थियो । विसं १९६७ मा मन्दिर पूरा भयो । त्यसअघि भारतबाट आएका सन्तद्वय सुर किशोर दासले जानकी मन्दिर र चतुर्भूज गिरिले राम मन्दिर बनाएका थिए । पछि भानु कुमारीले जानकी मन्दिर बनाइदिएझैं जनरल अमरसिंह थापाले ठूलो राम मन्दिर बनाए ।

०५१ सालमा जानकी मन्दिरले शतबार्षिकी मनायो । सुरूमा त्यतिबेला ९ लाख रूपैयाँ खर्च भएकाले यो मन्दिरलाई नौलखा मन्दिर पनि भनिन्छ । मन्दिर भएको ठाउँमा राजा जनकले सीतालाई भेट्टाएको विश्वास गरिन्छ । अनिकाल भए पछि राजाले सुनको फालीले जोत्दा सीता भेटिइएकी थिइन् । सीतालाई फेला पार्ने राजा शिरध्वज जनक थिए ।

जानकी मन्दिरसँगै विवाह मण्डप छ । जानकी मन्दिरमा प्रवेश शुल्क लाग्दैन । मण्डपमा टिकट काट्नु पर्छ । त्यहाँ राम र सीता परिवारका मूर्ति छन् । जनकपुरमा राम र जनक मन्दिर छन् । विवाह पञ्चमीमा ठूलो मेला लाग्छ ।

जनकपुर बजारबाट १६ किमिमा धनुषाधाम छ । धनुषाधाममा होटल छैन । तर, जनकपुर बजारमा चार दर्जन होटल छन् । एक दर्जन धर्मशाला छन् । जनकपुरको कोसेली मिथिला कला । बजारबाहिर कुवा गाउँको नारी विकास केन्द्रमा पाइन्छ कलात्मक सामान । टिशर्ट, ऐना, कप आदि । मिथिला कलामा लामा नाक र ठूला आँखा भएका देवदेवी वा मान्छे हुन्छन् । चित्रमा सुगा, मयुर, कुखुरा, माछा, ऊँट, घोडा हात्ती, बाँस, सूर्यचन्द्र आदि पशुपन्छी हुन्छन् ।

कागज, कपडा र भाँडावर्तनमा चित्र बनाइन्छ । कलाको परम्परागत सीप व्यवसायीकरण अमेरिकी महिला क्लियर बर्केटले गराएकी हुन् । उनले सन् १९८९ मा सुरू गरेको जनकपुर महिला कला परियोजनाले भुइँ र भित्ताबाट मिथिला कलालाई नेपाली कागज, कपडा र सेरामिक्सका भाँडावर्तनसम्म ल्याइपुऱ्याएको हो ।

कसरी पुग्ने : काठमाडौबाट मुग्लिन हुँदै जनकपुर ३५० किमि । बसमा ९ घन्टा । वनेपा-वर्दिवास सडक हुँदै काठमाडौं-जनकपुर २१० किमि । जीपमा ६ घन्टा । काठमाडौंको पुरानो बसपार्कबाट बस र कोटेश्वरबाट जीप छुट्छन् । काठमाडौं-जनकपुर हवाई यात्रा पनि गर्न सकिन्छ ।

हलेसी

हलेसीधाम हिन्दु, बौद्धमार्गी र किरातीको साझा तीर्थ हो । हिन्दुका भगवान् शिव, बौद्धमार्गीका गुरू पद्मसंभव र किराती पुर्खा रैछाकुलेसँग सम्बन्धित ठाउँ, जुन खोटाङको महादेवस्थान-४ मा पर्छ ।

हलेसी दर्शनले दुःखबाट मुक्ति, पदोन्नति, खडेरीबाट मुक्ति, सन्तान लाभ र निरोगी हुने जनविश्वास छ । गुफामा धर्मद्वार, जन्मद्वार र पापद्वार छन् । गुफाका मूर्तिलाई धर्मपिच्छे फरक-फरक नाउँले पुजिन्छ । हिन्दुले पार्वती मानेकोलाई बौद्धमार्गी आयुकलश भन्छन् । दुइटा ठुला गुफा छन् । वरपर अरु गुफा । गुफामा आ-आफ्नै हिसाबले पूजा गर्छन् । बत्ती बाल्छन् । ध्यान गर्छन् । हलेसी गुफा पहरामा छ । गुफामा महादेवको बास भएको हिन्दु मान्यता छ । गुफाभित्र थरीथरीका मूर्ति । शिवलिंग, गणेश, कुमार र पार्वती । र, चमेरा ।

किरातीका पुर्खा रैछाकुलेले गुफा पत्ता लगाएका हुन् । उनीहरु हलेसीलाई पितृ मान्छन् । हलेसीमाथिको तुवाचुङ डाँडा रमणीय छ । त्यहाँ किराती आदि पूर्खा तोयामा र खियामासँग सम्बन्धित तान ढुँगा छ ।
बौद्धमार्गीका अनुसार हलेसीमा बसेर ध्यान गरेपछि गुरू पद्मसंभव चिरञ्जीवी बने । गुफा छेउमा मारातिका क्षिमेत ताग्तेन क्षोलिङ गुम्बा र गणेश मन्दिर छ । गुम्बामा शाक्यमुनि गौतम बुद्ध, अवलोकितेश्वर र पद्मसंभवका मूर्ति छन् ।

हलेसी गुफा पश्चिमपट्टि बसाहा गुफा छ । त्यसको पल्लोछेउमा पुगेर हेर्दा माथि आकाश खुला देखिन्छ । गुफा भएको पर्वतलाई बौद्धमार्गी अवलोकितेश्वर पर्वत मान्छन् । बसाहा अघिल्तिरको बज्रपाणी र उत्तरपट्टिको मञ्जुश्री पर्वत । डाँडा बौद्ध मन्त्र लेखिएका ध्वजापताकाले रंगीन छ ।

गुफामा बुद्धपूर्णिमा, लोसार, शिवरात्रि, रामनवमी, बालाचतुर्दशी, तीज, उभौली र उधौलीमा मेला लाग्छ । गुफा नजिकैसम्म मोटर चल्छ । हलेसीसम्म बाटो पक्की छैन । घुर्मी तरेपछि उदयपुर र ओखलढुंगा जोड्न सुनकोसी र दूधकोशीको जयरामघाटमा पक्की पुल छैन । बर्खा सकिएपछि अस्थायी पुल हालिन्छ । बर्खामा यात्रा झन्झटिलो हुन्छ, अरू बेला सजिलो ।

हलेसीमा खान, बस्न होटल, लज र रिसोर्ट छन् । फर्कंदा मस्याङ, भट्मास, खुर्सानी, बदाम, गुन्द्रुक र मास कोसेली ल्याउन सकिन्छ ।

कसरी पुग्ने :

काठमाडौंदेखि बनेपा-बर्दिबास सडकको खुर्कोट खण्डबाट मध्य पहाडी लोकमार्ग हुँदै घुर्मीबाट हलेसी पुग्न २१६ किमि । काठमाडौंको चाबहिल र कोटेश्वरबाट जीप छुट्छन् । जीपमा १० घन्टा ।

पाथीभरा

पाथिभरा शक्ति पिठ हो । अन्न भरिएको पाथीजस्तो देखिने ताप्लेजुङको डाँडालाई पाथिभरा (३,७९४ मिटर) का नाउँले चिनिएको छ । त्यहाँबाट कुम्भकर्ण, कञ्चनजंघा हिमशृंखला देखिन्छ । कुम्भकर्णलाई लिम्बूहरु फक्ताङलुङ भन्छन् । किराँत देवदेवी युःमा र थेःवाको क्रीडास्थल फक्ताङलुङ भएको महागुरू फाल्गुनन्दले बताएका छन् ।

पाथिभरामा सिंहवाहिनी देवीका मूर्ति छन् । जनविश्वासअनुसार पाथिभरा दर्शन गरे जन्मै हातखुट्टा नचल्नेका पनि हातखुट्टा सल्बलाउँछन्, दृष्टिविहीनका आँखामा ज्योती भरिन्छ । निःसन्तानलाई सन्तानलाभ हुन्छ । गरीब धनी हुन्छन् । शत्रु निर्बल हुन्छन् । मित्र पुनःमिलन हुन्छ । पढाइमा सफलता मिल्छ ।
मन्दिरमा पहिले पुजारी बस्दैनथे । ०५७ सालदेखि बस्न थालेका हुन् । चढाइएको भेटी पुजारीले पाउँदैनन् । समितिको खातामा जान्छ । पुजारीले तलब पाउँछन् ।

फागुनदेखि कात्तिकसम्म पाथिभरा दर्शन राम्रो मानिन्छ । असोज-कात्तिकमा हिमाल झलमल्ल टल्किन्छन् । डाँडामा आठ वटा धर्मशाला छन् । पानीको दुःख भएकाले तीर्थालु बस्दैनन् ।
कान्छीथानदेखि सेतो धागो टाँग्दै मन्दिरसम्म पुऱ्याउने चलन छ । आयु लामो हुने विश्वासले । पाथिभरामा भारतको आसाम, मणिपुर, मेघालय, गुवाहटी, सिक्किम, भुटानदेखिका आउँछन् ।
ताप्लेजुङ सदरमुकाम फुङलिङदेखि १९ किलोमिटर दुरीमा छ मन्दिर । सुकेटार विमानस्थलसम्म सडक पक्की छ । फुङलिङबाट हिँडेर जान १०-१२ घन्टा लाग्छ । ठाउँ-ठाउँमा खाने/बस्ने लज छन् । १६ किमि पर भालुगौडेसम्म रिर्जभ जीप जान्छ । फेदीभन्दा माथि होटल छैनन् । फेदीबाट दुई घन्टा उकालो बिस्तारै हिँड्नुपर्छ । आराम गर्दै, पानी खाँदै । चुरोट र रक्सी खानु हुँदैन । फुङलिङ र सुकेटारमा राम्रा होटल छन् । अन्यत्र सामान्य लज । फुङलिङ, सुकेटार जतातै तोङबा पाइन्छ । चिसोमा तोङबा मिठो हुन्छ ।

बेलायती वनस्पतिविज्ञ जेडी हुकर पहिलो पर्यटकका रूपमा सन् १८४८ मा ताप्लेजुङ पुगेका थिए । बर्सेनी लाखौं तीर्थालु जान्छन् । तिनमा १० प्रतिशत भारतीय, बाँकी नेपाली हुन्छन् ।
पाथिभरामा चिसो हुन्छ । माकल टोपी र ज्याकेट लिएर जानुपर्छ । कोल्ड क्रिम पनि चाहिन्छ । छुर्पी, चौरीको घ्यु, गलैंचा, राडीपाखी, मह, ढाका कपडा, सुकुटी, अकबरे खुर्सानी, सिमी, गुन्द्रुक, सिन्की त्यहाँका कोसेली हुन् ।
कसरी पुग्ने : काठमाडौं-बिर्तामोड बसमा १२ घन्टा । बिर्तामोडबाट बिहान साढे चार बजेदेखि १० बजेसम्म बस पाइन्छ । फुङलिङ पुग्न १० घन्टा । फुङलिङबाट भालुगौंडेसम्म जीपमा । त्यहाँबाट तीन घन्टा पदयात्रा ।

खप्तड

अध्यात्म, योग र ध्यानका लागि सुदूरपश्चिमको खप्तड वर्षैभरि घुम्न सकिन्छ । जेठ-असारमा जंगली फूल, असोज-कात्तिकमा हिमाल, पुस-माघमा हिउँ र चैत-वैशाखमा गुराँसको सौन्दर्य हुन्छ । अपिशैपाल हिमालको उज्यालोमा खप्तड गम्किन्छ ।

खप्तड राष्ट्रिय निकुञ्ज २२५ वर्ग किमिमा फैलिएको छ । बाजुरा, डोटी, बझाङ र अछामको भूमि समेटेर ०४३ असार ९ गते निकुञ्ज घोषणा गरिएको थियो । खप्तडको उचाइ १,२६२ देखि ३,२७६ मिटरसम्म छ । त्यहाँ लेकमा २२ वटा पाटन (चौर) छन् । सयौं थरी वनस्पति, जडिबुटि र चरा पाइन्छ खप्तडमा ।
खप्तडबाबाले त्यहाँ ५० वर्ष विताएका थिए । खप्तडको चर्चा स्कन्द पुराणमा छ । त्यहाँ 'खेचरादी' भनिएको छ । खेचरको अपभ्रंश हुँदै जाँदा खप्तड भएको किंवदन्ती छ । खप्तड बाबाले त्यहाँ ध्यान र योग गरे । प्रकृतिमा लुटपुटिएर जीवनलाई सार्थक बनाए । उनलाई भेट्न पटक पटक राजा वीरेन्द्र हेलिकप्टरमा खप्तड पुग्थे ।
निकुञ्ज मुख्यालयलाई केन्द्र मानेर त्रिवेणीधाम, खप्तड बाबा आश्रम, खापर दह, सहस्त्र लिंग र घोडा दाउने घुम्न सकिन्छ । खप्तडमा कम्तीमा दुई रात बस्नुपर्छ । खप्तड हुँदै रारातात पुग्न १२ दिन । पर्यटन विकास समाज (टिडिएस)ले खप्तड, बडिमालिका हुँदै रामारोशन जोड्ने 'फार वेस्ट हेरिटेज ट्रेल' एक्सप्लोर गरेको छ ।
युधिष्ठिर खप्तड हुँदै स्वर्ग गएका थिए रे । त्रिवेणीधाममा गंगा दसहरामा मेला लाग्छ । त्रिवेणी गंगा, जमुना र सरस्वतीको संगम । त्यहाँ नुहाए पाप पखालिने विश्वास छ । मेला भर्नेहरू रातभर जागा बस्छन् । देउडा गाउँछन् । बिहान नुहाउँछन् ।

जैविक फूलबारी खप्तडमा ३७२ प्रजातिका वनस्पति पाइन्छ । कालकुट, पाँचऔंले, नीरमसीजस्ता १२५ थरी जडिबुटी र विभिन्न जातका चरा पनि ।

निकुञ्ज सुरक्षार्थ सेनाको गुल्म छ । निकुञ्जले बीचपानी र निकुञ्ज मुख्यालयमा सामान्य गेस्ट हाउस चलाएको छ । पहिल्यै खबर गरेर जाँदामात्र सुविधा पाइन्छ । त्यसैले ड्राई फुड र स्लिपिङ ब्याग बोक्नु पर्छ ।
डोटी सदरमुकाम सिलगढीबाट झिग्रानासम्म मोटर बाटो खुलेको छ । फोरव्हिल जीप मात्र त्यहाँ लान सकिन्छ । झिग्रानामा लज छन् । झिग्राना खप्तडको प्रवेशद्वार हो । सिलगढीबाट रिजर्भ गाडीमात्र झिग्राना पुग्छन् ।
खप्तड घोप्टिएको कचौराजस्तो छ । त्यहाँ डोटीको झिग्राना, बझाङको छान्ना, बाजुराको कोल्टी, अछामको साँफेबगर र डोटी सीमा चौखुट्टेबाट जान सकिन्छ ।

कसरी पुग्ने : काठमाडौं-धनगढी ६५० किमि । बसमा १४ घन्टा । धनगढी-सिलगढी दुई सय किमि । बसमा आठ घन्टा । काठमाडौं-धनगढी एक घन्टा हवाई यात्रा । डोटी सदरमुकाम सिलगढीबाट पदयात्रामा पहिलो बास झिग्राना र दोस्रो बास निकुञ्जको मुख्यालयस्थित गेष्ठ हाउसमा ।

इलाम

इलाममा एग्रो टुरिज्म फस्टाएको छ । सात 'अ' को चिनारी बनाएको छ यसले । आलु, ओलन (दूध), अदुवा, अम्लिसो, अकबरे खुर्सानी, अलैंची र अर्थोडक्स चिया ।

इलाम बजार (१,२०८ मिटर) सेरोफेरोमा घुम्न धेरै ठाउँ छन् । चिया बगान, भ्यु टावर, भालु ढुंगा गुफा, चुरेघाँटी गुम्बा, नारायणस्थान, माईस्थान, भीमसेनस्थान, चिया कारखाना, क्याम्पस, सिंहवाहिनी र सेतीदेवी मन्दिर आदि ।
नेपालकै पहिलो चिया बगान बजारमा छ । बडाहाकिम गजराजसिंह थापाले विसं १९२० मा सुरू गरेका थिए बगान । त्यतिबेला १ सय १८ एकडमा चिया रोपिएको थियो । चिया प्रशोधन कारखाना विसं १९३५ मा खुल्यो । आज इलामको ५५ हजार हेक्टर भन्दा बढी जमीनमा चिया खेती छ ।

चियाबगानमा भुइँकुहिरो लुकामारी खेलिरहन्छ । चैतदेखि मंसिरसम्म चियाको मुना टिपिन्छ । र, कारखानामा प्रशोधन गरिन्छ । इलाम बजार चिटिक्क छ । भिरालो पाखा, बीचमा नागबेली सडक, दायाँवायाँ दोहोरीलत्त घरहरू । 'ग्रिन सिटी' बनाउन घरमा हरियो पोतिएको छ । त्यहाँ पोलिथिन झोला निषेध छ । बजारमा पर्यटकीय सुविधाका होटल, लज र रिसोर्ट छन् । जातीयताका हिसाबले सिंगो नेपाल भेटिन्छ बजारमा, राई, लिम्बु, बाहुन, क्षेत्री, मगर, नेवार, शेर्पा, लाप्चा र मधेसी अनुहारहरू ।

कन्याम, अन्तु डाँडा, सन्दकपुर, माइपोखरी, छिन्टापु, मिकलाजोङ, टोङ्के झरना, माङमालुङ, सिद्धि थुम्का, गजुरमुखी, माइखोला, पाथीभरा, मंगलबारेलगायत इलामका गन्तव्य घुम्न लायक छन् । लाप्चा जातिको भूमि पनि हो इलाम । फिक्कलमा लाप्चा संग्रहालय छ । त्यहाँ दुइटा लाप्चा गुम्बा छन । गुम्बामा शाक्यमुनि बुद्ध, गुरू पद्यसंभवलगायतका मूर्ति छन् ।

फिक्कलबाट पूर्व १५ किमि यात्रा गरे अन्तु क्षेत्र पुगिन्छ । श्रीअन्तु र समाल्बुङ दुई गाविस मिलाएर अन्तु पर्यटन क्षेत्र घोषणा गरिएको छ । अन्तु डाँडा (१,८२३ मिटर) बाट सूर्योदय/सूर्यास्त देखिन्छ । अन्तु घुम्ने सिजन असोजदेखि मंसिरसम्म ।

वर्षैभरि घुम्न सकिन्छ इलाम । बजारमा कोसेली घरहरू छन् । बम्बैसन, ललिपप, छुर्पी, चिज, चिया, अकबरे खुर्सानी, झ्याले आलु त्यहाँका कोसेली हुन् ।

कसरी पुग्ने : कोटेश्वर, काठमाडौँबाट ६ सय ९० किलोमिटरमा इलाम बजार । कोटेश्वरबाट दिउँसो छुट्छन् इलाम जाने रात्री बस । बसले १४ घण्टा लगाउँछन् ।

रारातल

नेपालकै ठूलो मुगुको ताल रारा । छिनछिनमा पानीको रङ बदलिन्छ । पानी कहिले नीलो बन्छ, कहिले कालो, कहिले सेतो । आकाशको रङसँगै पानीको रङ बदलिन्छ । बादल लागेर आकाश कालो हुँदा तालको पानी कालो देखिन्छ । आकाश खुलेर निलो हुँदा सिंगो ताल निलाम्मे बन्छ ।

तललाई पूर्वतिरबाट वर्षैभरि पहरा दिन्छ छायाँनाथले । छायाँनाथमा बर्षैभर हिउँ हुन्छ । तर, ऋणमोक्षमा सधैं हिउँ हुँदैन । बिहान तालको पानी स्थिर हुन्छ । त्यतिबेला पानीमा हिमचुली टल्किन्छन् ।

स्यानो उपत्यका हो रारा । वरिपरि जंगल, बीचमा ताल (३,००० मिटर) । जुन १ सय ६७ मिटर गहिरो, ५.१ किमि लम्बाइ र २.७ किमि चौडाइमा फैलेको छ । किनारको लम्बाइ १४.६ किमि छ । हिँडेर फन्को मार्न ४ घन्टा लाग्छ ।

सरकारले विसं २०३२ सालमा रारा निकुञ्ज बनाएको हो । त्यसको क्षेत्रफल १०६ वर्ग किमि छ । ९० प्रतिशत भूभाग मुगु र बाँकी जुम्लालाई समेटेर । सिंगो तललाई एउटै फ्रेममा अटाएर क्यामेरामा खिच्न तालबाट पश्चिम-उत्तर भेकको मुर्मा टप (३,७२६ मिटर) डाँडा चढ्नुपर्छ । किनारबाट ३ घन्टामा त्यहाँ पुगिन्छ । मुर्मा गाउँमा रोकाया (क्षत्री)का ८० घर छन् । गाउँमा सामान्य पसल छ, होटल तथा लज छैन ।

तालमा डुँगा चढ्ने सुविधा छ । सेनाले चलाएर घुमाइदिन्छन् । तालका माछा मार्न पाइँदैन । तालको अर्को सौन्दर्य हाँस प्रजातिका चरा हुन् ।

धार्मिक क्षेत्रमा रारा महादेव, छाब्रु महादेव र लागुडा तीर्थ छन् । निकुञ्ज क्षेत्रमा जंगली जनाबरसँग जम्काभेट हुन सक्छ । ताल किनारमै आउँछन्, बँदेल र मृगहरू ।

रारामा सेनाको गुल्म र निकुञ्ज कार्यालय मात्रै छन् । अरू वस्ती छैन । सरकारले निकुञ्ज बनाउने बेला त्यहाँका दुइ गाउँ रारा र छाप्रुलाई बाँकेतिर सारेको थियो । रारा उपत्यकामा दुइटा गेस्ट हाउस छन् ।

योग र ध्यानका लागि रारा स्वर्गै हो । 'ड्रिम ल्यान्ड' रारा वर्षैभरि घुम्न सकिन्छ । बर्खामा ताल किनारमा रंगविरंगका फुल फुल्छन् । पुस-माघमा हिउँ पर्छ । असोज-कात्तिकमा हिमाल छर्लंगै खुल्छ । मौसम रमणीय हुन्छ ।

राराबाट तीन घन्टा झरे सदरमुकाम गमगढी पुगिन्छ । गमगढी र ताल्चामा होटल छन् ।

कसरी पुग्ने : काठमाडौँबाट सडक यात्रामा जाँदा तेस्रो साँझ रारा पुगिन्छ । पहिलो बास काठमाडौँबाट नेपालगञ्ज हुँदै सुर्खेतमा । दोस्रो दिन सुर्खेतबाट दैलेख हुँदै नाग्मामा र तेस्रो बास रारातालमा । नाग्मा वा जुम्लाबजारबाट एक दिन लाग्छ फोरव्हिल गाडिलाई । मुगु सदरमुकाम गमगढी जोड्ने सडकको तोप्लासम्म मोटरमा गएर त्यहाँबाट सवा घन्टा हिँडे रारा किनारको मिलिचौर पुगिन्छ । मिलिचौरबाट अर्को सवा घन्टा हिँडे बास बस्ने होटल भएको

ठाउँ निकुञ्ज कार्यालय पुगिन्छ । अर्को विकल्प : काठमाडौं-नेपालगञ्ज/सुर्खेत बस वा हवाई यात्रा । नेपालगन्ज वा सुर्खेतबाट मुगुको ताल्चामा हवाई यात्रा । उडान समय ३५ मिनेट । ताल्चाबाट दुई घन्टामा रारातााल ।

बर्दिया

बाघ हेर्न कहलिएको गन्तव्य बर्दिया राष्ट्रिय निकुञ्ज हो । त्यहाँ फागुनदेखि वैशाखसम्म बाघ हेर्ने मौसम मानिन्छ । गर्मीमा निकुञ्जका नदीमा पानी खान आएका बाघको दर्शन मिल्न सक्छ ।

प्रत्यक चार– चार वर्षमा बाघ गणना हुन्छ । सन् २०१२ को तथ्याङक भन्छ, बर्दियामा ५० बयस्क बाघ र २९ गैंडा छन् । टाइटनिक फिल्मका नायक लियोनार्दो डि क्याप्रियोले ०६५ जेठमा एकैपटक पाँच बाघ खिचेका थिए । जंगलमा चित्तल, भालु, बँदेल, नीलगाई लगायत जनाबर छन् ।

चराको चिरबिर सुनिन्छ । यहाँ करीब ५ सय प्रजातिका चरा छन् । तिनमा संरक्षित सूचीका कालो गरूड, सेतो गरूड, सानो खर मयुर, ठूलो खर मयूर र राज धनेश पनि पर्छन ।

हात्तीसारका दर्जन सरकारी हात्ती जंगल सफारीमा जान्छन् । हात्ती सफारी सुविधा छ । वयल गाडामा बसेर थारू गाउँ घुम्न पनि सकिन्छ । गोही हेर्न सकिन्छ । नदी किनारमा घाम तापिरहेका गोही हेर्न मज्जा हुन्छ । निकुञ्ज हेडक्वार्टर ठाकुरद्वारामा गोही प्रजनन केन्द्र छ । जहाँ घडियाल र मगर गोही बस्छन् ।

हेडक्वार्टर हातामा थारू संग्रहालय छ । त्यहाँ थारूको जन्मदेखि मृत्यू संस्कार झल्काउने सामान, चित्र र कथा छन् । ठाकुरद्वारामा ठाकुर बाबा मन्दिर छ । तिनको दर्शन गरे मनोकामना पुरा हुने विश्वास छ ।

निकुञ्ज क्षेत्रफल ९६८ वर्ग किलोमिटर छ । मध्यवर्ती क्षेत्र ५०७ वर्ग किमि छ । २०२६ सालमा सिकार सुरक्षित वन घोषणा गरिएकामा ०४५ सालमा निकुञ्ज बनाइएको थियो । मध्यवर्ती क्षेत्रका वनमा पनि पर्यटक घुम्छन् । त्यहाँ जंगली हात्ती, गैंडा, चित्तल, बाँदर, भालुलगायत जनावर बस्छन् ।

ठाकुरद्वारामा दुई दर्जन होटल तथा रिसोर्ट छन् । मध्यवर्ती क्षेत्रको डल्ला होमस्टेका २२ घरमा सस्तोमा खाना र बास पाइन्छ । त्यहाँ ०६७ फागुनबाट होमस्टे थालिएको हो । साँझ उनीहरू पाहुनालाई झुमरा, लठ्ठी, मजिरा र छोकरा नाच देखाउँछन् । बस्ती नजिकैको शिव सामुदायिक वनमा घुमाउँछन् ।

बर्दियाबाट ल्याउने कोसेली धेरै छन, माटोबाट बनेका गैंडा, हात्ती, देवता, खुत्रुके र थारू महिलाले बुनेका ढकी, फूलदानी, पेन होल्डर आदि रिसोर्टहरूमै पाइन्छ ।

कसरी पुग्ने : पूर्वपश्चिम राजमार्गको अम्बासाबाट दक्षिणपश्चिम १३ किमिभित्र ठाकुरद्वारा । काठमाडौंबाट-ठाकुरद्वारा बसमा १४ घन्टा । ठाकुरद्वाराबाट साँझ ४ बजे छुट्ने गाडिले बिहान ८ बजे काठमाडौं पुऱ्याउँछ । ठाकुरद्वारा-डल्ला ५ किमि । नेपालगन्ज-ठाकुरद्वारा ९० किलोमिटर ।

लुम्बिनी

बुद्धको अर्थ 'ब्युँझेको मानिस'। दरबारको सुख त्यागेर सिद्धार्थ गौतम ब्युँझिए । लोभ, ईर्ष्या, घमण्ड, मोह र रिस त्यागे । शान्ति मन्त्र बाँडेर प्रख्यात भए । तिनै गौतम बुद्धको जन्मथलो हो, लुम्बिनी ।
बोधिवृक्षमुनि कपिलवस्तुका राजा शुद्धोदन र रानी मायादेवीको पहिलो सन्तानका रूपमा इसापूर्व ६२३ मा जन्मेका थिए गौतम बुद्ध । तिलौराकोट दरबारबाट माइती देवदह जान हिँडेकी मायादेवीले पुष्करिणी पोखरीछेउमा सिद्धार्थलाई जन्म दिइन् ।

लुम्बिनीमा मायादेवी मन्दिर छ । मन्दिरमा इसापूर्व तेस्रो शताब्दीदेखि सातौं शताब्दीसम्मका भग्नावशेष छन् । सिद्धार्थको जन्मस्मारक शिला त्यहीँ छ । त्यहाँ चौथो शताब्दीको मूर्ति छ । त्यसले सिद्धार्थको जन्मदृश्य झल्काउँछ । मायादेवीले सहाराका लागि रूखको हाँगा समातेकी छन् । देब्रेपट्टि उनकी बहिनी प्रजापति छन् भने दुईतिर देवगणले स्वागत गरिरहेका । र, बीचमा सिद्धार्थ ।

मन्दिर वरपर विहारका भग्नावशेष । दक्षिणपट्टि पीपल चौतारी । त्यहाँ भिक्षु बौद्धमन्त्र जप्छन् । मन्दिरबाहिर सम्राट अशोकले इसापूर्व २४९ मा स्थापना गरेको अशोक स्तम्भ छ । त्यहाँ लेखिएको छ, 'यही लुम्बिनीमा शाक्यमुनि बुद्धको जन्म भएको हो ।'

विज्ञहरूले सन् १९९२-१९९६ सम्म लुम्बिनी उत्खनन गर्दा स्तम्भ र शिला भेटेका थिए । लगत्तै सन् १९९७ मा संयुक्त राष्ट्रसंघीय शैक्षिक, वैज्ञानिक तथा सांस्कृतिक संगठन (युनेस्को) ले लुम्बिनीलाई विश्व सम्पदा सूचीमा सूचीकृत गऱ्यो । सन् १९६७ मा संयुक्त राष्ट्रसंघका महासचिव उथान्तले लुम्बिनी भ्रमण गरेका थिए ।
सन् १९७८ मा जापानी वास्तुकलाविद् प्रोफेसर केन्जो टाँगेले लुम्बिनीको गुरूयोजना बनाए । योजनाअनुसार ११ सय ५५ बिगाहा जग्गा अधिग्रहण गरियो । तीन खण्डमा बाँडियो । तीन वर्गमाइलमा उत्तर-दक्षिण फैलिएको भूमिमा उत्तरमा नयाँ लुम्बिनी गाउँ, बीचमा विहार क्षेत्र र दक्षिणमा मायादेवी मन्दिरसहित उद्यान बनायो ।

लुम्बिनी ठूलो क्षेत्रफलमा भएकाले रिक्सा, साइकल र ट्याक्सीमा घुम्नुपर्छ ।

विहार क्षेत्रमा विभिन्न देशका विहार छन् । बीचमा नहर छ । नहरको १६ सय मिटरमा डुंगा चल्छ । नहरको एकछेउमा अखण्ड शान्ति दीप छ । त्यहाँ लुम्बिनी संग्रहालय छ ।

लुम्बिनीमा तीन दर्जन होटल छन् । लुम्बिनीको कोसेली काठ, माटो र ढलोटबाट बनेका बुद्ध मूर्ति ल्याउन सकिन्छ ।

कसरी पुग्ने : काठमाडौं-लुम्बिनी ३२५ किमि । काठमाडौंबाट लुम्बिनीसम्म बस चल्छ । भैरहवासम्म हवाई यात्रा । भैरहवा-लुम्बिनी २० किमि । भैरहवामा लुम्बिनी जाने गाडी पाइन्छ ।

पोखरा

पोखरा प्रकृतिको सुन्दर उपहार हो । एउटा सानो उपत्यकामा मन बहलाउने धेरै चिज छन् । हिमाल, ताल, गुफा, मन्दिर, गुम्बा, नदी र झरना । प्याराग्लाइडिङ, अल्ट्रालाइट, बन्जीजम्प र जीप ल्याएरजस्ता साहसिक खेल पनि त्यहीं खेल्न पाइन्छ ।

त्यहाँबाट कुमारी माछापुच्छ्रे, पुठ्ठा हिउँचुली, धौलागिरि, मोदित्से, अन्नपूर्ण, घान्द्रुक, हिउँचुली, नीलगिरि, मर्दी लम्जुङ, मनास्लुलगायत दर्जनौं हिमाल देखिन्छ ।

फेवातालमा डुंगा चढिएन भने पोखरा गएको अर्थै रहन्न । पोखरा उपत्यकाको बेगनास तालमा पनि डुंगा चल्छ । अरु ताल पनि छन्, कमल, स्प्या, खास्टे, दिपाङ, गुँदे, मैदी र न्युरेनी । त्यहाँ गुफा धेरै छन् । पोखरा-१६ बाटुलेचौरमा महेन्द्र गुफा छ । त्यहाँबाट सात सय मिटरमा चमेरेगुफा । पोखरा-१८ छोरेपाटनमा गुप्तेश्वर गुफा । गुप्तेश्वर गुफामा १४० मिटर पसेपछि भित्रैबाट डेभिज फल्स देखिन्छ । छाँगोमा असोजसम्म पानी धेरै हुन्छ ।

जमिनमुनि भासिएकी सेती नदीको स्प केआइसिंह पुलदेखि कालीखोला दोभानसम्म, नारायणथानदेखि तुलसीघाटसम्म र रामघाटदेखि ढुंगेसाँघुसम्म देखिन्छ ।

संस्कृतिका हिसाबले धनी छ पोखरा । बाटुलेचौरमा सारंगी बस्ती छ । पोखरामा पाँच वटा संग्रहालय छन् । गोरखालीको बहादुरी सम्झाउने संग्रहालय केआइसिंह पुल छेवैमा छ । शक्तिघाटमा गुरूङ जनजीवन झल्काउने संग्रहालय क्होइबो छ । रातो पहिरोमा पर्वतीय जनजीवन चिनारी दिने अन्तर्राष्ट्रिय पर्वतीय संग्रहालय छ ।

पृथ्वीनारायण क्याम्पस हाताको नेचुरल हिस्ट्री म्युजियम पुतली संग्रहालय बनेको छ । त्यहाँ छ सय प्रजातिका पुतली छन् । नयाँ बजारमा क्षेत्रीय संग्रहालय छ, जहाँ पश्चिमाञ्चलको झल्को मिल्छ ।

घुम्नलाई तिब्बती शरणार्थी क्याम्प छ । हेम्जा, पृथ्वीचोक र छोरेपाटनमा । माने घुमाउँदै 'ओम् माने पेमे हुँ' भन्नेहरु भेटिन्छन् । तिब्बती गाउँ भने हुन्छ, क्याम्पलाई ।

फेवाताल, पोखरा बजार र हिमाल एकै झमेटमा हेर्न विश्व शान्ति स्तुप छ । १७५ फिट अग्लो स्तुपको आँगनबाट मनमोहक दृश्य देखिन्छ । असोजदेखि हिमाल खुल्छन् । चिया सुरूप्प पार्दै हेर्न पाइन्छ । तालमा डुंगा चढेर अनदु फेदीबाट उकालो चढे स्तुपा पुगिन्छ । छोरेपाटनतिरबाट ट्याक्सीमा जान सकिन्छ । सूर्योदय र हिमाल हेर्न सराङकोट र काहुँकोट छन् ।

गुम्बा धेरै छन् । माटेपानी, हेम्जा सबैतिर । तालवाराही मन्दिर छ । विन्ध्यवासिनी र भद्रकाली मन्दिर । मियापाटनमा मस्जिद ।

बास बस्न फेवा किनारमा रमाइलो हुन्छ । त्यहाँ अत्याधुनिक होटल/रेस्टुराँ छन् । संसारभरका परिकार पाइन्छ । अबेरसम्म निदाउँदैन लेकसाइड । मिठो दालभात पाक्छ, थकालीका भान्छामा । पृथ्वीचोक, महेन्द्रपुल र सिर्जनाचोकतिर पनि छन् होटल ।

पोखराबाट सारंगी, डाँडाघरे वाइन, 'पोखराको सम्झना' लेखिएका गलैंचा कोसेली ल्याउन सकिन्छ ।

कसरी पुग्ने : काठमाडौं-पोखरा २०० किमि । काठमाडौंको कलंकीबाट बिहानैदेखि बस तथा माइक्रो छुट्छन् । कान्तिपथबाट बिहान सात बजे छुट्ने टुरिस्ट बस आरामदायी हुन्छ । हवाई यात्रा ३० मिनेट ।

स्वर्गद्वारी

प्युठानको स्वर्गद्वारी डाँडा शीतल छ । त्यहाँबाट धौलागिरि, नीलगिरि, माछापुच्छ्रे, अन्नपूर्ण, लमजुङ, हिमचुली, मनास्लु, चुरेन, पुथालगायत हिमशृंखला देखिन्छ । प्राकृतिक सौन्दर्यले भन्दा धार्मिक कारणले स्वर्गद्वारी चर्चित छ ।

स्वर्गद्वारी (२,०४८ मिटर) पवित्र भूमि मानिन्छ । त्यहाँ ब्रह्माले तपस्या गरेका थिए । पाँच पाण्डव यतैबाट स्वर्ग गएका थिए । स्वर्ग जाने ढोका भएकाले स्वर्गद्वारी भनिएको किंवदन्ती छ ।

स्वर्गद्वारीमा यज्ञशाला छ । झट्ट हेर्दा नौ वटा मन्दिरजस्तो देखिन्छ, तर भित्र एउटै । त्यहाँ पाञ्चायन देवदेवी, गणेश, सूर्य, विष्णु, शिवका मूर्ति छन् । चार दिशाका कोठामा अग्निकुण्ड । बीचको मूल कुण्डबाट धुवाँ आइरहन्छ । वटुकले पूजा, वेदपाठ, भागवत पाठ, हवन, रूद्राभिषेक गर्छन् ।

स्वर्गद्वारीमा सयौं गाई छन् । गुरूकुल विद्यालय छ । त्यहाँ वेद, रूद्री, चण्डी र व्याकरण पढाइन्छ । यज्ञशालासँगै महाप्रभुको मूर्ति छ ।

बालतपस्वी हंसानन्द गिरीले विसं १९५२ मा त्यहाँ आश्रम स्थापना गरे । तिनले विश्व कल्याणका लागि अखण्ड महायज्ञ सुरू गरे । रोल्पाको रूम्टी गाउँमा विसं १९१६ मा जन्मेका नारायण गौतम पाँच वर्षको उमेरदेखि तपस्यामा लीन भए । कालान्तरमा आध्यात्मिक चिन्तक बने । उनै महाप्रभु विसं १९९७ मा बिते ।

स्वर्गद्वारीमा नेपालीभन्दा भारतीय बढी आउँछन् । वैशाख पूर्णिमा, गुरू पूर्णिमा, गाई तिहार र पुस-माघमा भीड हुन्छ । खान/बस्न दुःख छ । डाँडामा होटल/लज छैन । मन्दिरमुन्तिर धरमपानीमा साना लज र नैवेद्य पसल छन् । मन्दिर हातामा धर्मशाला छन् । पैसा तिरेर केही कोठामा बस्न पाइन्छ । आश्रमको क्यान्टिनमा दालभात पाक्छ ।

धार्मिक सम्पदा, इतिहास र प्राकृतिक सौन्दर्यले भरिपूर्ण स्वर्गद्वारीलाई योग, ध्यान र अध्यात्म केन्द्र बनाउन सकिन्छ । त्यहाँ मनको शान्ति पाइन्छ ।

स्वर्गद्वारीबाट महाप्रभुका फोटा र टिम्मुर कोसेली ल्याउन सकिन्छ ।

कसरी पुग्ने : काठमाडौंबाट रोल्पा जाने बस चढ्ने । भिंग्रीमा ओर्लेर रात बिताउने । भोलिपल्ट चार घन्टा उकालो पदयात्रामा स्वर्गद्वारी । भिंग्री-धरमपानी १३ किमि । धरमपानीबाट आधा घन्टामा मन्दिर । धरमपानी-होलेरी २९ किमि ।

पुरानै लयमा पर्यटन क्षेत्र

विश्वास रेग्मी
पत्रकार, गोरखापत्र दैनिकसंग आवद्ध

गत वर्षको भूकम्पपछि निराश बनेको नेपालको पर्यटन क्षेत्र यो वर्ष अनपेक्षित 'पुनरागमन'को अवस्थामा देखिएको छ । नेपालबारे अन्तर्राष्ट्रिय जगतमा फैलाइएको अफवाहले सन् २०१५ मा विशेषगरी पर्यटन क्षेत्रले नकारात्मक नतिजा व्यहोर्नुपऱ्यो । पर्यटकीय सिजन सुरु हुँदै गर्दा शक्तिशाली भूकम्पको धक्का लागेपछि अघिल्लो वर्षजस्तै हिमाल आरोहण त्यस वर्ष पनि प्रभावित बन्यो । प्रशिद्ध ट्रेकिङ् रूट ध्वस्त बनेको हल्लाले गुणस्तरीय र खर्चालु पर्यटकका रूपमा चिनिएका 'ट्रेकर' नेपाल आउने आँट गरेनन् । हल्ला भएजस्तो ट्रेकिङ्मा रूटमा क्षती पुगेको थिएन, जुन् पछिल्ला स्थलगत अध्ययनले पनि प्रमाणित गरिसकेका छन् ।

भूकम्पको असर बाँकी छदै सुरु भएको दक्षिणतर्फको सिमा अवरोधले त पर्यटन क्षेत्रलाई झन् बढी पीडा दियो । सामर्थ्यले हालै सार्वजनिक गरेको एक अध्ययन प्रतिवेदनले नेपालको पर्यटनका लागि भूकम्पभन्दा नाकाबन्दी झन् घातक रहेको तथ्याङ्क सार्वजनिक गरेको छ । ग्यास तथा पेट्रोलियम अभावले होटल तथा रेष्टुराँ बन्द हुँदै गए सम्भावित पर्यटकले पनि नेपाल आउने चासो देखाएनन् । यो सबैको परिणाम, पाँच लाख हाराहारीमा मात्र सीमित बन्यो पर्यटक आगमन ।

अहिले परिस्थिति फरक छ । भूकम्प पछिका अफवाह गलत साबित भइसकेका छन् । पर्यटकको आगमन पनि बढ्दो छ । परिस्थती सामान्य रहे आगामी वर्ष सङ्ख्या थप बढ्ने अनुमान गर्न सहज छ । अध्यागमन विभागको ११ महिना (२०१६ नोभेम्बर) सम्मको तथ्याङ्कअनुसार यस बीचमा ६ लाख ५५ हजार पर्यटक नेपाल भित्रिएका छन् । जुन भूकम्प गएको अघिल्लो वर्षको तुलनामा ३३ प्रतिशतले बढी हो । यस वर्ष सात लाखले नेपाल भ्रमण गर्ने अनुमान छ । पर्यटनका हरेक किसिमका गतिविधिमा पर्यटकको संलग्नता सकारात्मक देखिएको छ । एक वर्षकै अन्तरमा पर्यटन क्षेत्रले आफ्नो पुरानै लय कायम गर्नुमा केही विशेष कारण छन् ।

घुमफिर वर्षको रौनक

भूकम्पपछि फैलिएको नकारात्मक असरलाई आन्तरिक घुमफिरको प्रवर्द्धनले पनि सकारात्मक नतिजा दियो । नेपालीले नै पहिले देश घुम्नुपर्छ भन्ने भावनासहित नेपाल पर्यटन बोर्डले सुरु गरेको घुमफिरको अभियानलाई वर्षभरी नै लागू गरेपछि एउटा वातावरण सिर्जना भयो । यसको प्रभाव पनि राम्रै देखियो । तुलनात्मक रूपमा यो वर्ष धेरै नेपालीले नेपाल घुमे पनि । पोखरा र सौराहाबाहेक मुस्ताङ र रारा ताल जस्ता नयाँ गन्तव्यमा पनि आन्तरिक पर्यटकको घुईंचो लाग्यो । अनौपचारिक तथ्याङ्कअनुसार दशैं तिहारको समयमा मात्रै ७० हजार भन्दा बढी आन्तरिक पर्यटक रारा ताल पुगे । त्यस्तै पूर्वका जिल्ला र सुदुरपश्चिमका नयाँ गन्तव्यहरूमा पनि सामान्य भएपनि पर्यटकको आकर्षण बढेको देखियो । यो सबैको नतिजा नेपालको पर्यटन क्षेत्र सुरक्षित छ भन्ने सन्देश सबैतिर गयो । भूकम्प गएको एक वर्ष पारेर घोषणा गरिएको घुमफिर वर्षले भूकम्पबारेको गलत प्रचारलाई हटाउन निकै सहयोग पुग्यो ।

ट्रेकिङ् सोचेजस्तै

भूकम्पपछि सबैभन्दा बढी प्रभावित बनेको क्षेत्र हो नेपालको ट्रेकिङ् रूट । यस्ता रूटमा रहेका पूर्वाधारमा क्षति पुगेको तथा यात्राका क्रममा पनि पर्यटकलाई समस्या पुग्ने जस्ता कुरा बाहिर आएका थिए । यसका लागि सरकारले तत्काल पहल सुरु गऱ्यो र यस्ता रूटको वास्तविक अवस्थाको अध्ययन गर्नका लागि अन्तरराष्ट्रिय कम्पनी मियामोतो रिसर्च सेण्टरलाई परिचालन गऱ्यो । यो अध्ययन नेपालका लागि सुखद रह्यो । मियामोतोको अध्ययनले लाङ्टाङ् बाहेक सगरमाथा र अन्नपूर्ण जस्ता प्रशिद्ध ट्रेकिङ् रूटमा सामान्य मात्र क्षति भएको स्थलगत प्रतिवेदन पेश गऱ्यो । सामान्य मर्मतपछि ती ट्रेकिङ् रूट उपयोग गर्न सकिने अध्ययनको निष्कर्षले गुणस्तरीय पर्यटक भित्र्याउने ट्रेकिङ् क्षेत्र पुनः सञ्चालनमा आउन सम्भव बन्यो । नेपाल पर्यटन बोर्डको नोभेम्बर महिनाको तथ्याङ्क अनुसार पछिल्लो सिजनमा करीब १३ हजारले ट्रेकिङ्को अनुमति लिएका थिए । यो सङ्ख्या भूकम्प गएको अघिल्लो वर्षकै हाराहारी

हो ।

उत्साहजनक हिमाल आरोहण

सन् २०१४ मा हिमपहिरो र सन् २०१५ मा भूकम्पका कारण दुई वर्ष निरन्तर बन्द रहेको हिमाल आरोहण यस वर्ष भने उत्साहजनक नै रह्यो । यस अर्थमा भूकम्प पछिको असर हिमाल आरोहणले व्यहोर्नु परेन । त्यसमा पनि हिमाल आरोहणका लागि सुरक्षित छ भन्ने सन्देश र प्रचारले काम गऱ्यो । पर्यटन बोर्डले विदेशका पर्यटनसँग सम्बन्धित मेलामा हिमाल आरोहणका लागि सकारात्मक सन्देश प्रवाह गर्न विशेष भूमिका खेल्यो । हिमाल आरोहणको प्रमुख सिजन मानिने अप्रिल र मे महिनामा करिब चार सयले सगरमाथा आरोहण गरेको पर्यटन बोर्डको तथ्याङ्क छ । हिमाल आरोहण सुरक्षित छ भन्ने सन्देशका लागि आरोहीको सङ्ख्या नै पर्याप्त प्रमाण बनेको छ । यसबाहेक हिमाल आरोहणका स्वर्ण तथा हिरक जयन्ती मनाउनका लागि आयोजना गरिएका विभिन्न महोत्सवले पनि आरोहण प्रवर्द्धनमा सहयोग पुग्यो ।

'स्वर्ण' समयमा होटल

संयोग, नेपालमा पर्यटनस्तरका होटल सञ्चालनमा आएको ५० वर्ष पुगेको छ । अर्थात होटल सेवा सुरू भएको स्वर्ण समय पनि हो यो वर्ष । विशेषगरी तारे स्तरका होटल सञ्चालनमा आएको पाँच दशक पूरा भएको छ । शङ्कर होटल, अन्नपूर्ण होटल र सोल्टी होटलले यसै वर्ष आफ्नो स्वर्ण जयन्ती मनाए । होटल व्यवसायीको छाता सङ्गठन होटल एसोसिएसन अफ नेपाल (हान) स्थापना भएको पनि यसै वर्ष ५० वर्ष पुग्यो । यसै अवसरमा पनि हानले होटल प्रवर्द्धनसँग सम्बन्धित विभिन्न कार्यक्रम तथा छलफल पनि आयोजना गरेको थियो । होटल क्षेत्र मात्र होइन, समग्रमा व्यावसायिक पर्यटन सुरू भएको पाच दशक पूरा भएको छ । नेपाल एसोसिएसन अफ ट्राभल एण्ड टुर एजेण्ट्स (नाट्टा) स्थापना भएको पनि यसै वर्ष ५० वर्ष पूरा भएको छ । पर्यटनको पाँच दशक लामो यो व्यावसायिक यात्राका क्रममा आयोजित विभिन्न प्रवर्द्धनात्मक कार्यक्रमले पनि पर्यटन प्रवर्द्धनका लागि सहयोग गरेका छन् ।

Climate Change, Aviation and Greenhouse Gas Emissions

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Introduction

Climate Change has become the most critical environmental issue for many governments, industries, businesses and individuals. Climate Change is a complex environmental issue. Basically, a change in atmospheric concentration of Greenhouse Gases (GHGs) alters the energy balance of the climate system resulting change in climate. This happens because of anthropogenic activities like burning of fossil fuel, oil and coal for homes, factories and transportation and releases several kinds of GHGs to the atmosphere.

Aviation plays a key role in the economic prosperity and lifestyle of people. Aviation benefits greatly from the ability to transfer people and products all over the globe - quickly and safely. Aviation contributes to our quality of life - allowing us to visit friends and relatives, to travel, to experience new places, to shrink the borders of the world. The statistics are remarkable. In 1903 the year of the Wright brothers' first flight, earth's population was 1.6 billion (pbs.org); today, over 1.6 billion people use the world's airlines. The air transport industry provides 28 million direct, indirect, and induced jobs worldwide (atag.org). And aircraft carry about 40% of the value of all world trade (iata.org), driving the "just in time" deliveries critical to productivity improvements. Air transport links our sphere and is a key tenet of continued economic development. However, aviation also has environmental impacts – primarily noise and atmospheric emissions. While aircraft noise issues are better known, emissions have got less attention.

In Nepal, aviation transportation is increasing at very high rate, putting immense pressure on environment, particularly to manage the ever increasing amounts of aircraft emission and aircraft noise. At present, most of the gases generated in Nepal airspace are not being adequately calculated and no appropriate steps are taken to manage, therefore, the hazardous gas emission is creating a serious health and environmental hazards, particularly in the Kathmandu valley, where the density of air transportation is very high. With rapid urbanization and changing life style patterns along with improving economic condition, air transportation in difficult geographical topography has become a major necessity and challenge.

Emission From Aviation

Aircraft produce the same types of emissions as automobile. Flying machines' jet engines, like many other vehicle engines, produce carbon dioxide (CO2), water vapor (H2O), nitrogen oxides (NOx), carbon monoxide (CO), oxides of sulfur (SOx), unburned or partially combusted hydrocarbons (also known as volatile organic compounds (VOCs) particulates, and other trace compounds. A small subset of the VOCs and particulates are considered Hazardous Air Pollutants (HAPs). Aircraft engine emissions are roughly composed of about 70 percent CO2, a little less than 30 percent H2O, and less than 1 percent each of NOx, CO, SOx, VOC, particulates, and other trace components including HAPs. Aircraft emissions, depending on whether they occur near the ground or at altitude, are primarily considered local air quality pollutants or greenhouse gases, respectively. Water in the aircraft exhaust at altitude may have a greenhouse effect, and occasionally this water produces contrails, which also may have a greenhouse effect. About 10 percent of aircraft emissions of all types, except hydrocarbons and CO, are produced during airport ground level operations and during landing and take-off. The bulk of aircraft emissions (90%) occur at high altitudes. For hydrocarbons and CO, the split is closer to 30 percent ground level emissions and 70 percent at higher altitudes. Aircraft are not the only source of aviation emissions. Airport access and

ground support vehicles produce similar emissions. Such vehicles include traffic to and from the airport, ground equipment that service aircraft, and shuttle buses and vans serving passengers. Other emissions sources at the airport include supplementary power units providing electricity and air conditioning to aircraft parked at airport terminal gates, stationary airport power sources, and construction equipment operating on the airport.

Determining Aviation Emissions

Aviation emissions reflect the level of overall aviation activity. The growth of air travel for the past several decades has been very rapid. Demand for travel services, passenger travel and freight transportation has increased significantly. According to the U.S. Bureau of Transportation Statistics (bts.gov), 21.5 % increase in population, 32 % increase in the labor force, and 90 percent increase in GDP between 1980 and 2000 have determined this demand. Demand for air travel grows as the economy grows and prosperity increases. Over the long term, we expect that demand for air transportation will continue to grow rapidly to support our economic productivity, our quality of life, and our national security. More and more the worldwide transportation system is becoming an integrated transportation network. For most of the long-distance travel, however, aviation's speed, convenience, and cost overcome consideration of other travel modes. It only faces competition on short trips or when moving low value or high volume products. Looking to the future, the forecast is for continued strong growth. This is consistent with the demand for transportation generally, which is increasing largely in response to very positive structural changes in both the domestic and global economies. As a result, growth of the aircraft fleet and expansion and further development of existing airports are expected. This also means that emissions from aviation activity are expected to rise and concerns about aviation emissions will also grow.

Airports are also significant traffic generators, freight distribution centers, taxi destinations and bus stations and are responsible for significant amounts of pollution from the exhaust emissions of land based transport. They also have large amounts of fixed and mobile generating equipment to supply aircraft with power whilst they are on the stand and large scale maintenance facilities for engines and aircraft. They are also large fuel depots with storage tanks, fuel lines and refueling facilities all contributing evaporative emissions of VOCs to atmosphere.

Effects of Aviation Emission

The majority of aviation emissions occur at higher altitudes, thus generating greenhouse gases and potentially contributing to climate change. Also, under certain conditions, aircraft engine exhaust can produce contrails. Scientists in the U.S. and around the world are researching the potential impact of contrails to see whether they have a significant impact on the greenhouse effect.

Increased amount of GHGs in the atmosphere eventually results in warmer temperature causing melting of ice, glaciers, rising sea level, flooding of coastal areas, shifting of seasons, and fewer cold days, heavier rain, summer droughts, and an increase in storm intensity. According to Intergovernmental Panel on Climate Change (IPCC), world surface air temperature has increased on an average of 0.6 Celsius (1.1F) during the 20th century and is predicted to be increased by 1.8 to 5.8ºC by 2100. This may not sound like a significant change but even one degree rise in temperature can have severe repercussion on the planet. The IPCC reports that Global GHG emission due to anthropogenic activities have grown with an escalation of 70 per cent between 1970 and 2004 and CO2 being most important anthropogenic GHG, annual emission has grown by about 80 per cent between 1970 and 2004.

US research (Natural Resources Defense Council, 1996) shows that air pollution from cars and industry has declined with time while aircrafts continue to emit more ground level ozone precursors

(Volatile Organic Compounds or VOCs and Nitrogen Oxides or NOx) with each passing year.

Airport is the largest source of NOx and the second largest source of VOCs. Both these chemicals combine to form ground level ozone which in its turn damages the respiratory system of humans and causes breathing difficulties, increased mortality and increased hospital admissions. Scientific studies reported in Natural Resources Defense Council (1996) report that exposure to ozone at "relatively low" levels significantly reduces lung function and induces respiratory inflammation in healthy people during moderate exercise. Chest pain, coughing, nausea and pulmonary congestion often accompany this decrease in lung function.

Aviation Emissions With Regard To Greenhouse Gas

We expect that demand for air transportation will continue to grow rapidly to support our economic productivity and quality of life. Growth of the aircraft fleet and expansion and further development of existing airports are expected. This also means that emissions from aviation activity are expected to rise and concerns about aviation emissions will also grow. Air traffic is also steadily increasing in Nepal, too. Sources reveal that total flights increased by 2.4 times from 1980 to 2011, while domestic and international (scheduled and charters) flights increased by 2.7 and 2.2 times respectively. Due to the expected significant increase of air traffic, the examination of its environmental impact at global, national or local level is important.

Concerns regarding greenhouse gas emissions have been growing worldwide. The drop in emissions in 2001 reflects the slow economic growth and reduced industrial output that year in addition to the warm winter, which reduced fuel use for heating. Growth in greenhouse gas emissions is expected to resume as the economy recovers and continues to expand in the future. While there are different greenhouse gases, CO2 and NOx are generally more relevant from an aviation perspective. Global estimates show that emissions of the world's aircraft fleet is about three percent of the total greenhouse emissions from fossil fuel, and the majority of it comes from commercial aviation (Aviation and the Global Atmosphere, 1999). All transportation sources have approximately 25 per cent share in global fossil fuel combustion emissions.

Significant proportion of aircraft emissions happen at an altitude of about 10-12 kilometres, where in general, there are no other sources of direct emission (air pollution produced by lightning usually occurs below 8 kilometres). The effect of aircraft emissions on the chemistry of the atmosphere at high altitudes is quite different from the effect of similar amounts of pollution emitted at ground level. At ground level the effect of aircraft emissions is of major importance since most airports are close to urban areas. Moreover, the importance of aircraft and all airport related emission source activities are growing (Schurmann 2007) as the volume of air traffic is steadily increasing and forecasts for global air transport show an increase of about 150 per cent (average annual growth rate 4.8 per cent) for the period of 2005 to 2025 (Scheelhaase and Grimme, 2007).

Responsibly controlling aviation emission

There is a range of options to reduce the impact of aviation emissions, including changes in aircraft and engine technology, fuel, operational practices, and regulatory and economic measures. These could be implemented either singly or in combination by the public and/or private sector. Substantial aircraft and engine technology advances and the air traffic management improvements described in different reports and research papers are already incorporated in the aircraft emissions scenario.

Nepalese airspace is relatively a very small contributor to GHG and other emission. However, its share is increasing day by day due to increasing air traffic movements. It is considered that Nepal has second highest volume of air traffic in South Asian region after India.

The International Civil Aviation Organization (ICAO) is a United Nations intergovernmental body responsible for worldwide planning, implementation, and coordination of civil aviation. Being the ICAO contraction member state, Civil Aviation Authority of Nepal (CAAN) is committed to follow ICAO guidelines and support the ICAO mission. Nepal has voluntarily agreed to work under ICAO mission for the reduction of greenhouse gas emission caused by the aviation industry in Nepal.

Aviation has progressively improved its environmental performance. Fuel economy, which is one strong indicator of environmental performance, has consistently improved. Aircraft engines have become more efficient and been designed with environmental performance in mind. Regulatory frameworks have developed to constrain emissions growth from many aviation sources. And, improvements in the efficient operation of the complex aviation network are having a positive effect on the environment.

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Air Transport is a Key Factor of Nepalese Tourism Industry

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Introduction

Transportation is a part of the tourism industry, certainly development of transportation helps to improve entire tourism sector. Simply, the development of transportation system is development of tourism. In a country like Nepal where road transportation is complicated, air transportation is the only alternative. Most of Nepalese tourism destinations are in hills and mountains and have poor or no road connectivity.

Nepal Tourism Policy 2009 identifies tourism sector as an important vehicle for economic and social development. As per the directions set by the policy, efforts have been put for the development and expansion of tourism activities, quality improvement of tourism services and expansion of employment opportunities to improve the living standard of Nepalese people. Vision 2020 of tourism envisions increasing tourist arrival to 2 million and tourism related employment to 1 million. To meet the targets set by the policy and vision, Nepal has set objectives such as building infrastructures, creating favorable investment environment, enhancing people's capacity at local level, exploring and expanding potential tourist destinations, enhancing airports' capacity and strengthening air safety.

Air transportation is the fastest and the most regulated transportation system. With new technology and development, fastest Jet planes and aircrafts have become ubiquitous, that has allowed traveling faster than ever. Now the travelers can explore new areas and long distance travel in short time.

Civil Aviation Indicators

For a land-locked country like Nepal, air transportation is the most consistent means of connectivity to the outside world. Well-established airports network in the country has not only strengthened the national integrity but also played a major role for the socio-economic growth of the deprived population in many rural areas by tourism promotion and employment generation. Whereas the effort for developing the civil aviation sector in Nepal will have many impacts such as the national integration, attracting more tourist by inviting more international Airlines to use Nepalese airspace and to make access to international arenas for trade and supply. To beat the problem faced by land-locked situation, Nepal needs to do different mutual multidisciplinary activities. Meanwhile, the current achievement in aviation sector, which could be the milestone for tourism industry are:

- Preliminary works are in progress after acquisition of land for the Second International Airport in Nijgadh.
- Upgradation work at Tribhuvan International Airport is underway with the installation of most advanced equipments received in grant assistance from Japan to make it well equipped and as per international standard.
- Construction works are underway at the Gautam Buddha International Airport. Aviation Service Agreements with Indonesia, South Africa, UAE, Pakistan, and Saudi Arab are completed. Airport monitoring and classification indicators prepared and implemented.
- The agreement has been reached for the construction of Pokhara international airport and foundation stone was laid on 14th April 2016.

- Installation of the Radar at Bhattedanda of Lalitpur, to make the air transportation safer and more reliable, has been given continuity.

Table 1: Civil Aviation Indicators

Major Indicators	By mid -Jan 2015	By mid-Jan 2016
Nepalese Airlines with international flights	2	2
International Airlines in Nepal	26	26
Country with bilateral air service agreement	36	38
Air seats on each side of the Aisle	6,500,000	8,000,000
Number of domestic Airlines (fixed wing+ rotor wing)	17	17
Number of international Airport	1	1
Number of all-season Airports	20	22
Total number of domestic Airports in operation	35	32

Source: Economic survey 2015/16

Two domestic airlines companies and 26 foreign aviation companies are operating international flights to and from Nepal. In the past one year, the number of double row seats has been increased by 1.5 million reaching 8 million. Similarly, 17 airlines companies are operating flights inside the country through 32 airports.

Relationship Between Aviation And Tourism Industry

Nepal and Himalayas have been synonym in terms of Nepal because the country has 8 of 14 highest peaks of the world. We not only have mountains but our unique geography has also given us green hills and valleys, rivers, subtropical forests and flat lands all adding beauty to our country. Apart from geographical diversity, we have incredible cultural diversity. We have a number of ethnic groups, each with their own language, cultures, and customs, all living in perfect harmony. And, aviation has played an important role in connecting those diversities. It has been a factor for national integration and symbol of freedom.

The relationship between aviation and tourism is interconnected: air travel constitutes a significant impact on tourism, while tourism generates considerable demand for air transport. Tourism represents a particular form of consumption, and air transport facilities such consumption as part of an increasingly globalised economy.

The role of transportation system has been stated is an essential component of successful tourism development. Air transport has transformed dead contents of tourist interest into active and prosperous place attracting multitude of people. After the liberalization of aviation industry worldwide, it provided cheaper mode of travelling and transportation which worked as one of the main driving forces in tourism development.

Overview

The trend of tourist arrival in Nepal was increased up to 2012, which declined thereafter. The number was decreased by 32 per cent in 2015 compared to 2014 (Nepal tourism statistics 2015).

Out of total tourists arrivals, excluding Indian citizens arrived through land transportations, five countries occupy 48 percent. The proportion of tourists from these countries are; India (14 per cent), China (12 per cent), USA (10 per cent), Sri Lanka (8 per cent) and Thailand (6 per cent). Higher number of arrival is observed in March following general trend but sharply declined in May. In terms of sex male (54 per cent) and by age category 31-45 years (29 years) occupied the highest share, as in the past.

Three-year development plan (2013-2016) aimed at increasing the length of stay of tourists to 14 days by 2015. It was ranging from 8 to 13.5 days in the past. The analysis of length of stay of 290,000 tourists estimated that the length of tourist stay was 13.16 days in the year 2015. The USA (16.98 days) is leading the stay time followed by China (10.14 days). Young people of age (10-24) seems staying longer (16.73 days) after child (less than 10 years). There is no significant difference according to sex. The visitors arrived in the month of October are observed staying longer (17.55 days).

Number of tourist by purpose of visit is a major indicator for tourism sector output. This indicator is particularly useful for the evaluation of characteristics, type and economic and social contributions made by tourists, and to plan and manage infrastructure, services and market economy accordingly. Historical data shows that around half of the tourists arrived with the purpose of holiday celebration and pleasure. However, there were fluctuations, sometimes. In 2015, higher number of tourists (72 per cent) visited Nepal for holiday and pleasure followed by trade (4 per cent), official purpose (4 per cent), pilgrimage (3 per cent) and conference/meeting (1.7 per cent) pilgrimage while the number of visitors coming for trekking/mountaineering declined.

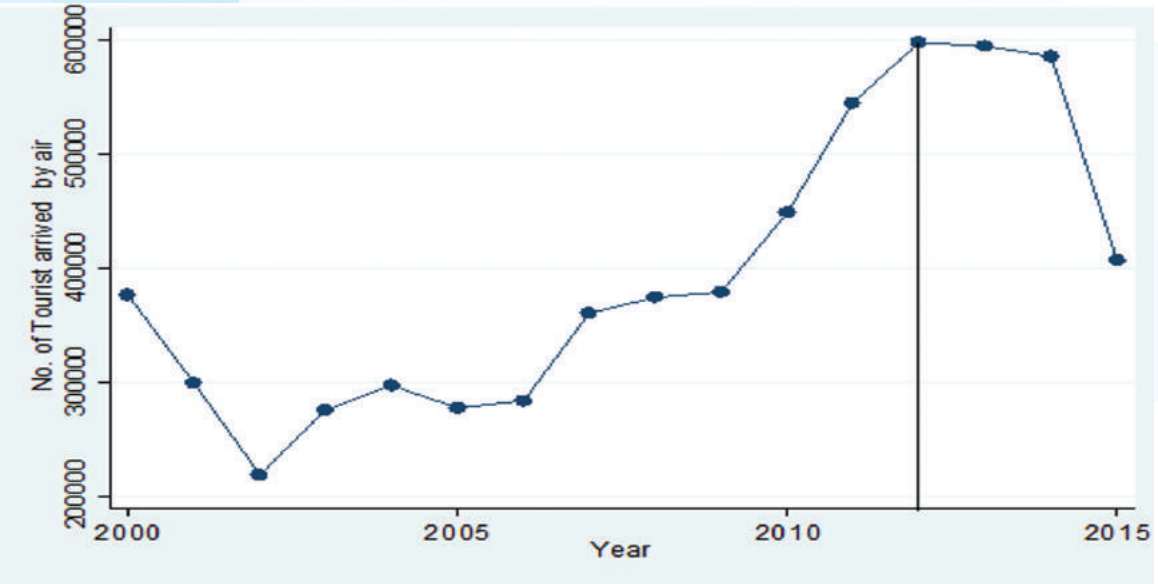

Figure1: Numbers of tourist arrival by air

In the above figure, y-axis represents the number (No.) of tourists arrived by air in Nepal and x-axis for different year. The fluctuated curve shows that the tourist arrival by air is not consistent. Tourist arrival via air was higher in 2000 and reached the lowest in 2002. It rose up to the highest in 2012, but the trend was not sustained and the number declined in the subsequent years.

Revenue from tourism sector is observed from foreign currency exchange made by tourists and tourism industries as proxy of income. Nepal Rastra Bank report shows total foreign currency exchange (less return) for 2015 stood at Rs. 49.78 billion. This is slightly higher than the previous year. This increase in currency income despite fall in tourist arrival brings per tourist per day expenditure at 68.57 US$. Around 80 percent of exchange is made by tourist themselves.

Table no.2: Foreign Exchange Earnings From Tourism

Fiscal year	Total Foreign Exchange Earning from tourism (Rs in millions)	As percentage of GDP
2000/01	11,717.00	2.7
2001/02	8,654.30	1.9
2002/03	11,747.70	2.4
2003/04	18,147.40	3.4
2004/05	10,464.00	1.8
2005/06	9,556.00	1.5
2006/07	10,125.00	1.4
2007/08	18,653.00	2.3
2008/09	27,960.00	2.8
2009/10	28,139.00	2.4
2010/11	24,611.00	1.8
2011/12	30,703.80	2
2012/13	34,210.60	2
2013/14	46,374.90	2.6
2014/15	34,313.30	2.8

Source: Nepal Rastra Bank

Opportunities

Nepal has signed two multilateral agreements with eight countries and become part of South Asian Free Trade Area and South Asian Association for Regional Cooperation. In addition, it has a bilateral air service agreement with 38 countries. It could be huge source to promote tourism industry in Nepal. There are still many touristic places that have not yet been explored and are not connected by any means of transportation. Due to the geographical difficulties, construction of road transportation and railway is very difficult and costly in Nepal. In that situation, air transportation is the only option for the connectivity in such areas. With the expansion of aviation industry, the cost of air transportation has become reachable for local people. Aviation has become safer and quicker than road transportation, and for some places the only means of transportation. These are the reason behind increasing number of domestic air travelers (CAAN, 2013).

- Bilateral and multilateral agreements with many countries,
- Increasing commercial relations with India and other buoyant economics,
- Easy entrance to the country for foreign people,
- Increased restrictions to accidental travelers for entering into Tibet,
- Densely populated country,
- Touristic potential of the country,
- Growing demand for adventure travel,
- Increase in religious travels market segment,
- Touristic potential in areas currently not developed,
- Rising number of tourism package program including from Nepal and its neighbors,
- Acceptance of air transport as the means of travel by the local people,
- Development of new international routes.

Estimation and Data Analysis

Nepal is a landlocked country, so most of the tourist arrive either by air transport or land transport system. Different sources show that the number of tourist arrival by land is higher than by air. Whereas foreign exchange earnings (fearn) is function of number of tourist arrived by air transport system (tair) as well as that of by land transport system (tland). So for simplicity this paper is using log linear regression model.

The Log Linear Regression Function is defined as:

$$\ln fearn = \beta 0 + \beta 1 \ln tair + \beta 2 \ln tland + \mu \quad (1)$$

where $\beta 0$= constant, $\beta 1$ and $\beta 2$ are elasticity for each term, μ= disturbance term and ln= natural log.

Table 3:The estimated result of regression

Dependent Variable = lnfearn				
Variables	**Coefficient**	**Sd. error**	**t-test**	**probability**
constant	-0.49	2.93	-0.17	0.87
lntair	0.63	0.46	1.37	0.10
lntland	0.78	0.32	2.44	0.03
F	38.25			0.00
R^2	0.83			0.85
Adj.R^2				
Level of significance = 5%				

According to the regression model (after using STATA software), the foreign exchange earnings is directly related to the number of tourist arrived in Nepal by air transport system. It means when number of tourist arrival via air is increased by 1 percent, it would lead to increase in an average 0.63 percent of foreign exchange earning in Nepal, when other things remain constant. It is statistically insignificant at 5 percent level of significance. While dealing with number of tourist arrived in Nepal by land, it is also positively related to the foreign exchange earnings. 85 percent of the model is explained by the included independent variable (lntair and lntland) and the overall model is statistically significant at 5 percent level of significance.

Conclusion

Tourism is one of the major sources of earning foreign currency and employment in Nepal. Nepal has an incredible geographical diversity and has an immense potential for being top tourism destination. Although it has numerous tourist attractions and cultural diversity, it has not been able to attract a large number of tourists by promoting tourism products. The country is still struggling to attract more than one million tourists every year. The main reason behind weak tourism growth rates is poor transportation system, lack of international airports, lack of transportation mode for international tourists and lack of infrastructure. However, the tourism industry is ever growing.

Being a landlocked country with mountains increases the value of air transportation in Nepal. Aviation is the major means of connectivity and it is convenient and safe for traveling. The development of air transportation has changed the status of tourism industry of Nepal. Therefore, air transportation will be a key factor for developing Nepalese tourism industry.

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Tourism Industry and its Importance in Nepal

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People who travel from one place to another within country or visit another country for business, pleasure, adventure, holidays; pilgrimage etc. are called tourists. Similarly, any business activities connected with providing accommodation, entertainment, supplies, or service to tourists is called tourism industry. Tourism industry includes the business of hotel, restaurant, travel agency, handicraft, etc. Tourism is one of the most exciting and progressive industries in Nepal with an impressive impact on other business sectors.

Tourism has caused the growth of travel agencies and tour operators, establishment of hotels and guest houses, restaurants and eating houses, making of luxury coaches and vehicles, and introduction of super-luxury tourist bus and airways. It has also encouraged the revival and modernization of heritage and tourism infrastructure. Likewise, it has helped in creating employment.

Tourism is one of the biggest and fast growing industries in the world. It provides employment to 7 per cent of the world's workforce earning 6 per cent of total GDP. In the fiscal year 2072/73, 2.9 per cent of the total GDP of Nepal was contributed by tourism. Tourism industry has high potential in Nepal. Nepal is small country rich in natural beauty, diverse culture and other attractions. The highest peak of the world, Sagarmatha, human friendly moderate climate, geographical diversity, Pashupati, Lumbini, cultural diversity etc. are important feature of Nepal. Many foreigners visit Nepal to view the scenic beauty of Himalayas because eight of 14 mountains peaks above 8,000 metres are in Nepal.

Adventure tourism helps to enhance the income sources of local people. Nepal is one of the suitable places for adventurous tourism. There are many big and fast flowing rivers which are suitable for rafting. Bungee jumping, trekking, kayaking, cycling, rock climbing, canoeing, paragliding, hiking, boating, mountain flight etc. are major products of tourism industry. Meditation, yoga, faith healing, astrology also are interesting features of Nepal.

Diversity in culture and climate are other special features. The structure of Nepalese society is multi-ethic, multi-lingual, multi-religious and multi-culture. Every ethnicity has its own distinct culture, festivals, costumes, and way of living. Many beautiful Himalayas, deep gorges, valleys, plains, meadows and fast flowing rivers make Nepal rich in natural beauty.

Tourism industry would be milestone for economic development of Nepal but lack of tourist friendly environment, the desired goal has not been achieved yet. Broad based, sustainable and inclusive economic growth is essential in the context of Nepal, and this goal can be materialized through tourism industry in Nepal. Small and cottage industry produces different type of handicraft products which help creating employment and utilize locally available resources.

Foreign currencies are very important for the country to reduce trade deficit and tourism is one of the main sources of foreign currencies in Nepal. Nepal exports very few goods with low prices to other countries and imports several expensive goods. Nepal is suffering trade deficit with many countries including the immediate neighbours, India and China, since long. In this critical situation, tourism can soothe the national economy by helping the country earn foreign currencies needed to export essential goods and other products. The money brought in through tourism also contributes to government revenues.

These can be categorized as direct and indirect contributions. Various taxes on incomes from tourists who come for business or employment and levies, such as, departure taxes are referred to as direct contribution to the economy and taxes and duties levied on goods and services supplied to tourists are referred as indirect contributions. These taxes also improve the economy of a country.

Tourists, if satisfied, will work as goodwill ambassadors for Nepal's promotion and more foreigners will visit the country. The increasing inflow of tourists demands increased economic activities like infrastructure development, establishing tourist and information centre, hotel and restaurants. Tourists want unique Nepalese product to take it back to their country as souvenir. There are possibilities of achieving sustainable economic growth and eradicating poverty in Nepal by sharing equal benefit of tourism industry. In recent years, domestic tourists are also increasing. Home stay tourism is gaining momentum in hill, mountain and plains. For many regions and countries it is the most important source of welfare. The ability of the national economy to benefit from tourism depends on the availability of investment to develop the necessary infrastructure and on its ability to supply the needs of tourists. Nepal has a touristic potential for development of mountaineering and other substitute forms of tourism. The scope of this paper is to present the impact of tourism on economy and especially on income. Paper treats why Nepal is an attractive country for investors, and which are the possibilities to invest.

Tourism can help instilling real sense of pride and identity to communities. By showcasing distinct characteristics of their ways of life, history and culture, tourism can encourage the conservation of traditions which may be at risk of extinction. Tourism provides financial support for the conservation of ecosystems and natural resource management, making the destination more valid and desirable to visitors. It also adds more value to the local tourism business.

Even though it has huge potential in tourism sector, Nepal has not been able to exploit the benefits due to poor air connectivity, information and communication infrastructure, and land transportation. Nepal is very prosperous in culture and religion. There are many religious and cultural heritages in Nepal which are waiting for maintenance, conservation and promotion. The country lacks well facilitated tourist centres.

Increasing number of tourists helps to generate more employment in hotel, transportation, guide, travel and tourism sectors. An increase in employment is definitely a good sign for the economy. But, in order to make the tourism industry more sustainable, domestic tourists should be encouraged by providing incentives for leave tourism to government and private sector employees.

The 13th periodic plan had given priority to establishing tourist centers at regional level but it couldn't be materialized. Therefore, many tourists do not show willingness to go remote area of Nepal. Tourists want good and comfortable accommodation but tourists are facing problems in getting good accommodation during their trekking and other adventure activities. There is no guarantee of security for them. So, sometime they are cheated and face the danger of lives and property. Most of the places of tourist attraction in Nepal are dirty and polluted. So, there is high possibility of tourists contracting diseases due to polluted environment.

The number of domestic and international air services should be increased. Government should encourage private sector to invest in tourism and aviation sector. Similarly, Foreign Direct Investment is important to develop costly infrastructure. Therefore, there should be proper plan and programmes to attract the FDI in tourism and aviation sector. Proper utilization of the skills and capital of Non-Resident Nepalese can be an important source in developing infrastructure. There should be a good provision of transport and communication in all tourism areas. Tourist should be provided with things they need like bank, market, ATM counter, information center and security. Provision must be made to produce

things necessary for tourism industry in our own country. Cultural and religious places damaged by the devastating earthquakes in 2015 must be maintained and renovated as soon as possible.

The Tourism Policy 2065 has addressed pertinent issues like countryside tourism, eco-tourism, agro-based tourism, adventure tourism, education tourism and health tourism, and has prioritized the insurance of tourism entrepreneurs. The policy aims to diversify our tourism products and services and takes tourism to new areas. The Prime Minister-led Tourism Council is regarded as the high-level body in the field.

The Tourism Ministry has launched the new National Tourism Strategy 2016-2025 which envisages a fivefold increase in arrivals to 2.52 million tourists annually by 2025.The scheme, which incorporates a five-year action plan and a 10-year horizon for the country's tourism sector, has suggested a budget of Rs. 6.44 billion to implement the action plan. One-fourth of the funding is projected to be spent in the first and second year and one-fourth during each of the last three years. The strategy was implemented formally after being endorsed by the Cabinet's Economic and Infrastructure Committee recently.

The strategy aims at increasing tourist arrival, stay and income. Nepal needs to make a number of improvements in terms of branding, infrastructure and quality to attain the target set by the strategy. Ordinarily, the strategy is not ambitious, but in the context of tourism growth in Thailand and China and political uncertainty in Nepal, it will be difficult to achieve the target, the strategic document said. Theoretically, we have so many documents about tourism development but sincere and practical implementation is the essence of present day.

Both the government and non government organizations should take the initiative in developing tourism, required infrastructure and promotion of tourism destinations and products. Therefore, the development of tourism industry requires unity and cooperation of all. Rural poverty is one of the serious problems of Nepal and it should be linked with tourism industry and share its value on the basis of equality and equity. Tourism is an essential part of a Country's economic success. Increasing and encouraging tourism is definitely a way to consider economic success to a country.

Government support on infrastructure development, policy on tourism planning, diplomatic relations with the source countries, and trade related activities including the participation in international festivals and trade fairs will determent the future of tourism in Nepal. Nepal needs to promote tourism industry with the help of economic diplomacy. Tourism industry should be responsible for the conservation of natural and cultural environment.

Three Challenges Facing the Electricity Sector

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The global electricity sector is facing three major challenges: the security of supply to keep up with ever-mounting demand, the fight against climate change, and the global trend toward massive urbanization. Electricity will play a key role through low-emitting energy-generation technologies that reduce greenhouse gas emissions. These technologies already exist. Success will depend on how public policies are used to encourage innovation.

The first challenge will be to invest enough to keep up with the growing demand for global energy while keeping final energy costs under control. The International Energy Agency estimates that 1.4% of global GDP will have to be invested in the energy system between 2010 and 2035, or $33 trillion over 25 years. Two-thirds of these investments will need to be in emerging and developing economies to satisfy the projected 2% annual growth in primary energy needs while the remaining third will be required to replace outdated infrastructure in OECD countries.

In terms of fossil fuel production and the electricity sector, most of the energy infrastructure required to satisfy needs of 25 years out has yet to be constructed. The magnitude of the challenge cannot be understated given serious and ongoing uncertainty of the outlook for the global economy, fossil fuel prices, and future environmental regulations. These uncertainties have been underscored by the recent crises – economic (financial crisis of 2008, euro zone crisis), industrial (Deepwater Horizon, Fukushima) and geopolitical (Arab Spring) – that the world has seen.

The second challenge relates specifically to the regulation of greenhouse gas (GHG) emissions. To have a 50% chance of limiting the global temperature increase to 2°C in relation to turn-of-the-century levels, global emissions will have to be reduced by 50% from now to 2050, whereas under a business-as-usual scenario, emissions would almost double by that year. The energy sector is on the front line, as two-thirds of global GHG emissions are carbon emissions linked to that sector.

The third major challenge is massive urbanization, particularly in emerging and developing countries, where the trend is particularly visible since cities, even when they develop in a relatively disorganized fashion, offer a better chance of escaping poverty than rural areas. Urban growth rates have reached unprecedented levels: it took 130 years for the population of London to rise from 1 million to 8 million, but Bangkok saw the same increase in 45 years, Dhaka in 37 years and Seoul in 25 years. By 2030, the urban population will likely have doubled from 2 billion to 4 billion worldwide. Cities account for two-thirds of global energy consumption today and this will probably rise to three-quarters in 20 years. They are also responsible for 70 per cent of global energy-related CO2 emissions and a large majority of local air pollution. This has made energy optimization a key to managing both social and environmental externalities of modern cities. To be efficient, this optimization will need to go hand in hand with systemic and long-term planning of 'sustainable cities'.

To meet these three challenges simultaneously, electricity should play a decisive role within the energy system.

Tackling climate change: Electricity on the front lines Electricity currently accounts for 40 per cent of carbon emissions produced by the energy sector, or 25 per cent of global greenhouse gas emissions. A direct link can be traced between this current state of affairs and the generation mix used to keep up with ever increasing demand for electricity: two-thirds fossil fuels (41 per cent coal, 26 per cent gas and oil) and one-third carbon-free sources (14 per cent nuclear, 16 per cent hydroelectric, and 3 per cent

other renewables). Coal generation emits roughly one ton of CO2 per MWh compared with 450 kg for combined-cycle gas turbine technology.

The IEA has made the point that the power sector is expected to account for 70 per cent of the emissions reductions required of the energy system by 2030 to limit the temperature increase to 2°C. This will only be possible with simultaneous efforts in terms of demand-side management, which the IEA scenario assumes will enable a 40 per cent reduction in sector emissions; massive reductions in emissions from electricity generation, with average carbon content declining by 60 per cent by 2030 and 90 per cent by 2050; and, further downstream, the replacement of fossil fuels with low-carbon electricity for an ever larger number of end-uses.

The challenge may appear for the next two decades, we already have low and no-carbon generation technologies that are competitive.

On the demand side, technologies exist for a wide range of end-uses: thermal insulation in buildings, efficient lighting, more efficient electric motors, heat pumps, solar-powered water heaters, etc. Energy efficiency will make a key contribution in helping the electricity sector reduce emissions. On paper, the cost associated with related measures could be relatively low, but there is a need to monitor transaction costs, which are generally hidden and can reflect asymmetric information, behavioral patterns, household budget constraints, or the interests of the concerned parties.

On the supply side as well, there are technologies that can deliver lower-carbon electricity at an affordable price ($60-90 per MWh in OECD countries). Examples include supercritical coal-fired plants (efficiencies of up to 45 per cent) and combined-cycle gas turbines. Most importantly, carbon-free technologies like hydroelectric, nuclear and wind power are available.

Hydropower capacity could be increased three- to fourfold from the current level, mainly in developing countries, at a competitive cost. Since hydropower is capital-intensive, financing must be facilitated in the least developed economies. It will also be crucial to monitor the impact of dams on biodiversity, population resettlement, and integrated water resource management.

Nuclear power is also competitive. Without prejudging the full results of analyses of the recent Fukushima accident, it seems clear that projects will be subjected to more restrictive and selective standards, with more emphasis placed on observance of the highest safety standards: this will mean plants which further reduce risk in the face of extreme events, and national safety authorities and international governance bodies that have more power in terms of controls, permitting and the sharing and implementation of best practices. These are key elements for the technology to be accepted.

As regards wind power, land-based turbines are rapidly nearing maturity (10-30 per cent more expensive than already-competitive generation technologies). In regions with abundant wind (more than 3,000 hours, e.g. Texas), onshore wind can be competitive already, if indirect costs resulting from the intermittent nature of the resource are well managed. These indirect costs can be broken down into three categories: costs associated with network expansion to allow transmission and development in a larger number of areas, cost of investments in additional facilities to guarantee that demand can always be met, and costs associated with dynamic network management to maintain the supply-demand balance in the short term.

The next two decades represent a real window of opportunity: even assuming significant efficiency gains, the IEA still projects that 5,000 GW of new capacity will come online between now and 2030, which is more than current global capacity (installed capacity in 2008: 4,720 GW). These low and no-carbon technologies must therefore be deployed massively to avoid locking the global electric system into the same high-carbon path for a few more decades.

The Importance of Innovation

The challenge will be to invest enough in R&D to ensure that they emerge, cost less, and can be deployed after 2020 or 2030.

Photovoltaic solar is a case in point. Its economic maturity is measured very differently in different parts of the world. In California, sunshine is sufficiently abundant that full costs can be below €250/MWh in the residential market, while system benefits can exceed €100/MWh since generation is closely correlated to peak demand. In Europe, where sunshine is half as abundant, generation costs are still around €300-500/MWh in the residential sector and system benefits are closer to €50/MWh.

Carbon capture and storage encompasses a range of complex technologies, some aspects of which have already been mastered: we know how to capture and transport carbon, and have a relatively good grasp of some storage techniques.

Carbon-free electricity could thus play an increasingly important role in creating sustainable cities since it can meet all urban energy requirements while also reducing both carbon emissions and local pollution if substituted for fossil fuels, especially in heating and transportation. Across the entire chain, from decentralized generation to conversion into final energy services, the development of "smart" solutions will facilitate communication and the optimization of energy consumption in buildings and public spaces, transportation, decentralized generation and possibly, in the more distant future, electricity storage.

The Role of Public Policies

There is, thus, no need to count on an as-yet-unidentified miracle technology to set lofty targets for decarbonizing the electricity sector. On the other hand, the transformation will come at a cost, one that must absolutely be kept in line by collectively forging public policies that create efficient incentives for consumers and producers. These policies should meet three criteria.

Firstly, they must be geared more to the long term. Time constants are long in the power industry: investment processes require three to 15 years, while plants are designed to remain in service for between 30 and 60 years, and the corresponding transmission and distribution infrastructure at least that long. A building's lifespan can exceed 100 years.

It is generally difficult at an institutional level to set regulations that provide visibility over several decades. At the same time, the stability and predictability of market regulations over long periods depends in large part on how costs to society are kept in check. If there are doubts about these costs being efficiently managed, the risk of reversals in public policy increases considerably. A good illustration is the way in which solar incentives have been available in fits and starts in Germany and Spain: since feed-in tariff instruments did not control the quantities deployed, an unexpected surge in total subsidy amounts led the governments of these countries to abruptly change their policies.

Cost control, however, is not merely a matter of sound policy-instrument design. It is also a question of adapting the type of public intervention to the maturity of the technologies.

For mature technologies, the goal should be to encourage massive deployment in the market over the next 20 years. These options (carbon-free wind, nuclear and hydro power on the supply side; heat pumps and enhanced insulation for demand-side efficiency) are competitive with a carbon price of €0 to 50 per tonne, which could be directly financed by the market on the condition that the carbon value is fully integrated into energy markets with a long-term view, and that some market imperfections that are hindering deployment are removed.

For not-yet-mature technologies, the cost of CO2 avoided is typically a few hundred euros per tonne or higher. The first step to change this state of affairs will be to launch and support R&D and experimentation programs, for instance through public-private partnerships, international research organizations and demonstration funds.

Secondly, public policy must be founded on a coherent combination of price signals and related regulatory measures – and this at all levels of the production and consumption chains.

At every level, prices must reflect total costs to ensure investment financing over the long term and an economically efficient selection of mature low- and no-carbon technologies. In the electricity sector, additional measures are usually required to assure that investments are made in generation and transmission infrastructure in a timely manner. For instance, public debates must be opened well in advance to address acceptance concerns, permitting systems must be clear and stable to avoid delays in investments, and technical standards must be established to facilitate the integration of intermittent generation.

Concerns about climate change, energy security and rapid urbanization call for electricity to play an enhanced role in the energy system and economy, and the coming decades will be a real test.. Serious and chronic uncertainty about energy prices and future growth are such that the creation of a long-term collective strategy and the design of adapted regulations will be decisive. Particular attention must be paid to ensuring that interaction between the deregulated market and the regulations under which it operates gives efficient incentives over the long term, while guaranteeing that quality of service is maintained and that the full costs of energy services are kept in check.

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Lukla Air Strip

Initiation for New Technical Aviation Era:

Take-off and Landing Performance Calculation Tool for Domestic Aircrafts and Airports

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Background

July 1, 1958 A.D: A proud day for Nepalese aviation history as Douglas DC-3 Dakota, NAC's very first aircraft flew over the Nepalese sky for the first time. Not that the airplanes hadn't flown over the Nepalese sky earlier as Beechcraft Bonanza had already landed at TIA in 1949 A.D., but it was the first aircraft that had ownership of Nepalese government. It was an exciting year for Nepalese Aviation because the planes flew over our sky even before the cars hit the road. Even looking upon the history of the world aviation, your heart fills up with proudness and joy to see Nepal Airlines having even older history than other huge airlines like Qatar Airways. It's been 58 years since we embraced that landmark in our aviation history but why are we still way behind than the other countries in the field of aviation? Why our airports are still considered among the worst airports in the world and our aircrafts so below in air-transportation safety index?

Well, there are many reasons behind this depressing scenario among which one of the major reasons for the slow advancement in technical field in our aviation sector might be our enormous reliance upon the foreign resources. From maintaining parts to operating aircrafts, we are dependent on foreign resources and foreign experts in almost every steps. So, the small steps from every local level in the technical field can be a steady but effective way in the improvement of Nepalese aviation sector. So with that in mind, an aircraft performance calculation can be one of the technical fields for the initial step where we can make a tremendous improvement. As aircraft operators in Nepal make the calculation of theaircraft performance using the software developed at the foreign country which might not essentially contain the parameters of the domestic airports of Nepal, hence the calculation tool which takes the in-prompt parameters of domestic aircrafts and airports and gives the immediate calculation result is one of the sector where we need to work upon.

So as a part of a small initiation, the software for calculation of the take-off and landing performance parameters for the domestic aircrafts in Nepal has been developed by a team of students from IOE Puchowk Engineering Campus. The objective of this initiative project is to develop an effective and efficient tool that calculates take-off and landing performance of airplanes flown by Nepalese operators, in order to facilitate the operators as well as aviation service providers with means for quick estimation of operational requirements and performance data. Also as the process of take-off and landing is one of the major phases of the flight operation, for which the parametric requirements are very high; therefore, this tool is developed to assist them to plan safe take-off and landing operations.

About the developed Calculation Tool

The tool has been developed after lots of researches and data collections. It basically works on all the analytical equations and formulae of aircraft performance that had been coded in MATLAB. The transformation of function codes was done into an executable software tool. This tool generates performance variations in parameters that affect the take-off and landing phases according to the operational conditions. The parameters that affect the aircraft operation which are considered in the tool are aircraft's payload, aircraft dynamics and aerodynamic characteristics, runway conditions, operation altitude, wind velocity and flight rules. The database has been created for the storage of the data of domestic aircrafts and airports. The tool can be used to determine take-off and landing performance for 27 domestic airports and 10 domestic aircrafts operated by domestic airlines in Nepal. The data regarding the airport was taken from the "e-aip section" of the CAAN website. The aircraft data was accessed by visiting and contacting the respective aircraft operators from the operations department. The other data regarding the domestic

aircrafts were taken from the internet and their flight brochures.

The tool consists of various tabs for the easy user interface in which each tab displays unique specific result. The major result displaying tabs consisted by the software are: Single Point Results, Take-Off Graphs, Landing Graphs, Jeppesen Chart, Take-Off Summary and Landing Summary. Here, each tab takes required inputs as per commands given by the user according to which series of calculations are made and the essential graphical as well as point results are displayed. For most of the inputs, the users can simply dropdown the pop-up menu to select the desired aircraft and airport. All the domestic operational airport and operational aircraft have been kept under the menus "Airport" and "Aircraft" respectively.

Display Tabs under Tool and Corresponding Results

Single Point Results Tab:

In single point results, simply the domestic aircraft and domestic airport along with the wind velocity is taken as an input. Then, with the help of callback functions of Single Point Result at MTOW or in desired weight, the appropriate calculations are made. The Take-Off distance Required, Landing distance Required, Runway Available at the selected airport, take-off velocity required, approach velocity required, climb rate of an aircraft, descent rate of an aircraft, minimum climb rate required for the specified aircraft on the specified airport and the minimum descent rate required for the given aircraft for the specified airport are displayed as an output.

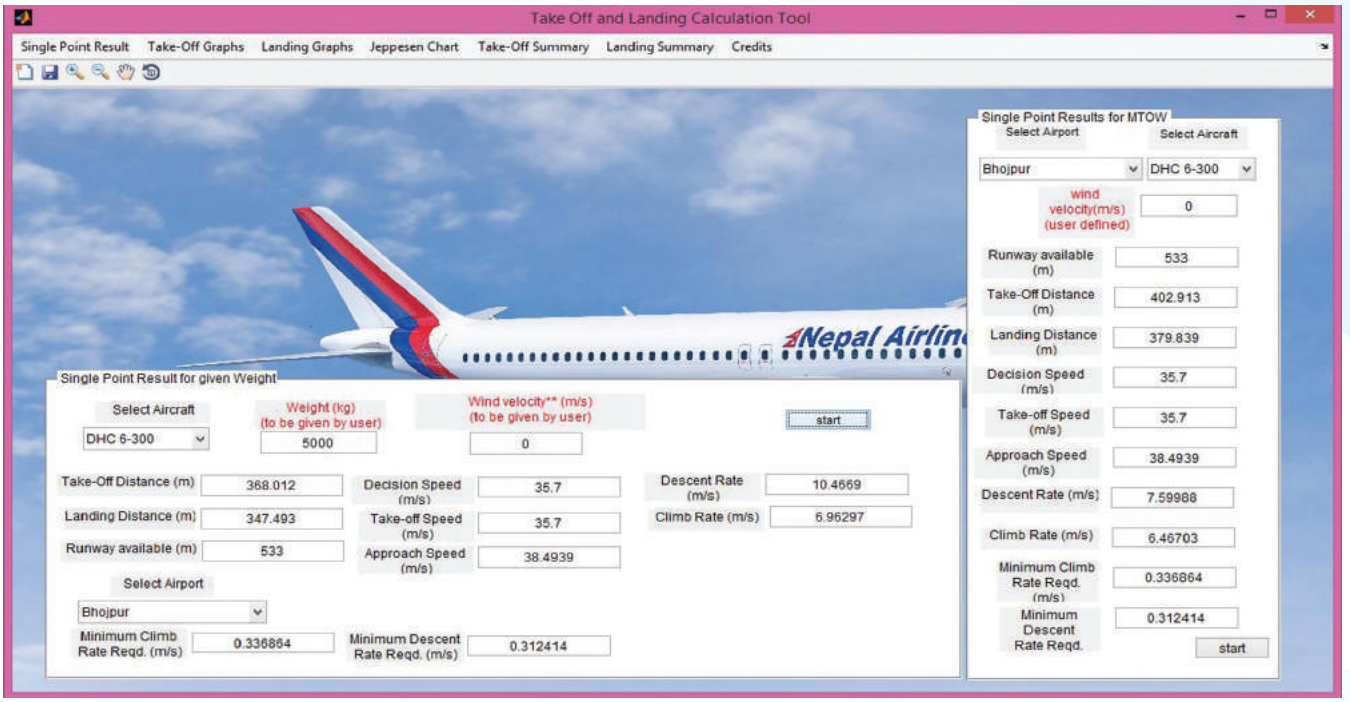


Fig: Single Point Results tab displaying the results of DHC 6-300 for Bhojpur airport at MTOW and 5000kg weight input

Graphs Tab:

In the graphs tab, along with desired aircraft and airport, users also have the choice to select the parameter whose parametric variation with take-off/landing distance is to be plotted with. The input parameters could be altitude, coefficient of friction, thrust (%), weight variation and wind velocity. According to the selection of desired parameter, the respective functions would be called and the variation of take-off/landing distance in accordance with the input parameter will be plotted in the adjacent display axis and displayed as a result.

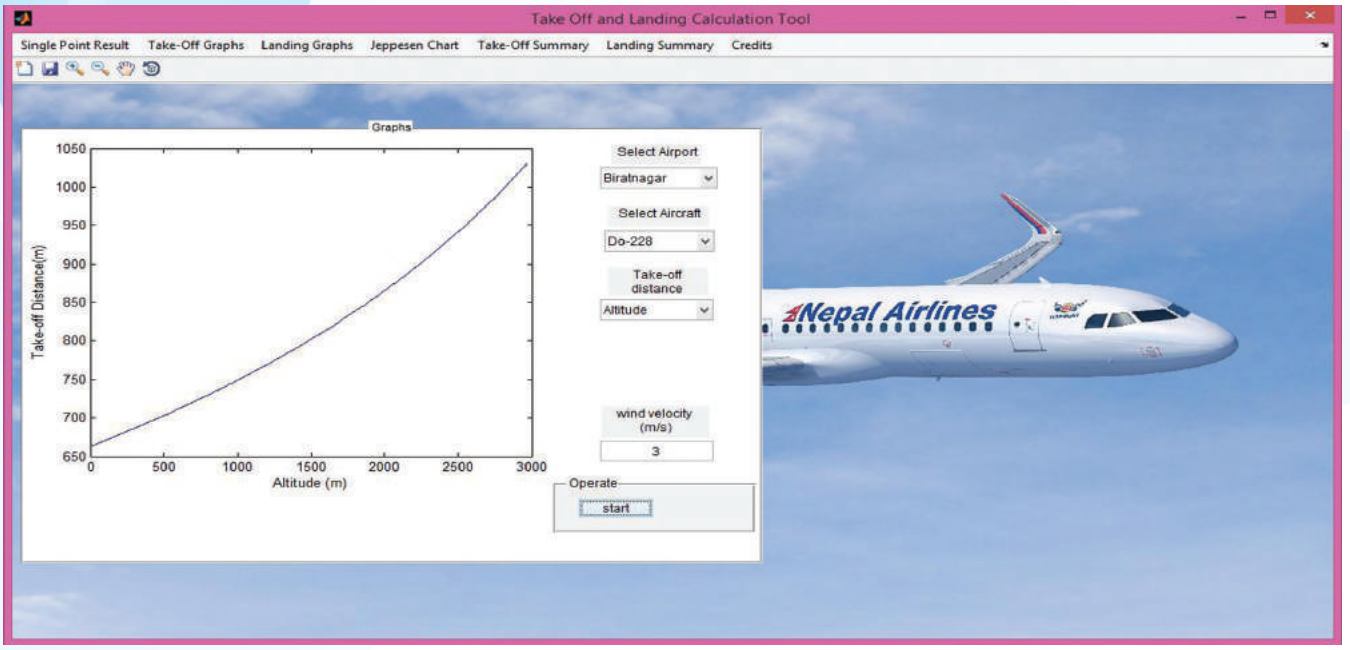


Fig: Take-off distance Vs. Altitude graph for Dornier Do-228 at Biratnagar airport for 3 m/s wind velocity

Jeppesen Chart Tab:

In the next tab, we have tried to replicate the exact Jeppesen chart by meeting the standard that has been set for the chart. With the aircraft and airport as an input from the user, the chart gives the prompt knowledge about the obstacle height, ASL elevation of an obstacle, gradient that needs to be maintained by an aircraft and distance of an obstacle away from the runway. The point-dotted horizontal line shows the ground level whereas the dotted vertical line represents the obstacles. The standard ICAO obstacle and the closest obstacle for the airport are kept in the chart with the ASL elevation and height of obstacle in the small bracket in feet. The two segments for the gradient line plot is from lift-off point or touchdown point of an aircraft to ICAO obstacle height (screening height) and screening height to airport obstacle height. If the aircraft is not feasible for the airport (i.e. airport's runway distance is less than aircraft's required distance or climb/descent rate less than airports minimum climb/descent rate), then the error message will be displayed.

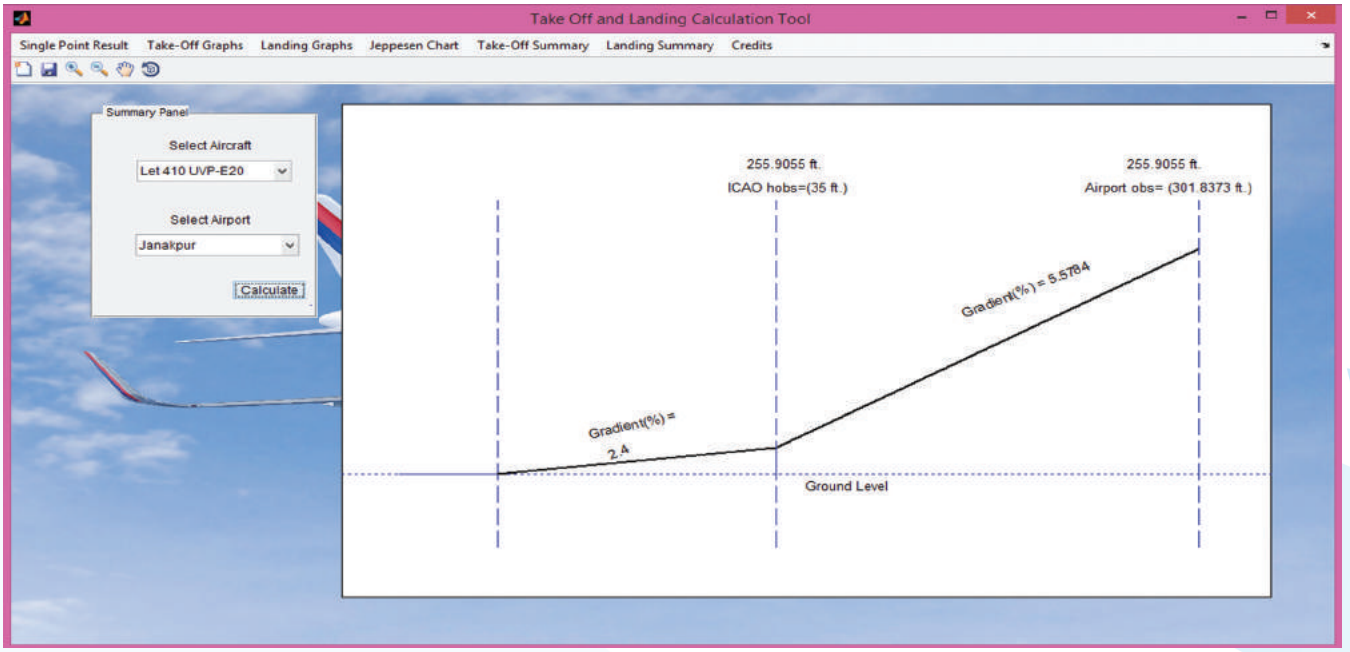


Fig: Jeppesen Chart for Let-410 UVP E-20 at Janakpur Airport

Summary Tab:

Finally the take-off and landing summary tabs give user the quick knowledge about the entire take-offs and landing performance parameters in pictorial form. Also, the feasibility of aircraft in the given airport is checked in this tab and then displayed in Yes/No form. The green color with "Yes" string is displayed if the aircraft is feasible at the selected airport; else the red colored "No" is displayed.

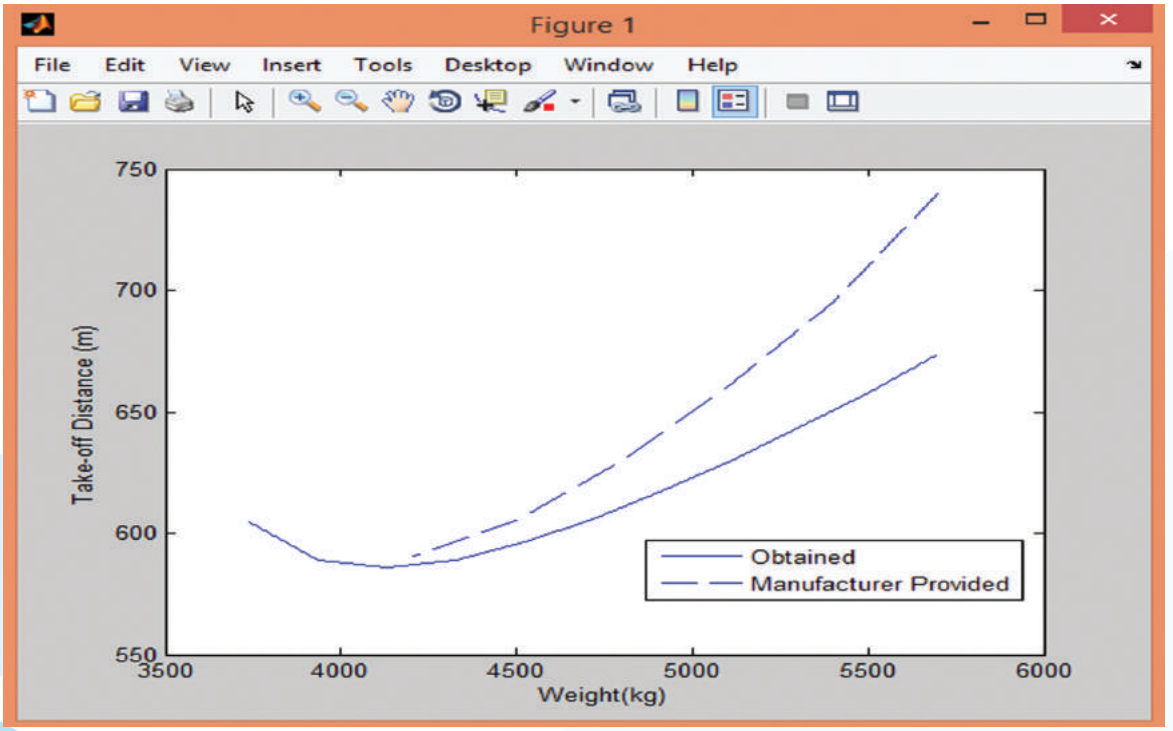
Validation of the Results

Now after the generalization of the results, we tried to compare the both point results and graphical results obtained from our software with the actual values of the aircrafts. The basis for the comparison was taken as the ISA-SL condition with zero wind and at MTOW condition. The comparison was mainly made for Take-Off distance, Landing distance, Climb Rate, Descent Rate and Decision velocity. The results for validation were taken from pilot's operating handbooks and performance data books. For ATR and Beechcraft, the validation was made from Buddha Airlines' POHs in presence of operators from their own operations department. Minor deviations were encountered in the analytical results owing to the approximations in the analytical method, including the aircraft aerodynamic and flight-dynamic parameters that were obtained through separate analyses.

Table: Comparison Table for Balanced Field Length
(MTOW, ISA-SL, zero wind)

Aircraft	Calculated (m)	Actual (m)
ATR 42-320	1065	1041
ATR 42-500	1166	1165
ATR 42-750	1351	1241
BAe Jetstream 41	1047	1500
Beechcraft 1900D	1196	1141
dHC 6-300	350	365
dHC 6-400	365	366
Dornier Do-228	663	792
Harbin Y-12	515	540
Let-410 UVP E-20	522	560

Fig: Comparison Graph of Take-off distance Vs. Weight for Do-228



Conclusion

So, as the validation results are fairly satisfactory, the application of the software can be generalized for all the other airports and aircrafts. Also with the proper effort, the sharp fine-tuning of the software can most certainly be done. Upgrading the tool for the cruise phase is also an excellent project to work on. And though the immediate implementation of this tool in the day-to-day operation is unrealistic yet now, still the software can aid in many of the preliminary observations and feasibility studies. With the likes of initiative development projects like Nijgad Airport and extension of Pokhara Airport going on, this tool can really be beneficiary for the primary feasibility studies.

Finally, yes if we dig up the Nepalese aviation history, we feel really proud comparing with the other large airlines and national aviation services. But when the question arises on where are we right now, you suddenly fall down to the tragic reality. 67 years of proud history and currently we barely even possess 50 domestic airplanes, we can't afford landing bigger airplanes as restricted by our runway characteristics, we had just one international airport whose quality is deteriorating day by day, the technical advancement is way too slow and a lot and lot more. Honestly, in the present context absolutely no Nepalese parents are willing their children to choose their career in aeronautical sector considering its scope in Nepal and there's not even one solid reason to convince them not to. So, I really wish the proper authority to seriously consider this matter, put a little more effort, attention, encourage any sort of positive contributions how small may they be and don't let die the enthusiasm of the ones who really want to contribute in Nepalese Aviation before an impatience and frustration grows among them and they start pursuing the "abroad-dream".

Team Members Bibek Poudel, Niraj Pudasaini, Sachin Sah, Spad Acharya

Going Paperless: A Digital Innovation

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Trying to find a file or a document that we left the previous day at our desk has become a part of our everyday job in office. We go into a wild adventure searching through stacks of paper files, looking here and there, trying to recall where exactly we put our file the last time. And, many a time, we even wish if everything would be paperless, don't we ?

As computers became an integral part of our daily life and office desks, offices aspire to be paperless. But even after decades of this technological revolution, we are still stuck with paper. Originally "paperless office" was coined as a marketing slogan for IBM computers in its early years. The current office scenario shows almost every employee having an access to a computer terminal, yet bizarrely, there are fewer efforts to reduce the usage of paper. Paper is everywhere. We spend a lot of time and money in paperwork. Despite the so called prediction of paperless offices, more paper is produced every year.

The term 'paperless office' has become more like a myth rather than some potential reality. No matter how much we are equipped with so called advanced and classy tech gadgets in the market, we still end up cutting trees and using heaps of papers every day. Our connection with paper has become more like bread and butter; we can barely think a day without it. It doesn't have to be this way. In almost all areas of modern office system, it's now possible to get rid of paper entirely. Digital documents are simpler, easier to store and send information, offer easy and faster searching and versatility. But, we have a long way to go before we can practically implement the concept of the 'paperless office'.

To begin with, the potential of going paperless for a 'paper heavy' profession like accountancy or finance can not only save a huge amount of money being spent every year on paper but companies can emphasize on going green. For an organization like ours, CAAN can hugely benefit from the paperless office. Technical and non-technical data such as flight movement, account, revenue, NOTAMs, tippanis (comments), and other information are mostly in papers. We have huge piles of files and papers on our desks. Let's have a look on the benefits of going paperless.

The use of paper is greatly reduced, if not eliminated in paperless office system. Converting documents into digital form saves money and space, boosts productivity, makes sharing and documentation easier, increases security and keeps the environment healthy. However, we must not forget that there are some offices, businesses or organizations which should mandatorily keep paper documents along with the digital storage.

The Beginning of the Idea of Being Paperless:

With the video display computer terminals like 1964 IBM 2260, paperless office described the office of the future. But, even after about five decades, we have not improvised much. A decade later in a 1975, a Business Week article, predicted that the paperless office would change the way offices act. With the introduction of personal computers, paper was supposed to be unnecessary for daily tasks like record keeping. The term 'The Paperless Office' was first used in commerce by Micronet, Inc., an automated office equipment company, in 1978. Yet more paper was produced, more documents printed, until the early years of 21st century when young generation started to take over slowly. With generation shift in the modern age, interactive display screens are being preferred to the printed documents.

Problems with Paper

If we just think for a while, dealing in a traditional way does not require paper and files alone. They need filing cabinets, shelves, drawers and so on, that do require maintenance, considerable space, and are resource-intensive. For a paperless office, we can simply adjust a desk, chair and a computer with much

more storage, all in digital form. One can simply imagine how silly is the idea of even to think of syncing printed data with computer databases. These are simply not compatible. All the problems with paper files like arranging, tracking, sorting, updating or storing can simply be brushed aside by a computer. To make it simple, it is much more like all-in-one package. We are not only talking about desktops. For instance, laptops can be used anywhere, it doesn't simply require a desk. With the era of tablet computers and smart phones, paper can nearly go obsolete. But, for those who are quite resistant towards any sort of technological changes, they would always say that though eBooks are better, paper will always afford other uses than screens.

The so- called Attachment with Paper:

We can't simply swap places of paper with being paperless with a snap of finger. First we need to understand why we are still attached with papers so much that we simply might not be ready to let go. Some of the reasons for such reluctance -

- For a country like Nepal, government requirements can be one reason. Let's say if the government says it's a must to keep paper records, we can't simply deny. However, the government has been trying to adopt the e-governance system as most of the governments around the globe. CAAN has to, time and again, deliver data and information to the government in the printed form.
- People find paper cheaper than digital gadgets. If we consider the huge amount of storage digital devices offer against all the cost of printers, toner, servicing, maintenance, connectivity, cabling, user support and all the other associated costs, the perception might just change.
- In case of loans and business deals, digital signature can't simply flush away all the troubles.
- Unless the current computers can process all the data that has been and shall been existed, paper will still have an upper hand if we have to go through the archives of data.
- 'Haptic Perception', a psychological term describes how most people feel paper as real, physically interpretable rather than the digital data displayed on the screen that can be read, not felt.

In nutshell, we can say the reason we still use paper rather than being logical are historical and personal.

Becoming Paperless: How effective can it be for CAAN?

CAAN is an ocean of information in terms of aviation. As stated earlier both technical and non technical information - flight movement, account, revenue, NOTAMs, tippanis and administrative data - are stored on the paper, in most of the cases. Documents are being piled up on our desks, cabinets and racks. We must at least have a look on how can we make more from a paperless office because we have something to create a paperless office system.

Paperless office which was conceptualized half a century ago is finally possible. Since we have the technology to create it, we just need to embrace the modern tech and provide any necessary training and encourage the employees to work in such environment. This will save our time, money, improve security of data and increase both public and employee satisfaction as well.

Ways to make CAAN paperless:

- We all are familiar to R & D. Here, it's not research and development but reduce and discourage. Reducing paper usage helps a lot. We can track the number of pages printed per person, generate a monthly report and email it to everyone. Keeping such track record, can discourage us from un-necessary printing.
- Inconvenience to print will discourage people from printing. People will certainly not print play-fully if they have no printers on their desk. Therefore, we can reduce the total number of printers, and install printers at a central location. Also, printing both sides of paper will half the number of paper usage. Unnecessary emails should not be printed as we reply them through computers.
- Paying online can be another solution. This will help to deal with accounting activities in an easier

and faster way. Likewise, reuse and recycle can also be promoted.

- Digitization is another option. Digitization doesn't mean only reducing paper waste. Digitized notes are easy to search and can be stored in a huge amount. Personal productivity will be enhanced by adapting to digitization.
- We can re-architect our business procedure in a way that makes paper needless. For instance, we can generate reports or documents in PDF or DOC format that can be viewed in any digital gadget, be it computer, laptop even smart phones.
- Digital signatures can be implemented, thereby reducing printed documents with signature as electronic signature is also as legally valid as the handwritten signature.
- Internal documents can be created on offline or online basis with the help of different software such as Office 365, Google Docs and Evernote. These will not only support in document sharing but also preparing employee handbook, proposals, meeting notes, office memo, etc.
- Promote using PDF documents. It can be filed and submitted through email and internet. Forget fax, it is being obsolete now. Some free online tools like PDF escape or paid proprietary software like Nitro Pro 9, Adobe Acrobat, etc helps to create such PDF documents in easy and attractive way.
- Setting up the right infrastructure can also help us implement paperless office. A multi-monitor setup can provide cross reference for documents among employees. After all, it's a onetime investment.
- Use scanner. Instead of photocopying the necessary documents, we can simply scan them, save them in our required format and thus capture contents and make it available for our employees. And, if we can't afford many scanners we have mobile apps like TurboScan and Scanner Pro that can capture and upload our files into cloud storage by using our Smartphone's built in camera as a scanning tool. For better performance, we have Optical Character Recognition (OCR) software that converts any PDF files and scanned data into editable files which is more useful to us.

Can we go digital then?

Looking at both sides of the coin, we can't disagree that the process of being paperless can be and is intimidating. Setting aside the good impressions, we have to consider the costs of new equipments and software, and all that we have to go through while converting paper documents prepared so far into electronic files. Apart from that, there is issue of time, how long will it take, how will we make the move, when shall we begin and so on. We also need to decide the amount of data needed to be converted. How will we handle the new files? When will we train our employees? How can we continue with the usual operation of the office along with the data conversion? There should be a strategy to address all these concerns.

It might seem impossible to go completely paperless, as some would argue that signed deals, tenders, legal contracts, audit paper records, tax filings etc. should need to exist in original form as a paper document due to legal or financial reason. But, we can't have a blind eye towards the benefit of making our organization paperless. As per the ICAO regulations, civil aviation authorities should be technology friendly and adapt the modern technological developments.

Reducing the use of paper isn't a one-time event. It includes a series of efforts to move away from paper and establish a culture that frowns on waste. And, that's why, we shouldn't stop at completely eliminating paper but should push for greater digitization in order to reap its full benefits.

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नेपालमा सार्वजनिक संस्थानको आवश्यकता र औचित्य

✍ शिवलाल बसेल
सहयाक ने.ना.उ.प्रा.

कुनै व्यवसाय संचालन गर्न, जनतालाई सामाजिक तथा अर्थिक सेवा उपलब्ध गराउन तथा पूँजी संकलन र परिचालन गराउन कृत्रिम ब्यक्तिको रूपमा स्थापित संस्थालाई नै सार्वजनिक संस्थान भनिन्छ । ME Dimock ले सार्वजनिक संस्थानलाई कुनै विशेष ब्यापार वा वित्तीय प्रयोजनको लागि संघीय राज्य वा स्थानीय कानूनको आधारमा स्थापित सरकारी स्वामित्व भएको संस्था भनी परिभाषित गरेका छन् ।

विश्वमा सार्वजनिक संस्थानको शुरूवात सन १७९१ मा संयुक्त राज्य अमेरिकामा स्थापित First united state bank बाट भएको पाइन्छ भने सन १९०८ मा स्थापित पोर्ट अफ लण्डन अथोरिटी अर्को महत्वपूर्ण सार्वजनिक संस्था हो ।

आधुनिक लोकतान्त्रिक राज्य व्यवस्थामा राज्यको कर्तव्य जनताको जीउ, धन, स्वतन्त्रता, राष्ट्रिय सार्वभौमसत्ता र स्वाधीनताको रक्षा गर्दै शान्ति, सुव्यवस्था र अमनचयन कायम गर्नु हो । साथै, सबै क्षेत्रका नागरिकमा न्यायपूर्ण वितरण सहितको अर्थव्यवस्थाको विकास र प्रत्याभुति गर्नु पनि राज्यको दायित्व हो ।

नेपालमा सार्वजनिक संस्थाको शुरूवात राणा प्रधानमन्त्री श्री ३ जुद्ध शमशेरले वि.सं. १९९३ मा बिराटनगर जुट मिल स्थापना गरेसँगै भएको मानिन्छ । वि.सं. २०४४ को अन्त्यसम्म आइपुग्दा सार्वजनिक संस्थाको सङख्या ६९ पुगेको थियो । यि संस्थानहरूमा ५०,००० भन्दा बढीले रोजगारी पाएका थिए । वि.सं. २०४६ सालको राजनैतिक परिवर्तन सँगै अबलम्बन गरिएको खुला तथा उदारवादी अर्थव्यवस्थापछि सार्वजनिक संस्थानलाई निजीकरण गर्न थालियो । त्यसपछि सार्वजनिक संस्थको सङख्या क्रमशः घट्दै गयो । हाल सार्वजनिक संस्थानको सङख्या ३७ छ जसमा २७,८६२ जनाले प्रत्यक्ष रूपमा रोजगारी पाएका छन् ।

नेपालमा विभिन्न ऐन अनुसार सार्वजनिक संस्थान स्थापना भएका छन् जसमध्ये कम्पनी ऐनबाट २३ वटा, संस्थान ऐनद्वारा २ वटा, विशेष ऐनद्वारा ७, संचार ऐनद्वारा २ तथा बित्तीय संस्थासम्बन्धी ऐनद्वारा ३ वटा स्थापना भएका हुन् । यि संस्थालाई कारोवारको प्रकृतिको आधारमा विभाजन गर्दा वित्तीय क्षेत्रका ९, औद्योगिक र सेवा क्षेत्रका ७/७, व्यापारिक क्षेत्रका ६, सामाजिक सेवा क्षेत्रका ५ र जनउपयोगी क्षेत्रका ३ रहेका छन् ।

नेपाल जस्तो विकासोन्मुख देशमा सबै क्षेत्रमा समानुपातिक रूपमा विकास नभइसकेको, निजी क्षेत्रमा व्यावसायिक नैतिकता र अनुशासन तथा ग्राहकमुखी दृष्ट्रिकोण पूर्णरूपमा विकास नभईसकेको, औद्योगिक क्षेत्रमा राष्ट्रिय अन्तर्राष्ट्रिय लगानी र विकास नभईसकेको अवस्थामा सार्वजनिक संस्थानको आवश्यकता दिन प्रतिदिन वढदो छ ।

नेपालमा सार्वजनिक संस्थानको शुरूवात नभएको भए वर्तमान औद्योगिक जग वस्ने थिएन, आर्थिक सामाजिक क्षेत्रको विकास हुने थिएन, जनताको जीवनस्तर अत्यन्त कमजोर बन्ने थियो । प्रविधिमा विश्वले छलाङ मारिरहेको अवस्थामा हामी ढुङ्गे युगको वातावरणमा वस्नुपर्ने अवस्था हुने थियो । यद्यपि विश्वको परिवेशसँग तुलना गर्दा यी कार्य त केवल शुरूवाती दिन वा १९ औं शताव्दीको विकास जस्तै देखिन्छन् । नेपालका जनतालाई सहज र सरलरूपमा तथा सुलभ मूल्यमा वस्तु तथा सेवा प्रवाह गरी आर्थिक बृद्धि, रोजगारी सिर्जना, जीवनस्तर अभिबृद्धि गराउने लगायत पूर्वाधार निर्माण, लगानीमैत्री वातावरण तयार गरी निजी क्षेत्रलाई माथि ल्याउने जस्ता कुरामा यिनै सार्वजनिक संस्थानले महत्वपूणै भुमिका खेलका थिए ।

वर्तमान परिवेशमा अति आवश्यकीय वस्तु तथा सेवा जस्तो खानेपानी, विद्युत, खाद्यान्न, कृषि सामाग्री तथा बिउबिजन, पेट्रोलियम पदार्थ, औषधी, दुग्ध पदार्थ सिमेन्ट जस्ता वस्तु सुलभ, सुपथ मुल्यमा प्राकृतिक विपदको समयमा समेत उपलब्ध गराई बजारमा हुनसक्ने कृत्रिम अभाव, कार्टेलिङ, सिण्डिकेट र कालोबजारी नियन्त्रण गर्ने अस्त्र बनेको छ सार्वजनिक संस्थान । साथै राष्ट्रिय-अन्तर्राष्ट्रिय हवाई सम्पर्क, हवाई सञ्चार, हवाई पथपर्दशन, हवाई परिवहन सेवाको संचालन गरी हवाई सेवालाई सुरक्षित, भरपर्दो र स्तरीय बनाउने, सञ्चार प्रविधिको विकास

र विस्तार गर्ने, वैकिङ्ग, विमा, लगानी तथा आवास जस्ता क्षेत्रको विकास र विस्तार गर्ने, रोजगारी सिर्जना गर्ने, उद्यमशिलतामा बृद्धि गराउने र सार्वजनिक सेवा प्रवाहको संवाहकको रूपमा संस्थानले निर्वाह गरेको भूमिका निकै सान्दर्भिक, यथार्थपरक र प्रशंसा योग्य छ ।

नेपाल विगतको राजनीतिक अस्थिरतावाट स्थिरतातर्फको सकारात्मक बाटो अंगालेको स्थिति, संघीय रूपरेखाको अभ्यासमा आफूलाई अभ्यस्त गराउन र सहकारी र निजी क्षेत्रलाई सार्वजनिक क्षेत्रको सहयात्रीको रूपमा अगाडी वढाउन प्रयास गरिरहेको मुलुक भएकोले सार्वजनिक संस्थानको औचित्य विगत र बर्तमान भन्दा भविष्यमा अझ बढी देखिने छ । अझ सशक्त, प्रभावकारी र निजी क्षेत्रको सहयोगीको रूपमा सार्वजनिक संस्थानको उपस्थिति आवश्यक छ किनकि सबै संघीय प्रदेशको विकास समानुपातिक रूपमा नभएको, जीवनस्तरमा भिन्नता र लगानीमैत्री वातावरण समेत सबै क्षेत्रमा समान नभइसकेकोले सबै क्षेत्रका नागरिकलाई राज्यको सेवा सुविधा, स्रोत र साधनमा पहुँच पऱ्याई राज्यका हरेक नागरिकमा राज्यको अपनत्व वोध गराउने माध्यम, निजी क्षेत्रलाई ग्राहकप्रतिको नैतिकता, इमान्दारी र व्यवसायिकताको पाठ सिकाउने अविभावक, आर्थिक विकासको संवाहक र उद्यमशीलता प्रवर्द्धकको रूपमा सार्वजनिक संस्थानले भूमिका महत्वपूर्ण देखिन्छ ।

आर्थिक परिसूचकको दृष्टिले सार्वजनिक संस्थानहरूको स्थिति दयनीय देखिन्छ । आ.व. २०७२/७३ को आर्थिक सर्वक्षणअनुसार २० वटा सार्वजनिक संस्थान नाफा र १४ वटा घाटामा रहेका छन् भने ३ वटा सार्वजनिक संस्थाले विवरण नवुझाएको देखिन्छ । सार्वजनिक संस्थानमा दोहोरो भूमिका निर्वाह गर्नुपर्ने बाध्यता (सेवामुलक र व्यावसायिक सिद्धान्त), नीतिगत समस्या, व्यावस्थापकीय समस्या आर्थिक कारोवारमा पारदर्शिताको अभाव र रणनैतिक योजनाको कमी छ । साथै, कर्मचारी नियुक्ति र पदस्थापनामा पारदर्शिता र निश्पक्षता हुन्छ भन्ने कुराको प्रत्याभुति दिन नसक्नु, कार्यमापदण्ड लागु नहुनु, राजनैतिक हस्तक्षेप हावी हुनु, प्रभावकारी अनुगमन, मुल्यांङकन र निर्देशन गर्ने संस्थागत संयन्त्र नहुनु जस्ता समस्या पनि सार्वजनिक संस्थामा विद्यमान छन् । जसले गर्दा नेपाल सरकारले सार्वजनिक संस्थानबाट प्राप्त गर्ने अर्थिक लाभ/प्रतिफल (५.१२%) मात्र छ ।

सार्वजनिक संस्थानको आर्थिक अवस्था दयनीय भए तापनि सुधारका लागि उदारवादी र खुला अर्थव्यवस्थाअनुसार निजीकरण मात्र अचुक औषधी होइन । त्यसैले सार्वजनिक संस्थाको कार्यकुशलतामा सुधार गर्ने संयन्त्रको निर्माण गर्नु सार्वजनिक नीतिको चुनौति रहेको छ । माथि उल्लेखित समस्या समाधान गरी सार्वजनिक संस्थानलाई निजी क्षेत्रको सहयोगी र सार्वजनिक सेवाको संवाहकको रूपमा अगाडी बढाई निजी क्षेत्रबाट हुन सक्ने कालोवजारी, मंहगी, कृत्रिम अभावबाट जनतालाई राहत पुऱ्याउने किसिमले संस्थागत सुधार गर्नु बुद्धिमत्ता हुनेछ । अन्त्यमा, राज्य आफैले जन्माएको सन्तानलाई विषपान गराउनुको सट्टा विष मार्ने औषधी दिनु वुद्धिमत्तापूर्ण हुनेछ र सार्वजनिक संस्थानको स्थापनाको उद्देश्यले पनि सार्थकता पाउने छ ।

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