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Aims and Scope

APF Command and Staff College is established to enhance the professionalism of mid-level officers of Armed Police Force Nepal. Journal of APF Command and Staff College (JAPFSC) is an annual peer-reviewed journal launched by APF Command and Staff College, Kathmandu, Nepal since 2018. Journal is one of the most-important sources of producing and disseminating the knowledge to the related subjects. In order to be scientific, knowledge must be (1) systematic, (2) methodical, (3) general, and (4) critical. The journal will be an impetus for carrying recent theoretical, conceptual, methodological and new paradigms of security, development, and peace studies. The journal welcomes original, academic and research from multi- and interdisciplinary perspectives. Professors, academics, researchers, policy makers and students may see learning opportunity and will highly benefited from the research based articles included in the journal.

Call for Paper

Every year there will be announcement of **Call for Paper** and the last submission date of articles will be mentioned in Call for Paper. After receiving the evaluation report, it will be sent to the author for its revision. Finally the author will submit his/her paper to the research committee. The Editor-in-Chief has right to accept or reject the articles for publication. The author has to acknowledge to the organization or institution if the research has been financially supported by them. The authors receive three copies of the issue in which their article appears. The audiences are suggested to go through www.nepjol.info for reading the papers published in this journal.

It aims to identify the areas of research which are as follows: national and regional security, national integration, national and international law, peace, development, planning, foreign policy, ecology, environment and climate change along with global commons (but not limited to :).

The research article should have more than 5,000 words; 3,000 words for book review and research notes; and 300 words for abstract including five keywords. The research work should be based on global research methodology. After receiving the research papers, it will be first consulted by the editor-in-chief and then it will be sent to the expert(s) for evaluating the paper. The last date of paper submission will be by the end of September of the following year. The authors will not be charged any fee for publishing their articles. Views expressed in the articles are purely personal and the academic opinion of the authors and are not necessarily endorsed by APF Command and Staff College and Editorial Board. The editorial board reserves right to edit, moderate or reject the article submitted.

Editorial

The Editorial Board is pleased to publish and disseminate the “*Journal of APF Command and Staff College*”, Volume 5, Issue 1, 2022. We believe that the contributions by the authors in this issue reflect conceptual, theoretical and empirical research works in their respective fields. The researches have been confined to ethos of security, development and peace spectrum. It encompasses articles from scholars, researchers and practitioners aligning it with contemporary issues and security related dynamics of modern era. Professors, academics, researchers, policy makers and students may seize learning opportunity and will highly be benefited from the articles included in the journal. The editorial board reserves the right to edit, moderate or reject the article submitted.

The articles included in this journal are mostly research based. Views expressed in the articles are purely personal and academic opinion of the authors and are not necessarily endorsed by APF Command and Staff College and the Editorial Board. We would like to express sincere thanks to all the contributors for their respective inputs.

The Editorial Board

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CONTENTS

Raju Aryal	1	Role of Armed Police Force, Nepal in Promoting Good Governance through Border Security
Ramesh Raj Kunwar	13	COVID-19, Tourism and Knowledge Production
Jeevan K.C.	50	Search and Rescue Capacity Building of Nepal's Security Forces for Effective Response
Rodit K.C.	71	Study of Earthquake Preparedness in Kathmandu City, Nepal
Mandip Shrestha	93	Effect of Landslide on the Livelihood of People at Ghumthang, Sindhupalchok
Ukesh Upreti	109	A Study of Inter-Agencies Cooperation in Border Governance of Nepal
Devansh Agrawal	131	Climate Adaptation Financing in Nepal
Prakash Aryal	147	Nepal's Geo-Strategic Significance, Challenges and Opportunities

Role of Armed Police Force, Nepal in Promoting Good Governance through Border Security

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Abstract

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The Armed Police Force, Nepal was established for the protection of the life, property, and liberty of the people by maintaining peace and order in Nepal. Border security is a broad agenda of the national security and Armed Police Force, Nepal is a primary national security element on international border security of Nepal. The objective of the paper is to link the good governance and border management. The descriptive method is applied to draw the conclusion in this paper. The findings show that the Armed Police Force, Nepal has a major contribution in controlling trans-border crimes in coordination with other stakeholders and counterparts which directly contribute to promoting good governance in Nepal. Effective border management comply the most principles of the good governance: preparedness, participation, transparency, accountability and protection of human rights. Furthermore, it is found that border security has a significant positive relationship with good governance. Maintaining national integrity, safeguarding the independence and sovereignty of the nation, maintaining justice, and ethics, being free from corruption, and maintaining the rule of law are the primary independent indicators of promoting good governance through border security.

Introduction

Border security is a broad agenda of National Security (Manjarrez, 2015). Globally, security along countries' borders has become imperative because the relative security of every country to a large extent depends on its secured borders (Ejotubu & Jude, 2021). The concept of border governance comes along with broader border security. Ejotubu and Jude (2021) have further defined the border governance concept as an act of administering security along a state's borders through constitutionally mandated institutions/agencies with properly trained security personnel to provide the needed security to ensure legal migrants influx, genuine socio-economic transactions, and other related activities.

Government is one of the actors in governance. Other actors involved in governance vary depending on the level of government that is under discussion. Good governance has eight major characteristics (Börzel, Pamuk, & Stahn, 2008). It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2019). It assures that corruption is minimized, it is also responsive to the present and future needs of society (UNESCAP, 2019). Manjarrez (2015) has identified different indicators of good governance for such activities as maintaining the national integrity, independence, and sovereignty are the indicators of good governance which strongly depend on the degree of border security of the country. Furthermore, Reif (2000) emphasized on free market economic system, democratic government structures, and the rule of law. Kautilya has presented key pillars of the art of governance as: justice, ethics and anti-autocratic tendencies (Rizal, 2013). The functions of the Armed Police Force (APF), Nepal revolve around these indicators.

Promoting the good governance through the border management is the most important issue to be discussed. It is essential to understand more about how these elements of border security contribute to practicing and promoting good governance.

Most of the parameters of the good governance fall under the effective border management/security; national integrity, sovereignty and the status of independence are few but not all. The article aims to establish the relationship between border security, good governance, and the role of the APF, Nepal.

The researcher used a descriptive design for the research. Different secondary data have been collected from published sources and academic writings. The content analysis technique has been executed to analyze the data, text, and information gathered to draw a conclusion.

Literature review

The moral dimension of education, which emphasized the ethical rights and responsibilities of individuals, first found expression during the Greek era (Beqiraj, Fedeli, & Giuriato 2020). In addition, aesthetic education and education's role as an agent of acculturation and citizenship was first proposed by the Greeks. Above all, the moral philosophy viewed education as a vehicle for individual development and personal achievement and a means for developing and diversifying talents (Tangen, 2004). This moral philosophy is regarded as the root of good governance.

The issue of modern governance is quite different than the period of Kautilya as the issues of governance covers more horizons than that era. The key attributes of good governance are transparency; responsibility; accountability; participation and responsiveness (Edmunds, 2001; in Rosenau, 2000).

The components of good governance are widely considered as participation, rule of law, effectiveness, efficiency, accountability, transparency, openness, predictability, responsiveness, equity, and inclusiveness as the central aspect of good governance (Prabakaran, 2005). The goal of governance was changing from the well-being of the citizens to the maintenance of world order (Beqiraj et al., 2020; Börzel et al., 2008; Schöler, 1989; Wilson, 1999). The constitution of Nepal has encapsulated the essence of good governance in the preamble as the constitution is promulgated to fulfill the aspirations for sustainable peace, good governance, development and prosperity through the federal, democratic, republican, system of governance (Beardwell & Holden, 2001). It clearly shows that one of the must practising behaviour of government is, good governance. The most cited definition has come from the United Nations which deems it to have eight major characteristics: participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and follows the rule of law (Banerji, 2016). The triangle of good governance as explained by Beardwell & Holden (2001) deals with effectiveness, affordability/efficiency. and legitimacy (Kayhan & Hartog, 2013).

In the same way, the Constitution of Nepal has stated the essential elements of good government as equal and easy access of the people to the services and facilities delivered by the state, while making public administration fair, competent, impartial, transparent, free from corruption, accountable and participatory (Constitution of Nepal, 2015). The constitution has outlined the indicators of good governance as equality, fairness, competent government system, transparency, accountability, participatory, corruption free, and accessibility to government services.

Border security systems are to protect the state and mitigate threats, illegal migration and drug abuse, cultural globalization, and economic interdependence to its stability (Farzanegan & Markwardt, 2020) and the lives and properties of its

citizens have become important items on the global security agenda (Caparini & Marenin, 2012). The essential components of the border security system described by Caparini and Marenin are very much parallel to the concept of good governance described by Prabakaran. It gives the generalizable statement that border security is as important as other components described above for the achievement of good governance. Reif (2000) focused on good governance a free market economic system can be developed where democratic government structures such as legislative, executive/administrative, and judicial branches can be reformed and the rule of law can be strengthened (Reif, 2000).

Marenin (2006) noted that the advancement of technology allows anyone to leapfrog, via cyberspace, existing borders and evade state controls on the transmission of information and ideas, and illegal trans-border trafficking in goods, people, and capital which has raised the level of a national security threat, so to deter this type of threat safe border is essential (Marenin, 2006).

McConachie, Ho, and Kyed (2022) in their special issue focused on Myanmar, where “political governance is deeply entangled with ethnicity, territory, borders, and bordering processes and the borders, borderlands, and border populations shape governance and administration”. It means that in Myanmar the overall governance system is based on border security or border governance (McConnachie et al., 2022). This article left an issue for scholarly debates in three primary areas: Borders, territoriality, and bordering processes; plural governance and everyday bordering; peacebuilding and the borders of transition.

Nadalutti (2014) has focused on the importance of border governance and said the change that is occurring within the concept of governance cannot be fully grasped without considering the emergence and importance of networks, the impact that cross-border movements and relationships have on the livelihoods (Nadalutti, 2014) and everyday trades of the local border communities. It shows the importance of border security for good governance (Schöler, 1989; Tangen, 2004).

The Armed Police Force, Nepal is established for the protection of life, property, and liberty of the people by maintaining peace and order in Nepal (APF Act, 2058), to deliver good governance to the citizens, Armed Police Force, Nepal plays an important role to execute the decision made by the government to maintain peace and security being one of the security organizations to implement rule of law. Security forces are obliged to protect democracy, APF, Nepal is seen to be fully committed to preserving and protecting democracy with transparency and accountability. Deploying its officers covering the entire nation with different permanent and temporary units, it is also manning Nepal's international border (APF, 2016). Thus, this research has strategic significance and it fulfills the conceptual gap in the field of border and good governance of Nepal.

It is the act of using instituted border security agencies like APF to provide the needed, effective and efficient security operations along state borders to prevent criminalities and illegal activities for creating peace, security, and development in the state. These are the components of good governance that can be achieved through border governance.

It has demonstrated a strong presence of the state in control of possible criminal activities in the bordering areas, cooperating with the security persons deployed by neighboring countries, controlling illegal movements of people, Illegal trade of goods, smuggling of small arms, human trafficking, smuggling of narcotic drugs and encroachment of borders, and significant achievements have been made in these issues after the presence of the APF Nepal in the bordering area.

These articles have given the point to establish the relationship between Border Security with good governance. Being a major border security entity of Nepal, APF has been directly and indirectly contributing to maintaining and promoting good governance in Nepal.

Activites of APF, Nepal on border security

To make border security further effective and efficient, it is necessary to control cross-border crimes and make borders more secure. For continued coordination and information exchange between the two security agencies of Nepal and India, APF, Nepal has established a formal relationship with its Indian counterpart Sasastra Seema Bal (SSB). A regular meeting between IG, APF, Nepal, and DG, SSB has been organized in each country. Till now, six IG-DG level bilateral meetings were organized. As the outcome of such a meeting, the task of setting up help desks at the border points is very much effective for the citizens residing along border areas. A total number of one hundred and fifteen help desks is in operation till October 2022 (Operation and Border Department, Armed Police Force, Nepal [OBSD], 2022).

Marenin (2006) focused that the dynamics of globalization and the rise of new threats and security ideologies will continue to demand new ways of managing border security, of dealing with economic opportunities arising within the context of a global free market while simultaneously protecting the territorial integrity, cultural identity, security of citizens, and the political stability of the state. Both legal and illegal flows of people and goods cross borders and have to be sorted out in a way that is effective and legitimate in the eyes of entrepreneurs, the public, and elites.

APF Command and Staff College (2021) in the panel discussion the security experts have revealed that there is significant control in trans-border looting on the southern border of Nepal. That signifies that the people of bordering areas have realized the presence of security forces and rule of law. The bordering population

has been able to live their life with a sense of security (APF Command and Staff College [APFCSC], 2021).

During the last five years, APF, Nepal has apprehended a total of 157 human traffickers and prevented a total of 231 persons from being victims of human trafficking (OBSD, 2022). This reflects the effort of the APF, Nepal in preventing human trafficking and being accountable for executing good governance. Similarly, within the three years APF, Nepal has been able to seize a significant amount (more than 1.5 million) of Nepali and Indian counterfeit currencies along the border area. In addition to that, in the last 5 years APF, Nepal seized Rs. 21,48,78,217 illegal money (OBSD, 2022). This signifies that APF Nepal is deploying troops in the border area more effectively and efficiently. This is a reflection of responsibility and accountability of APF, Nepal towards its citizen and country, a contributing character of good governance.

Robles, Calderon, and Magaloni (2013) evaluates the economic costs of drug-related violence. The increase in the number of drug trafficking organizations (DTOs) fighting over control of territory and trafficking routes has resulted in a substantial increase in the rates of homicides and other types of crimes (Kayhan & Hartog, 2013). It is evident that abuse of drugs and alcohol is costly for our society and, left untreated, places a burden on our workplace, our healthcare system, and our communities. So, the trafficking of a drug is becoming a virus in our society (Held & McGrew, 2003; Manjarrez, 2015; Tanzi, 1980). Due to the involvement of youths in the consumption of drugs, it is becoming more challenging for society and government which directly undermines the principles of good governance. APF, Nepal arrested 250 drug smugglers with a significant number of various types of drugs from the border area till October 2022. Usually, Marijuana and Hashish are smuggled to India whereas Brown Sugar and other psychotropic drugs are smuggled to Nepal.

These above-mentioned activities are only the representative activities of the APF, Nepal in border areas. These activities are examples of the rule of law, transparency, accountability of security forces towards the general public, and participation of civilians in security activities. Above all, the deployment of the APF, in Nepal has left a great remark to safeguard the national integrity and sovereignty of the country.

Border security and good governance

Good governance is upholding the sovereignty of the state (Prabakaran, 2005), equal and easy access of the people to the services and facilities delivered by the state, while making public administration fair, competent, impartial, transparent, free from corruption, accountable and participatory (Constitution of Nepal, 2015) and the border security systems play a major role on protecting the state and

mitigating the threats (Caparini & Marenin, 2012). There is a direct relationship between border security and good governance. Myanmar is another example to justify the significance of border security in maintaining good governance. It states that, political governance is deeply entangled with ethnicity, territory, borders, and bordering processes, and the borders, borderlands, and border populations shape governance and administration (Mcconnachie, et al., 2022).

Baldwin (1995) has spotlighted the international practice of the development of inland security and international border security measures. He explained that the aftermath of the cold war the necessity of internal security was perceived and the countries have given their concern on internal security.

Border security is a vast and sensitive issue that also implies crucial responsibility. The broader responsibility of securing the border of Nepal is delegated to APF, Nepal by the government. The department of border security inside the Armed Police Force, Nepal was established on December 22, 2007, which is responsible for formulating plans and directives for the deployment of APF in the border area.

It's been playing a contributive role in national security through the border security mandate. Its main task is to protect the border and the border pillars. Border Out Posts (BOPs) have been established along the India and China international border as per the government's decision to secure the international border and border pillars, prevent and control border crimes, control smuggling of goods along with many other tasks given to these units. Department of Border Security monitors, controls, and directs for effective functioning of those offices and units (OBSD, 2022). APF, Nepal has enhanced the control at the borders by keeping records of the border pillars more scientifically and practically which shows that border security of Nepal has heightened the need and accordingly proved its necessity in the history of APF, Nepal.

The control of national borders is a key element of national sovereignty. Illegal immigration and the spectra of terrorism transformed the problem of border control into an acute national security issue (Kirchner & Sperling, 2007). Threats can no longer be simply disaggregated into the capabilities and intentions of states; primacy can no longer be attributed to the state as either agent or object (Schöler, 1989). There is growing consensus that the content of security is changing and that security threats since the end of the Cold War have become more complex and far-reaching (Cottey & Averre, 2002; in Kirchner & Sperling, 2007).

All borders are porous, but the ease with which goods and people move across borders varies by country and context. And all countries have the same basic goals regarding national borders: to ensure that the beneficial movement of legal goods, tourists, students, business people, and some migrants are allowed while keeping unwanted goods and people out of the country. All countries also face a

similar set of border enforcement goals and challenges. They must prevent cross-border terrorism, illegal migration, human smuggling and trafficking, and other criminal activity such as drug trafficking. In adopting policies and practices to combat these activities, countries face a basic dilemma: policies in any one area have perverse, regrettable, and often unintended, consequences and feedback. As states implement extensive border controls and apply a wide variety of deterrence measures such as visas and carrier sanctions to prevent illegal migration, they indirectly push unauthorized migrants into the hands of smugglers and traffickers who promise to evade these controls (Hansen & Papademetrius, 2014).

In the Nepalese context, border security is not only the security of the border areas and border pillars. It goes beyond that. The common constituents of border security are the security of border pillars and *No Man's Land*, the security of people and civilians, controlling smuggling and trans-border crimes, and the security of civilian's cross border movements. The APF, Nepal accomplishes these tasks through the deployment of the forces.

Nepal's socio-cultural linkages and similarities expands accross its international boundry. Because of uninterrupted exchange of religion, culture, and relationship, the border security dimension has become more complex and it needs multidimensional understanding of the above-mentioned social elements. Furthermore, the open border has created an open pavement for the ripple effect of security activities to come inside Nepal from the outside world. Thus, this is one of the major and alarming issues of Border Security in Nepal.

Nepal was already home to Bhutanese refugees and other asylum seekers and that is recently managed with great effort. Again, there is an issue of Rohingya which are "approximately 300 in the number living in Kathmandu, specifically in the Kapan area; and reports state that around 600 more are scattered all over Nepal (Mahat, 2020)". This is a perfect example to justify the socio-security complexity of the border security of Nepal.

A report published by the US Department of State (2021) highlights the prominent example that signifies the importance of border security in maintaining good governance through national peace and security. The report says that the non-Nepali international terrorist groups using Nepal as a transit/staging point. Though there are no international/ national terrorist activities reported inside Nepal, the statement signifies and pokes for the forthcoming possible national security threats and at the same time also urges for the strengthening of the APF, Nepal on the border in terms of number and technology.

Prabakaran (2005) further says:

“... the ability of the government apparatus in upholding the sovereignty of the state among the states in the world is a sign of good governance and its inability to do so is bad governance.”

This statement exactly fits in the Nepalese context. The maintenance of good governance to assure peace and security and the maintenance of the rule of laws could be challenged by these rightly discussed issues. Thus, the APF personnel on the border should be more skeptical and more vibrant in border vigilance duty. It shows how important the border of Nepal is regarding the maintenance of good governance in Nepal and it also signifies the role of the APF, Nepal in border security.

Apart from security in general, orientation and training, security of border pillars, coordination with stakeholders and counterparts, and assisting in revenue collection, APF, Nepal has been conducting various activities to prevent trans-border crimes border as of cross border coordination, preventing illegal entry, transaction of illegal and counterfeit currency and drug trafficking to affirm good governance in line with international human rights standard (OBSD, 2022).

As participation is one of the key attributes of good governance, Armed Police Force Nepal has formed the Border Surveillance Group (BSG) at every local government level in coordination with the representatives from the local governments to assure effective border security (OBSD, 2022), and also perform the vital role in contributing to the good governance including other stakeholders and agencies. This is strong evidence that border security and good governance have strong associations.

Zero tolerance policies in APF, Nepal

Good governance and human rights are mutually reinforcing. Human rights principles provide a set of values to guide the work of governments and other political and social actors. They also provide a set of performance standards against which these actors can be held accountable. The fundamental rights of citizens provisioned in the constitution are fully obliged as far as APF, Nepal is concerned in the deployment of APF Personnel. Zero tolerance policies against sexual exploitation, sexual violence, corruption, and on human rights violations strictly comply in APF, Nepal. The organization has considered the human rights violation under zero tolerance issue. The punitive measures to control the mode of the human rights violation are being implemented. It shows transparency, corruption-free service, and respect for human dignity.

Conclusion

Good governance is not only about the proper use of the government's power in a

transparent and participative ways, it also requires a good and faithful exercise of power. Good governance norms are necessary to prevent maladministration and corruption. Enforcement of the principles of the good governance as cited in the paper can be carried out by way of the different modes of enforcement in the laws. In essence, it concerns the fulfilment of the three elementary tasks of government: to guarantee the security of persons and society; to manage an effective and accountable framework for the public sector; and to promote the economic and social aims of the country in accordance with the wishes of the population.

APF, Nepal has been playing a crucial role in implementing all elementary tasks of the good governance. The security of person and the society has been guaranteed since its deployment in the border areas; establishment and expansion of BOPs can be taken as the example of it. The data presented in the paper shows that APF, Nepal has performed the duties in accountable and transparent way. Regulating the economic activities through the border is another parameter to measure the good governance effort the APF, Nepal is complying. The zero tolerance policies on human rights violation presents the importance given to promote and protect the human rights of the individual.

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COVID-19, Tourism and Knowledge Production

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“Everything we do before a pandemic will seem alarmist. Everything we do after will seem inadequate” (Michael Leavitt, ex-head of the US Department of Health and Human Services, in Baldwin & di Mauro, 2020, p.11).

“The crisis consists precisely in the fact that the old is dying and the new cannot be born; in this interregnum there arises a great diversity of morbid symptoms” (Italian Philosopher Antonio Gramsci [1891-1937]; in Achcar, 2021; Fernando, 2020b, p.636).

Abstract

This paper presents a general review of the available COVID-19 literature with a brief overview of crisis and disaster management. The study tries to explore the knowledge about various spheres of tourism and the society brought by COVID-19 pandemic through literature contributed by academicians. The exploratory and descriptive nature of the study is carried out based on secondary sources. The study has focused mainly on areas like virus and virocene, anthropocene, lovecene, tourism and health crisis, health belief model, tourist health and safety, crisis and risk, the four horsemen of fear, panic buying behavior, crowding perceptions and mass gathering, social distance, shock, xenophobia, ethnocentrism, protection motivation theory, anthropause and anthropulse, Herzberg's two factor theory, microadventure, resilience, and major pandemics and pathogen outbreaks. The study has raised questions like what kind of knowledge could be acquired from the literature of COVID-19 and tourism?

Introduction

The COVID-19 pandemic is often conceptualized as a type of crisis or disaster. It is thus essential to examine the definition of each term before discussing the state of tourism research on the pandemic. The term 'pandemic' means a serious infectious disease that spreads rapidly among people and occurs at the same time not only in one country but around the world (Hawker, 2005; Crowther, 1998; in Sulkowski & Ignatowski, 2020). It is very difficult to forecast the directions and depth of necessary changes during the development of the pandemic. This is because different scenarios and the pace of development of COVID-19 are considered in different countries. Thus, public policies in the fight against pandemics are also different in individual countries. Assessments of the social, economic, and cultural effects of the pandemic must be multidimensional, and thus, subject to significant uncertainty (Ragheb, 2020; Sulkowski, 2020; in Sulkowski & Ignatowski, 2020).

The 21st century has seen increased sensitivity and awareness of crisis and disaster management in the global tourism industry. Although the terms “crisis” and “disaster” are often used interchangeably, some scholars have pointed out differences. Notably, Faulkner (2001; in Yang et al., 2021) differentiated a disaster from a crisis as follows: a disaster occurs when “an enterprise ... is confronted with sudden, unpredictable catastrophic changes over which it has little control” (p. 136). By contrast, a crisis is at least partially attributable to internal organizational structures. A crisis thus refers here to internal events, whereas a disaster concerns external events. Crisis and disaster are treated interchangeably. According to Noorashid and Chin (2021), the outbreak of COVID-19 has impacted the tourism industry significantly, and affected human freedom and traveling rights, while also challenging public services and hospitality, job precariousness, and emotional health and wellbeing. Continuous efforts have been undertaken to mitigate the impacts of the pandemic and to prepare for a more adaptive and resilient industry while paving the way to transform in coping with the unprecedented global health crisis and potential post-COVID-19 tourism.

In terms of COVID-19, a few researchers have argued that it is important to conceptualize the pandemic as a disaster to better understand how external factors (e.g., viral outbreaks) influence tourism (e.g., Hao et al., 2020; in Yang et al., 2021). Conversely, a large number of researchers maintain that the notions of disaster and crisis are interchangeable in relation to COVID-19's role in tourism (Hall et al., 2020). A large-scale event such as COVID-19 will inevitably trigger internal and external challenges. In this vein, crises and disasters are unexpected occurrences that threaten the operation of tourism-related businesses, compromise destination reputation, and influence traveler confidence (Ritchie & Jiang, 2019) terms. Every crisis is context specific, including scale (global to national to local to sector to individual business), nature (natural, war, medical, etc), extent (severity

vs. ability to keep the event fairly localized), timeframe (short to long term duration and impact), affected sectors (markets destination or both) and stage of the event (incipient rapid growth, peaking, getting better, second wave, recovery post event" (McKercher, 2020). In general, crises and disasters are well-researched phenomena. Puchant and Mitroff (1992; in Zenkor & Kock, 2020) distinguish between a crisis as "disruption that physically affects a system as a whole and threatens its basic assumptions, it's a subjective sense of self, it's an existential core" (Pauchant & Mitroff, 1992, p.15; in Zenker & Kock, 2020) and disasters as "situations where an enterprise (...) is confronted with a sudden unpredictable catastrophic change over which it has little control (Scott & Laws, 2005, p.151).

In order to know about the reason behind the lockdown in 2020, this study suggests to go through the International Commission of Jurists, Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights (1984) and the academic works of Baum & Hai (2020, p.2398), Rubenstein and Decamp (2020), and Sun (2020). In this regard, Baum and Hai (2020) write, "Governments have applied the public health justification within the Siracusa Principles (1984; in Baum & Hai, 2020, p. 2398) to take action through the use of emergency powers that very directly enables them to limit the application of and enable derogations from a range of economic, social and cultural rights (Müller, 2009, for example, explains how such limitations and derogations can be applied; in Baum & Hai, 2020). As a consequence, the global health pandemic has impacted the way people live, including their entitlement to personal mobility through access to travel both locally and further afield and to be tourists, something increasingly taken for granted as a right in many societies (Baum & Hai, 2020, p. 2398).

To begin, search keywords were identified including: "coronavirus tourism," "pandemics tourism," "pandemic tourism," "COVID tourism," "coronavirus tourist," "pandemics tourist," "pandemic tourist," and "COVID tourist." These were searched in two major databases - *Google Scholar* and the *Web of Science (WoS)* (Yang, Zhang, Rickly, 2021, p.2). The COVID-19 pandemic has brought unparalleled impacts to the global tourism industry, thus inspiring a wave of academic research. The direct question comes "What kind of knowledge could be acquired from the kinds of literature of COVID-19 and tourism?" The objective of this study is to know about the contributions made by academicians in various spheres of tourism and society brought by the COVID-19 pandemic.

The study is based on secondary sources based on published materials on COVID-19 and tourism studies. The approaches are from different disciplines. Hence, it is a multidisciplinary approach. This is exploratory and descriptive in its nature. This paper presents a general review of the available COVID-19 literature with a brief overview of crisis and disaster management. This study does

not incorporate pandemic and intelligence (Kunwar, 2021, pp. 12-17). Likewise, the impact of COVID-19 on tourism is also excluded because it has already been published (Kunwar, Adhikari, & Kunwar, 2022). The study has mainly focused on the following areas: virus and virocene, anthropocene, lovecene, tourism and health crisis, health belief model, tourist health and safety, crisis and risk, the four horsemen of fear, panic buying behavior, crowding perceptions and mass gathering, social distance, shock, xenophobia, ethnocentrism, protection motivation theory, anthropause and anthropulse, Herzberg's two factor theory, microadventure, resilience, and major pandemics and pathogen outbreaks.

Anthropocene

Anthropocene studies attract to discuss on the Sixth Great Mass Extinction But to understand it, one should know about the earth's history. Throughout the 4.6 billion years of Earth's history there have been five major mass extinctions (excluding Sixth Great Extinction) events that each wiped out an overwhelming majority of species living at time. These five mass extinctions include the Ordovician Mass Extinction, Devonian Mass Extinction, Permian Mass Extinction, Triassic -Jurassic Mass Extinction, and Cretaceous-Tertiary (or K-T) Mass Extinction. The 6th mass extinction is also named Holocene because it is the current epoch we are living in. The Holocene epoch started about 12,000 years ago. Anthropocene is also used as an alternative name for this extinction because it is the result of human activity. (Scoville, 2020; Zalasiewicz, Williams, Steffen, & Crutzen, 2010).

Scientists believe the collision between the Old and New Worlds led to the start of the anthropocene. The arrival of Christopher Columbus in the America started and exchange of people, crops and diseases. Anthropocene begun in 1610, almost 100 years after the arrival of Europeans in America (Science Photo Library, n.d.; in Chowdhary, 2022). The Anthropocene is a proposed term for a new phase in the history of humanity and the Earth. The concept of the Anthropocene originates from the natural sciences (Steffen and McNeill, 2007; in Gren & Huijbens, 2014), but has recently gained considerable momentum also in the social sciences and the humanities (Alberts, 2011; Chakrabarty, 2008, 2012; Cohen, 2012a; Lorimar, 2012; Mathews, 2011; Robbins & Moore, 2013; in Gren and Huijbens, 2014). The recently coined term "Anthropocene" connotes that humans are responsible for increased carbon emissions, global temperature rise, a mind-boggling degree of habit destruction, and direct elimination of a staggering number of the planet's fauna- to name just the most noteworthy results of human-driven planetary level change (Higgins, Martin, & Versperi, 2020). It is believed that humans displace the Holocene as a geological age, starting with industrialization, and human activity exerts a profound influence on the environment. Earth is set on a different transitory that undermines its immense potential, living behind a biosphere depleted as never

before (Crutzen & Stoermer, 2000; Biermann et al., 2016; Castree, 2016; Gren & Huijbens, 2014; in Fernando, 2020). Although this COVID-19 pandemic has not rendered humans powerless, it certainly seems to have shifted the balance of power.

The next epoch is the seventh mass extinction. The scenario takes place from 2010 to approximately 2080 and leads to an extinction that is precipitated by human-caused activities, the global warming of the Earth (leading to famine, flooding, and resource wars), the release of a series of fatal genetically engineered organisms (precipitating from a new world order and heightened terrorism), and finally an impact cataclysm (leading to earthquakes, tsunamis, more famine and flooding, and ultimately bringing on glaciation) (Carpenter & Bishop, 2009).

Virus and virocene

Viruses are formidable enemies. They are by far the most abundant life form on earth-there are billions of viruses, more than all other life forms combined, and we have only just begun to explore the diversity and extent of the earth's massive virosphere. And they are ancient, most likely the oldest form of life on our planet (Kavey & Kavey, 2020, p.298).

In 1953, the virus was first visualized by electron microscopy and was seen to be small and round with a slightly irregular contour. By the 1960s, antibodies against yellow fever could be identified by simplified laboratory tests. The terminology was formally adopted by the WHO in 1963. The yellow fever virus is a single-stranded positive-sense RNA virus that was first reported in 1985 and classified as a new taxonomic, the *Flavivirus* genus in 1994. The first mammalian virus to be assigned to this classification included the yellow fever virus which lent its Latin name "flavus" for the characteristic yellow color of its victims, to the group (Kavey & Kavey, 2020, p.298).

The family *Flaviviridae* contains three genera: the above-described flaviviruses, which include yellow fever virus (YFV), West Nile virus (WNV), dengue virus (DENV) and Zika virus (ZIKV); the hepaciviruses, which include hepatitis B and C viruses; and the pestiviruses which infect hoofed mammals. The vector-borne arboviruses are grouped as a clade within the *Flavivirus* genus and this is subdivided into a mosquito-borne clade and a tick-borne clade. The mosquito clade is divided into two branches: one branch contains the neurotropic viruses, often associated with encephalitic disease or humans or livestock. The second branch is the group associated with hemorrhagic disease in humans.

Fernando (2020b) argues that Virocene is both the current moment and a distinct epoch in the lineage of other epochs: Ecocene, Holocene, Plantationocene, Anthropocene, Capitalocene, Chthulucene, Gynocene, Virocene, and Lovecene. The COVID-19 pandemic has brought the world into the "Virocene" epoch, a

period in which viral activity has evolved as a dominant force shaping human-nature relations. While viruses are "a sub-microscopic family of infectious agents, as mentioned above, that multiply and grow using the living cells of their hosts, causing disease in humans, animals, and plants", the "cene" in Virocene indicates newness, or novelty, signifying a historically unique moment of interaction between humans and ecosystems (Fernando, 2020a, p.636; in Fernando, 2020b, pp.686-687). The "Coronacene" might well be as worthy of attention as the Anthropocene (Higgins, Martin, & Vesperi, 2020). The Virocene is a historic moment in which interoperation between human and non-human actors becomes existentially threatening on a planetary scale (Fernando, 2020a, p.639). Consequently, there has arisen a sense of urgency to question, challenge, rethink, reimagine and act on our current ways of being in, and with, the world. Emancipation from the Virocene epoch requires radical articulations of an ethical paradigm of multispecies rights, justice, and power (Fernando, 2020). Virulence invokes three forms of fear. One is the fear of sickness and loss of life shared by all social classes. Second, is held primarily by the economically and racially privileged; fear of resistance against capitalism taking an aggressive turn in response to its social and ecological failures, brought to the fore by the pandemic. Third, marginalized social groups themselves have either internalized the same worldview as the privileged and are unwilling to take the risks and certainties necessary to embrace the idea of alternative world order (Fernando, 2020a, p.638).

COVID-19 calls us to treat vulnerabilities, and planetary, animal, and human health as deeply interconnected. Viral interactions with humans evolve as the relationship between humans and nature evolves. In the case of zoonotic or potentially zoonotic viruses such as SARS-CoV-2 it is important to raise questions about human and non-human proximity, and how political economy organizes human-nature relations. For example, Alex de Wall notes that "the Ebola epidemic was ultimately the product of disruptions to West Africa's ecology caused by the expansion of commercial agriculture into forest zones" (De Wall, 2007, p.13; in Fernando, 2020b, p.663). The evolution of the world's food regimes-their perspective ontological, production, distribution, consumptions, cultures, and politics, are important determinants of the zoonotic transmission of viruses and immunity deficiencies that disproportionately impact marginalized social groups (Galt, 2017; in Fernando, 2020b, p.663).

Lovecene

Similarly, Fernando (2020b) has also proposed the last epoch called Lovecene. The Lovocene is an era in which human beings are all in process of perpetually becoming stewards of multispecies justice-rights-power nexus of this epoch is constituted, shaped, and embodied by love. More specifically, the Lovecene is an era seeking emancipation from capitalism and racism's dominance in the

current planetary order, and navigating it towards a just and equitable multispecies coexistence (Fernando, 2020).

Tourism and health crisis

An increasing number of studies has focused on tourism crises and change in recent years, however only a few of them explicitly investigate health- related crises (Gossling, 2002; Hall, 2006; Hall, 2011; Mair, 2014; in Yu, Li, Yu, He, & Zhou, 2020). In the last fifteen years, many health- related crises, especially epidemics have led to severe damage to the tourism industry in the regional and international level such as SARS (Zeng et al., 2005; in Yu et al., 2020), Ebola (Novelli et al., 2018), and Foot and Mouth Disease (Frisby, 2003; in Yu et al., 2020). While reviewing literatures, Novelli, Burgess, Jones, & Ritchie state that Mair, Ritchie, and Walters (2014) found that only four out of sixty- four studies conducted from 2000 to 2010 specifically related to health crises. The majority of previous research has focused on the impacts of epidemics on tourist flows and economic revenue (Jiang, Ritchie & Benckendorff, 2017; in Novelli et al., 2018; Yu et al., 2020).

To begin, a biographic analysis of a 33-year data set of a human infectious diseases from the Global Infectious Disease and Epidemiology Network included 12,202 outbreaks of different diseases (Smith, Goldberg, Rosenthal et al., 2014 ; in Kavey & Kavey, 2021, p.300). The analysis showed that the total number of outbreaks increased exponentially between 1980 and 2014 with the greatest increase in viral pathogens and significant increase in zoonotic dissension both vector- borne and non-vector- borne disease. Fear, loss of confidence in institutions, unpredictability and pervasive loss of safety may emerge during an epidemic (Rittichainuwat & Chakraborty, 2009; in Novelli et al., 2018).

‘Quarantine’ is one of the most frequent words mentioned in the public health topic from several aspects. First, communication focused on the discussion of the two-week quarantine after travelling carried by many countries, which can be a critical risk for tourists. However, comments presented the panic of being quarantined could conversely push people to ‘travel’ to less infected places, which would increase the difficulty to implement quarantine order. Second, it is worth noting that some comments even expressed more anxiety with respect to going into quarantine compared with getting infected by virus. The different attitude towards ‘quarantine’ and ‘mask’ demonstrated some peoples’ concern being more about the placement by government on individual limits to mobility rather than health (Yu et al., 2020).

Health belief model

The Health Belief Model (HBM) was first proposed in the early 1950’s by social psychologists (Hochbaum, Rosenstock, & Kegels, 1952; in Yao, Pang, Zhang, Wang, & Huang, 2021, p. 2), and has since been widely used in the health behavior

industry to better understand health education and interventions (Xu, Li, & Shan, 2021; in Ya et al., 2021, p. 2). This model recognizes that personal health beliefs and the effects of those beliefs on attitudes toward preventive activity may be the first in a series of events leading to health promotion. Based on this, health educators can improve their risk communication based on a solid understanding of the psychological mechanisms (Greening, Stoppelbein, Chandler, & Elkin, 2005). Though the HBM was created to understand patient practices in relation to specific diseases or their willingness to have early checkups for these diseases, this study proposes that the model can be used to explain the safety behavior associated with online MICE because this behavior can be viewed as a way to prevent or reduce the probability of contracting a disease (Finfgeld, Wongvatunyu, Conn, & Grando, 2003; Stratman & Youssef-Morgan, 2019; in Yao et al., 2021, pp. 2-3). According to the HBM, health beliefs play a significant role in preventive health behavior, and the ways of knowing and acting are founded on subjective schemata (VanDyke & Shell, 2017; Rosenstock & Monogr, 1974; in Yao, Pang, Zhang, Wang, & Huang, 2021, p. 3). According to the HBM, perception variables such as the perceived safety threat, outcome expectations (a composite score based on perceived barriers and advantages), and self-efficacy can predict health or protection behavior (Dodel & Mesch, 2017; in Yao et al., 2021). These beliefs are thought to be part of the cognitive mediation process (Skinner, Tiro, & Champion, 2015; in Yao et al., 2021). However, little research has been undertaken to investigate the effects of health attitudes on health risk avoidance behavior in the MICE (Meetings, Incentives, Conferences, and Exhibitions) context. This is even though there is undeniable proof that travel and tourism can hasten the spread of infection (Hall, Scott, & Gössling, 2020; in Yao et al., 2021) and that ignoring the importance of protective health habits can lead to new outbreaks in local communities (Yuen, Cai, Qi, & Wang, 2021; in Yao et al., 2021). This is justified by the concept that the mass gathering is believed that contribute to pandemics. In this regard, Ibrahim and Memish (2020) write:

- Infectious diseases are the most common health problems encountered at mass gathering (MG) · Many MGs have a disproportionately high percentage of developing country participants that are endemic to treatable infectious diseases, and emerging pathogens
- Resource-poor countries with high MG participant volume may have a high prevalence of self and prescription use of antibiotics
- Per-capita contact with farmed and wild animals is highest among developing countries that harbor resistant infectious agents
- Demographics of MG participants may precipitate disease transmission, as they may be elderly and with underlying chronic conditions, or younger populations emerging from countries without herd immunity from exposure

to diseases

- Suboptimal surveillance system in MG participating countries
- Suboptimal preparedness for pandemics (Ebrahim & Memish, 2020)

Tourist health and safety

The travel motivation literature relating to COVID-19 and previous health crises has predominantly focused on potential demotivators to travel and recognized various risk-related factors, including perceived health risks (Bae & Chang, 2020; Dandapat et al., 2020; in Aebli et al., 2021, p. 2), negative effects for mental wellbeing including anxiety (Chua et al., 2020a; in Aebli et al., 2021, p. 2), negative anticipated emotions (Das & Tiwari, 2020; in Aebli et al., 2021, p. 2), and the risk of being judged negatively (Matiza, 2020; in Aebli et al., 2021, p. 2). Authors also identified ‘a reliable health system’ (Ivanova et al., 2020; in Aebli et al., 2021, p. 2), ‘preventive health behaviour’ (Chua et al., 2020b; in Aebli et al., 2021, p. 2) and destination-specific factors including ‘destination image’ and ‘accessibility of destination information’ (Ahmad et al., 2020; in Aebli et al., 2021, p. 2) as risk factors in the context of COVID-19. Hygiene and safety concerns (Novelli et al., 2018; Wen et al., 2005; in Aebli et al., 2021, p. 2) and overall perceived risks (Cahyanto et al., 2016; in Aebli et al., 2021, p. 2) were found to be main deterrents in previous health crises more generally.

Surprisingly, the travel motivation literature in the context of health crises largely ignores travel motives. Travel motives refer to the socio-psychological needs that represent the driving motivational force and are fundamental to understanding motivation in highly emotional contexts such as tourism (Gnoth, 1997; in Aebli et al., 2021, p. 2), especially during crises. Besides, as risk perceptions are highly individual (Carr, 2001; in Aebli et al., 2021, p. 2), risk may not be an absolute barrier to travel. Sometimes travelers are willing to adopt personal, non-pharmaceutical risk-reduction practices during travel to reduce their risk perceptions associated with travel (Lee et al., 2012; in Aebli et al., 2021, pp. 2-3). Thus, with the goal of exploring tourists’ travel motivation, need-based theories of motivation are suitable as they emphasize socio-psychological needs as motivational drivers but also acknowledge the conditions required in the environment to satisfy those needs (Deci & Ryan, 2000; in Aebli et al., 2021, p. 3).

Crisis and risk

The term “crisis” refers to sudden and unexpected events that can result in major unrest and threats to citizens. An event that suddenly transpires into an unfavourable situation is known as crisis (Laws & Prideaux, 2005; in Novelli, Burgess, Jones, & Ritchie, 2018). Crisis management can be defined as : "An ongoing integrated and comprehensive effort that organizations effectively put into place in an attempt to

first and foremost understand and prevent crisis, and to effectively manage those that occur, taking into account in each and every step of their planning and training activities, the interest of their stakeholders" (Santana, 2004,p.308; in Novelli et al.,2018,p.78).Crisis management must address the immediate challenge, ensuring the safety of tourists and the community, and sustaining and/or rebuilding the tourism sector (Byrnett,1998; Prideaux,2004; Speakman & Sharpley, 2012 in Novelli,2018).

A public health crisis is a difficult circumstance that affects individuals in several geographic regions or a whole country. In the case of a global health crisis, this frequently originates in a particular region before spreading to an entire country and the entire planet as in the current COVID-19 crisis. A global health crisis is defined as a health emergency crisis such as an epidemic or a pandemic occurring across international borders, where transmission takes place simultaneously worldwide, affecting many people such as SARS virus, Ebola, and Coronavirus.

It is not sufficient to describe risk in terms of smart sayings like the one advanced by financiers Warren Buffet: "Risk is not knowing what you are doing". Risk is related to the following concepts of safety, danger, hazard, loss, injury, death, toxicity, peril, and vulnerability. From this perspective, Risk can have two possible meanings:

1. It could mean: "hazard, peril, exposure, to injury or loss." In this context, it refers to an unrealized potential for harm. It is most to notice that once the danger becomes realized it is no longer a risk: it becomes injury, loss, or death.
2. Risk could be considered as the "chance" of loss, injury, or death. Chance, likelihood, and probability are all related words for an underlying random process described by the laws of "Probability Theory" Managing risk uses the tools of Probability Theory and Possibility Theory. Probabilistic Risk management, on the other hand, is not about enhancing success; it is about avoiding failures that are unacceptable.

Probabilistic Risk Assessment, also designated as PRA, is a formal analytical method used for the protection of the public's health and safety. Its goal is the development of methods for predicting or "anticipating" safety concerns before they become manifest through the possibility of loss, injury, and death. A few such external critical events occurred in the past decade, and illustrate the extent that tourism demand can be affected. The Bali bombings led to a greater than 40% fall in outbound tourists arrivals (Hitchcock & Dharma Putra, 2005; in Hajibaba, Gretzel, Leisch & Dolnicar, 2015), and the SARS pandemic caused an up to 55% decline in the number of Japanese people traveling overseas (Cooper, 2006; in Hajibaba et al., 2015), and the Global Financial Crisis (GFC) led to a 13% drop in arrivals to OECD countries (OECD, 2010; in Hajibaba et al., 2015).In addition,

people also encounter situations in their own lives. For example, sickness and family emergencies can lead to booking cancellations.

The tourism literature acknowledges that engaging in tourism-related behaviors can be associated with a wide range of risks (Chew & Jahari, 2014; in Hajibaba et al., 2015). Scholarly opinion on tourism and crises falls into two main contexts: risk perception at the individual level (on the demand side) and crisis management at the collective level (on the supply side). Research on the perceived risks associated with tourism has focused on tourists' perspectives rather than on the perspectives of destination communities, with the concept of perceived risk in tourism being associated primarily with studies of consumer behavior (Sharifpour et al., 2014; in Qiu, Park, Li, & Song, (2020). Tourism -related risks may be those associated with terrorism, war, social instability (political or criminal), or health concerns. From a supply -side viewpoint, the impact of crises on the destination or on the tourism industry as a whole has been a dominant theme in previous studies. Research has focused on the impact on tourism demand of various crises, such as the global financial crisis (2007–2008), the swine flu (H1N1) pandemic (2009) (Page, Song, & Wu, 2012; in Qiu et al., 2020), earthquakes, the September 11 attack on the U.S. (2001) and other terrorist activities (Seabra, Reis, & Abrantes, 2020; in Qiu et al., 2020), and the outbreak of severe acute respiratory syndrome (SARS) (2003) (Wang, 2009; in Qiu et al., 2020), and of tourist boycotts (Yu, McManus, Yen, & Li, 2020; in Qiu et al., 2020) . Page, Yeoman, Munro, Connell, & Walker (2006; in Qiu et al., 2020) examined the effects of the swine flu pandemic on destination planning, in consideration of the risks presented to the public by the frenzied media coverage of this influenza outbreak.

Nonetheless, in the recent review of Ritchie and Jiang (2019; in Qiu et al., 2020), covering 142 published studies on tourism crisis management, response and recovery strategies, and crisis prevention and planning practices, a lack of comprehensive theoretical and methodological assessments of the impacts of crises on the tourism industry was identified . Altogether, Qi et al., (2020) collected 513 research papers related to COVID-19 which were also discussed on the issue. Each articles' suitability was evaluated following the systematic review method (Pickering & Byrne, 2014; in Yang et al., 2021), yielding 249 journal articles for analysis. This review in the starting point talks about crisis and disaster management and the major research themes identified are: (1) psychological effects and behavior; (2) response, strategies, and re-silience; (3) a sustainable future; (4) impact monitoring, valuation, and forecasting; and (5) technology adoption. Finally, several prevalent issues in current COVID-19 research are discussed, and areas for future work are outlined. Notably, a lack of theoretical development is a concerning trend in this body of literature, raising questions about the significance of current COVID-19 research for the advancement of tourism theories (Yang et

al., 2021).

China was the first country affected by the pandemic of 2019 novel coronavirus disease (COVID-19), caused by severe acute respiratory syndrome coronavirus 2. Several unique characteristics of China's COVID-19 epidemic patterns and its management policy prompted a heightened public mental health crisis. First, many Chinese residents still remember the 2003 outbreak of severe acute respiratory syndrome (SARS) and its effect on China's social life and economy (Bouey, 2020). COVID-19 is more transmissible than SARS, and the case-fatality rate (2.3%) is substantially higher than that for seasonal influenza (China CDC Weekly, 2020). The uncertain incubation period of the virus and its possible asymptomatic transmission cause additional fear and anxiety. Second, the government's initial downplaying of the epidemic's severity eroded public trust in the government's decision-making transparency and competency. Third, unprecedented large-scale quarantine measures in all major cities, which essentially confine residents to their homes, are likely to have a negative psychosocial effect on residents (Brooks, Webster, Smith, Woodland, Wessely, & Greenberg et al., 2020). Fourth, reports of shortages of medical protective supplies, medical staff, and hospital beds in Wuhan and the surrounding areas soon followed the citywide quarantine and caused enormous concern throughout the nation. Last, a unique "infodemic"—an overabundance of (mis)information on social media (WTO, 2019) and elsewhere—poses a major risk to public mental health during this health crisis.

Therefore, the choice of traveling and visit a destination depends on tourists' perceptions regarding their safety and security (Taylor & Toohey, 2007; in Fotiadis et al., 2021) and the imagery formed by how the media or social media report the crisis. As a result, it becomes difficult for the tourism industry to face the challenges posed by health crises as these crises are often subject to negative media coverage (Novelli, Burgess, Jones, & Ritchie, 2018).

Shortly after the new coronavirus outbreak in Hubei province was officially declared by Chinese authorities in January, discriminatory rhetoric and attacks against people from the region began to emerge online and in public. For instance, pictures of banners stigmatizing people traveling back home from Hubei went viral in social media. A widely circulated picture shows a banner in Sanghai with the message, "People coming back from Hubei are all times bomb" (Zeng, 2020). Racial discrimination was extracted from manual content analysis because latent meanings were expressed by messages instead of specific words...Several communications identified racial discrimination in news coverage focusing on anti-Asian sentiment (see also Aratani, 2020, March 24; Zing, 2020, February 27; in Yu, Li, Yu, Ha, & Zhou, 2020, p.4). Fear and concern emerging around the current coronavirus outbreak are being manifested in forms of discrimination and xenophobia that have little basis in medical facts. Incidents are being reported about

local residents reactions and avoidance of Chinese restaurants, etc. (Aguilera, 2020 on the role of social media, and Fang, 2020, on disease socialization and SARS; in Jamal & Budke, 2020). Many Wuhan residents traveling elsewhere in China or abroad are experiencing discrimination, exclusion, and marginalization, including being denied access to hotels in other parts of China, while some residents in locations under lockdown lack access to adequate medical services and provisions (Gan, 2020; in Jamal & Budke, 2020, p.183).

COVID-19 (declared as a pandemic by WHO, March 11, 2020) significantly impacts the global economic, political, and social-cultural systems. Health communication strategies and measures (e.g. social distancing, travel and mobility bans, community lockdown, stay-at-home campaigns, self-or mandatory - quarantine, and curbs on crowding) have halted global travel, tourism, and leisure (Sigala, 2020). Not surprisingly, tourists' perceived health risk associated with the pandemic has been identified as a major deterrent to travel (Chua et al., 2020a; in Aebli et al., 2021, p. 1).

COVID-19 tourism impacts will be uneven in space and time, and apart from the human toll, estimates show an enormous international economic impact; international tourist arrivals are estimated to drop by 78% causing a loss of US\$ 1.2 trillion in export revenues from tourism and 120 million direct tourism job cuts representing seven times the impact of September 11, and the largest decline.

The four horsemen of fear

One psychological aspect of the pandemic is fear. Fear is defined as an unpleasant emotional state that is triggered by the perception of threatening stimuli (de Hoog et al., 2008; in Pakpour & Griffiths, 2020). Extraordinary situations such as disease outbreaks and epidemics can induce fear among many people. Such fear has led to individuals committing suicide because they had COVID-19 even though the autopsies showed that they did not (Goel et al., 2020; Mamun & Griffiths, 2020; in Pakpour & Griffiths, 2020).

A century after the great Austrian psychoanalyst, Sigmund Freud (1856-1939), coined the term *Reiseangst* (from the German, "fear of travel"), the word seems more apt than ever in describing a new wave of travel anxiety which has gripped humanity in the throes of this contagion. The travel experience remains greatly curtailed and onerous, with fear of available flight routes, frequent cancellations, reciprocal travel corridors, travel green lists, health declarations, passenger locator forms, pre-arrival viral screening, and the post-arrival quarantine in both the destination and, in some cases, the traveler's home country. All of these approaches are effective and based on sound epidemiological principles (Dickens, Koo, Lim et al.; in Flaherty & Nasir, 2020).

In the pre-pandemic travel era, culture shock, transport delays, navigational confusion, and language barriers all posed an affront to the traveler's mental health (Bonny-Noach & Sagib-Alayoff, 2019; in Flaherty & Nasir, 2020).

Schimmenti, Billuex, & Starcevic (2020) argue that fear experiences during the COVID-19 pandemic are organized on the psychological level around four interrelated dialectical domains, namely (1) fear of the body/fear for the body, (2) fear of significant others/fear for significant others, (3) fear of not knowing/fear of knowing, and (4) fear of taking action/fear of inaction. These domains represent the bodily, interpersonal, cognitive, and behavioral features of fear, respectively.

Conquering pathological fear in the context of the COVID-19 pandemic requires that is relatively simple, as well as those that are more complex and are best implemented in collaboration with a mental health professional. Considering a need to maintain social distance, psych education, and psychological treatment delivered remotely via communication technologies can provide individuals with appropriate support (Sucala, Shehanur, Constantino, Miller, Brackman, & Monigomery, 2012; in Schimmenti, Billuex, & Starcevic, 2020). and improve their quality of life (Lange, van de Ven, & Schrieken, 2003; Schimmenti et al., 2020). In fact, improving the psychological health of individuals is vital for strengthening the resilience of society as a whole. Schimmenti et al. (2020) argue that the objective could be achieved by applying the following measures: (a) improving appraisal of the body, (b) fostering attachment security, (c) improving emotion regulation, (d) adopting acceptance and (e) promoting responsibility.

Therefore, sudden outbreaks of public health events always pose huge challenges to the mental health service system. So far as human security is concerned, more commonly, commentators have tended to focus on two of human security's key freedoms: freedom from want and freedom from fear. There is another definition defined by one report of 1994 prepared by the UN Development Program (1994). The report argued that security: has for too long been interpreted narrowly: as security of territory from external aggression, or in the protection of national interest in foreign policy ...Forgotten were the legitimate concerns of ordinary people who sought security in their daily lives ...For many of them, security symbolized protection from the threat of disease hunger, unemployment, crime social conflict, political repression and environmental hazards...For most people, a feeling of insecurity arises more from worries about daily life than from the dread of a cataclysmic world event (UNDP, 1994, p.22; in McInnes, 2015). Despite the interest generated in human security in some quarters, and its apparent complementarities with the increased interest in humanitarianism and poverty relief at the turn of the millennium, human security has failed over the last decade to establish itself as the main security narrative (McInnes, 2015, p.13).

Panic buying

Pandemics are associated with undetectable, volatile, and uncontrollable risks on a global scale (Pen & Meng, 2018; in Prentice et al., 2021). The current COVID-19 pandemic has resulted in substantial interruption to the economic, social and political system. To combat the pandemic, government imposed various interventions such as travel bans, lockdowns, and social distancing. Pandemics create fear among the public, such as fear of being infected, fear for family and friends, fear of disruption of essential supplies, fear of job loss, and financial constraints. These fears likely lead to essential irrational behaviors, such as stockpiling or panic buying. Panic buying is a herd behavior that transpires when consumers buy oddly large volumes of a product in the anticipation of a perceived disaster and resource scarcity, or after a disaster (Singh & Rakshit, 2020; in Prentice et al., 2021).

Crowding perception and mass gathering

Previous research has noted that perceptions of and attitudes toward crowding vary depending on which fundamental motive is activated. For example, the affiliation motive has been linked to a preference for crowded retail spaces as a way of getting closer to others (Thomas & Saenger, 2019; in Kock, Nørfel, Josiassen, Assaf, & Tsionas, 2020), while the activation of the behavioral immune system increases people's perceptions of crowding and the feeling of negative affect toward such environments (Wang & Ackerman, 2019; in Kock et al., 2020). The latter finding has been explained as an adaptive way of avoiding disease as the risk of contracting a disease is higher in crowded environments (Wang & Ackerman, 2019; in Kock et al., 2020). Indeed, depictions of a crowded space have even been used as part of measuring disgust sensitivity. Prior literature has investigated tourists' perceptions of crowding and demonstrated how crowding perceptions impact tourist experiences (Lee & Graefe, 2003; Li, Zhang, Nian, & Zhang, 2017; in Kock et al., 2020). However, due to the relative absence of evolutionary research in tourism, disease avoidance has yet to be investigated as an important determinant of tourists' crowding perceptions.

Mass gathering (MG) medicine emerged against the backdrop of the 2009 pandemic H1N1 Public Health Emergency of International Concern (PHEIC) when the Kingdom of Saudi Arabia (KSA) hosted the largest annual mass gathering of over 3 million pilgrims from 180 plus countries (Ebrahim & Memish, 2020). However, the events surrounding the latest threat to global health, the PHEIC COVID-19, may be sufficient to highlight the role of mass gatherings, mass migration, and other forms of dense gatherings of people on the emergence, sustenance, and transmission of novel pathogens. The COVID-19 spread illustrates the role of MGs in the exacerbation of the scope of pandemics. Cancellation or suspension of MGs would be critical to pandemic mitigation. It is unlikely that medical countermeasures are available during the early phase of pandemics. Therefore,

mitigation of its impact, rather than containment and control becomes a priority during pandemics (Ebrahim & Memish, 2020). Mass gathering (MG) related factors that contribute to pandemics:

- Infectious diseases are the most common health problems encountered at MG
- Many MGs have a disproportionately high percentage of developing country participants that are endemic to treatable infectious diseases, and emerging pathogens
- Resource-poor countries with high MG participant volume may have a high prevalence of self and prescription use of antibiotics
- Per-capita contact with farmed and wild animals is highest among developing countries that harbor resistant infectious agents
- Demographics of MG participants may precipitate disease transmission, as they may be elderly and with underlying chronic conditions, or younger populations emerging from countries without herd immunity from exposure to diseases.
- Suboptimal surveillance system in MG participating countries
- Suboptimal preparedness for pandemics (Ibrahim & Memish, 2020)

Social distance

The study of social distance began in the early part of the 20th century. Simmel noted those living in an urban lifestyles had formed a unique way of dealing with people since living in a metropolis requires constant contact with many individuals. To maintain their psychological balance, urbanites avoid displaying too much enthusiasm in relationships. In this way, the distance between individuals remains constant, that is, there is an "internal barrier" between individuals (Simmel, 1964/1902; in Chen, Zhang, Sun, Wang, & Yang, 2020). Simmel's core idea is that social distance represents the emotional state of urban people under the influence of the modern urban lifestyle, which is rational, arrogant, indifferent and reserved (Simmel, 1964/1902). Park provided a specific definition of social distance as: "the grades and degrees of understanding and intimacy which characterize personal and social relations generally" (Park, 1924; in Chen et al., 2020). Park's conception of social distance becoming a widely accepted indicator of intimacy between individuals (Brewer, 1968; Karakayali, 2009; Liekens et al., 2012; Weinfurt & Moghaddam, 2001; in Chen et al., 2020). Kock, Nørfelt, Josiassen, Assaf, & Tsionas (2020) have remarked three important transformations in the field of tourism these are xenophobia (avoiding contact without group members), ethnocentrism (pathogen threat has also been linked to increased in-group favourability which poses less health risk) and crowding perceptions (disease avoidance from the external crowd) (2020).

Shock

This is not like culture shock rather it is a warning to both tourism origin countries and tourism receiving countries for not getting closure with each other based on individuality and groups because social distancing became a big warning to the large scale of humanity in order to prevent the contagious virus. In such a situation two types of shocks could have emerged in the tourism origin countries and tourism receiving countries and they are demand shock and supply shock respectively (Baldwin & di Mauro, 2020, pp.3-22). The direct supply-side impacts of human reactions to the virus are obvious and abundant. Authorities and firms in several countries have shuttered workplaces, schools, hotels, restaurants, airlines, nightclubs, temples, stadiums, museums, monasteries, shopping malls, theatres, and city markets. From an economic perspective, these closures and travel bans reduce productivity directly in a way that is akin to temporary drops in employment (Baldwin & di Mauro, 2020, p.12). As far as demand shock is concerned, according to Baldwin & di Mauro (2020), two aspects are worth distinguishing: practical and psychological. Practical since some consumers are or will be prevented from getting to stores, so their demand disappears from the market. Likewise, some home delivery services are suspended, so goods and consumers are coming together less frequently. This global crisis led to the consumers and firms tend to embrace a 'wait and see' attitude when faced with massive Knightian (Frank Knight, 1921, *Risk, Uncertainty and Profit.*) uncertainty (the unknown-unknowns) of the type that COVID-19 is now presenting to the world (Baldwin & di Mauro, 2020, p.15). COVID-19 was first seen as a China shock, then as a regional shock. It is now clear that the virus is traveling as an unwanted guests, and humans are facing a global and common shock.

Xenophobia

In today's globalized world, xenophobia is maladaptive and detrimental, however, in ancestral environments, avoiding contact with out-group members served several functions (Schaller & Neuberg, 2012; in Kock et al., 2020). Specifically, xenophobia serves the function of disease avoidance: Out-group members could have carried diseases the in-group had not built immunity against (Faulkner et al., 2004; in Kock et al., 2020). Many studies have empirically found links between the behavioral immune system and xenophobia, documenting that negative attitudes toward out-groups are predicted by perceived vulnerability to disease and disease risk perceptions (Faulkner et al., 2004; Kim et al., 2016; Prati & Pietrantonio, 2016; in Kock et al., 2020). Unsurprisingly, such effects are then particularly relevant during major disease outbreaks: during the 2014 Ebola outbreak, the higher American respondents' perceived vulnerability to the disease was, the more xenophobic their responses were (Kim et al., 2016; in Kock et al., 2020), and a link between Ebola risk perceptions and prejudice toward African immigrants was

found among an Italian sample (Prati & Pietrantoni, 2016; in Kock et al., 2020). While some tourism scholars have hinted at xenophobic responses in the wake of the COVID-19 pandemic, they provide rather proximate explanations for the tendency, such as biased media coverage (Wen, Aston, Liu, & Ying, 2020; in Kock et al., 2020). In contrast, Kock, Josiassen, and Assaf (2019, p.156; in Kock et al., 2020), explain the role of xenophobia through the fundamental motive of disease avoidance. Tourist xenophobia is defined as “a tourist's perceptual discomfort and anxiety associated with strangers encountered at foreign destinations” and the researchers demonstrate its association with outcomes such as preference for travel vaccination, willingness to travel to foreign destinations, and intention to book travel insurance.

On March 25, 2020, after returning from Dhaka, a 36-year-old Bangladeshi man (Zahidul Islam, from the village of Ramchandrapur) committed suicide because he and the people in his village thought he was infected with COVID-19 based on his fever and cold symptoms and his weight loss (Somoy News, 2020; in Mamun & Griffiths, 2020). Due to the social avoidance and attitudes by others around him, he committed suicide by hanging himself from a tree in the village near his house. Unfortunately, the autopsy showed that the victim did not have COVID-19 (Somoy News, 2020; in Mamun & Griffiths, 2020). The main factor that drove the man to suicide was prejudice by the others in the village who thought he had COVID-19 even though there was no diagnosis. Arguably, the villagers were xenophobic towards Mr. Islam. Although xenophobia is usually defined as a more specific fear or hatred of foreigners or strangers, xenophobia is the general fear of something foreign or strange (in this case COVID-19 rather than the victim's ethnicity). Given that the victim believed he had COVID-19, it is also thought that he committed suicide out of a moral duty to ensure he did not pass on the virus to anyone in his village. A very similar case was reported in India on February 12 (2020; in Mamun & Griffiths, 2020), where the victim, returning from a city to his native village, committed suicide by hanging to avoid spreading COVID-19 throughout the village (Goyal et al., 2020; in Mamun & Griffiths, 2020). Based on these two cases, it appears that village people and the victim's moral conscience had major roles in contributing the suicides. In south Asian country like Bangladesh and India, village people are arguably less educated than those that live in cities. Therefore, elevated fears and misconceptions surrounding COVID-19 among villagers may have led to higher levels of xenophobia, and that xenophobia may have been a major contributing factor in committing suicide. Suicide is the ultimate human sacrifice for anyone who cannot bear mental suffering. However, the fact that the fear of having COVID-19 led to suicide is preventable and suggests both research and prevention is needed to avoid such tragedies. At present, it is not known what the level of fear of COVID-19 is among the Bangladeshi population although levels of fear are high among countries where there have been many deaths such

as Iran according to a recent study examining fear of COVID-19 (Ahorsu et al., 2020; in Mamun & Griffiths, 2020).

Ethnocentrism

The tourism phenomenon essentially entails a quest and encounter with the otherness, which are often articulated in the traveler's involvement with worlds, values, and lives of those inhabiting other cultures. In the field of social sciences, tourism and ethnocentrism can be seen as two important phenomena concerning human mobility. Tourism is described as a sociocultural consumption phenomenon whose processes involve human mobility across geographical and cultural boundaries (Jafari, 1977; Pizam & Milman, 1986; in Boukamba, Tatsuo, & Sano, 2020, p. 1). Ethnocentrism on the other hand, is a nearly universal sociopsychological trait, which is summarized into the tendency of judging other cultures [the outgroup] according to the standards of one's own [the in-group's], and the beliefs that one's ethnic and cultural group is superior to others (Sumner, 1906; LeVine & Campbell, 1972; in Boukamba et al., 2020, p. 1).

Comprehensive reviews such as Bizumic (2014, 2015; in Boukamba et al., 2020, p. 3) note that the concept of ethnocentrism was initially employed by sociologists and psychologists. In one of the earliest documented uses of the concept, sociologist Gumpłowicz (1881; in Boukamba et al., 2020, p. 3) considers ethnocentrism as a similar concept to "geocentrism" and "anthropocentrism." The former, geocentrism, relates to the Ptolemaic system in the field of astronomy, which believes that the earth is the center of the universe (Inglis, 2015; in Boukamba et al., 2020, p. 3). The latter, anthropocentrism, refers to the belief that humans are the center of the universe (Goralnik & Nelson, 2012; in Boukamba et al., 2020, p. 3).

Etymological analyses concur with the meanings of these two notions within the concept of ethnocentrism. For instance, literature notes that ethnocentrism is made of two words of Greek origin. The first word is *ethnos*. It refers to a nation, and it is also related to the Greek word *ethnikos*, which means belonging to the ethnic group (Reisinger & Dimanche, 2010; in Boukamba et al., 2020, p. 3-4). The second word, *kentron*, refers to center (Klopf, 1995; in Boukamba et al., 2020, p. 4), which literally translates into the view that one's country is the center of the universe.

Influenced by the works of Gumpłowicz (1883, 1892; in Boukamba et al., 2020, p. 4) on ethnocentrism, Sumner (1906; in Boukamba et al., 2020, p. 4) subsequently described ethnocentrism around the conceptual boundaries of centrality and grouping (Bizumic, 2014; in Boukamba et al., 2020, p. 4). Researchers, however, note Sumner's (1906; in Boukamba et al., 2020, p. 4) emphasis on the terms *in-group* and *outgroup*, and his later work that included additional intragroup characteristics (e.g., devotion, group cohesion) and intergroup characteristics such

as the defense of the in-group interest against the out-group (Sumner, 1911; in Boukamba et al., 2020, p. 4).

Alternatively stated, Sumner drew attention to two essential attitudinal components of ethnocentric behavior. These include the attitudes toward the in-group (which are expected to be positive), and the attitudes toward the out-groups, which are expected to be negative (Segall, 1979; in Boukamba et al., 2020, p. 4). Thus, owing to these fundamental conceptualizations, the classic definition of ethnocentrism states that ethnocentrism is “the technical name for the view of things in which one’s own group is the center of everything, and all others are scaled and rated concerning it” (Sumner, 1906, p. 13; in Boukamba et al., 2020, p. 4).

For instance, the theory maintains that culture influences communication and that intercultural communication does not only focus on language use but also recognizes how culture outlines who we are, how we behave, how we think, and how we speak (Dodd, 1995; in Boukamba et al., 2020, p. 4). Since tourism is a cross-cultural phenomenon, intercultural communication in tourism, therefore, involves the interaction between tourists of different cultural backgrounds, between tourists and the local populations where they spend their stay, between tourists and specialized personnel with whom they meet, etc. Hence, intercultural communication can be viewed as a process within tourism.

To efficiently capture ethnocentrism in the tourism context, we suggest that a proposed construct should essentially account for the meaning of “place” on both sides of the tourism system. This is argued on the accounts of environmental psychology, in which place is predominantly defined by a physical environment constructed based on its interrelationship with individuals’ internal psychological and social processes, attributes, and activities conducted at the place (Smaldone, Harris, & Sanyal, 2005; in Boukamba et al., 2020, pp. 4-5). This implies that a place is a manifestation of human culture, consequently making it difficult to remove the human element from the destination (Gieryn, 2000; in Boukamba et al., 2020, p. 5). To integrate this argument to the current discussion, we suggest that the tourist’s home environment (demand side) be viewed within the hierarchical framework of place attachment (Williams et al., 1992; in Boukamba et al., 2020, p. 5), where place dependence and place identity would affect levels of ethnocentrism and shape the tourist’s behavior. Similarly, on the supply side of the system, the tourist destination needs to equally be viewed within the multidimensionality of the concept of place. This also concurs with the notion that the concept of place is physical as well as psychological (Montgomery, 1998; in Boukamba et al., 2020, p. 5). Hence, calling for a multidimensional approach were not only functional, but most important, psychological attributes of the destination (e.g., the customs and the way of life of residents) would interact with tourist ethnocentrism and thus shape his or her behavior before, during, and even after the travel experience.

Following a similar logic as with xenophobia, pathogen threat has also been linked to increase in group favorability. That is, when a pathogen threat is present, it becomes more attractive to interact with in-group members, as it poses fewer health risks and in-group members may provide support in cases where an individual has contracted a disease (Navarrete & Fessler, 2006; in Kock et al., 2020). In support of this theory, scholars have found a link between perceived vulnerability to disease and ethnocentrism (Navarrete & Fessler, 2006; in Kock et al., 2020). Ethnocentrism has even been found to be particularly strong during the first trimester of pregnancy, when the mother and fetus are particularly vulnerable to pathogens (Navarrete, Fessler, & Eng, 2007; in Kock et al., 2020). At a regional scale, researchers have also found a correlation between collectivism (of which ethnocentrism is said to be a specific manifestation) and the prevalence of pathogens (Fincher, Thornhill, Murray, & Schaller, 2008; in Kock et al., 2020). While ethnocentrism has received little attention in a tourism context, it has important implications for tourism behaviors. Indeed, Kock, Josiassen, Assaf, Karpen, and Farrelly (2019, p. 427-28; in Kock et al., 2020) found a link between tourism ethnocentrism (defined as “an individual's prescriptive beliefs and felt a moral obligation to support the domestic tourism economy”) and willingness to engage in domestic tourism and support for tourism development. However, the potential association between pathogen threat and tourism ethnocentrism has yet to be examined.

They are Mostafanezhad, Cheer, & Sin (2020) who studied the political geography of tourism in which they made commentary revealed how the geographical anxieties of tourism are mediated by historical geographies of race as well as contemporary geo-economic relations to the Asia-Pacific region. Driven by the insecurity of uncertain and/or threatening geographical imaginaries, geopolitical anxieties—that is, anxieties related to the implications of geopolitical narratives and practices - have been heightened in the COVID-19 pandemic (Mostafanezhad et al., 2020). Touristic encounters can both reinforce and challenge historically rooted and space-based geopolitical imaginations which are never settled, but rather constitute an ongoing negotiation of meaning that is mapped into people and places in both remarkably familiar and new ways in COVID times. While geopolitical anxieties have perhaps always punctuated the touristic encounter, COVID-19 has brought these symptoms into sharp relief. Airports, borders, and checkpoints provoke anxious bio-political responses as they sort, categorize, and contain tourist bodies while social categories such as race, class, gender, and citizenship are operationalized at gatekeeping mechanism (Fluri, 2009; in Mostafanezhad et al., 2020). Responses to COVID-19 heightened geopolitical anxieties that have unfolded in every day and mediated tourism encounters. Early in the pandemic, racist narratives were played out globally where representations of ethnic difference became connotative of disease and culpability. For instance, the Wall Street Journal was criticized for its derogatory reference in an Op-ed

titled, 'China Is The Real Sick Man of Asia', associating Chinese ethnicity with criminality, poverty, addiction, immoral behavior, and even communism (Luu, 2020; in Mostafanezhad et al., 2020).

Racial discrimination was extracted by manual content analysis because latent meanings were expressed by messages instead of specific words. A number of communications identified racial discrimination in news coverage such as headlines that were perceived to be biased that included an anti-Asian sentiment (Aratani, 2020, March 24; Zing, 2020, February 27; in Yu et al., 2020). Comments suggested that exaggerated media coverage has caused Asian tourists (or tourists with 'Asian' faces) intense anxiety because of perceived or actual discrimination during their travels.

Protection motivation theory

The present study adopts the protection motivation theory, which was initiated by Ronald Rogers in 1975 to elaborate better understanding on how and why individuals respond to the potential threats to their health and safety (Clubb & Hinkle, 2015; in Samdin et al., 2021, p. 3). Janmaimool (2017; in Samdin et al., 2021, p. 3) attributes the individual's motivation to protect and save themselves from threats, such as natural disasters, global climate change, disease or nuclear explosion, and therefore, influences the individual's decision to practice the risk preventative behavior. According to Rogers (1975, 1983; in Samdin et al., 2021, p. 3), threat appraisal is related to the cognitive process that individuals use to estimate the levels of threat. This appraisal consists of an assessment of the perceived severity of the threat (the degree of seriousness of the possible harms that is perceived by an individual) and the perceived probability of receiving adverse impacts from the threat (reflects individual's perception of their sensitivity of the harms). These perceptions of the severity, vulnerability and reward can motivate an individual to execute adaptive responses such as pro-environmental behaviours. Meanwhile, the coping appraisal consists of self-efficacy (an individual's perception of their ability to perform a particular behaviour) and response efficacy (perceived effectiveness of the suggested risk preventative behaviours). The coping appraisal is also referred to as response cost, which explains the cost of performing the recommended behaviour (McCool et al., 2009; Moran, 2011; in Samdin et al., 2021, p. 4). High levels of risk appraisal and high levels of coping appraisal are predicted to have a positive collective effect on the adoption of adaptive coping responses. Contrary, low levels of risk and coping appraisal lead to the lesser protection motivation and coping responses (Prentice-Dunn & Rogers, 1986; Rogers & Prentice, 1997; in Samdin et al., 2021, p. 4). Verkoeyen and Nepal (2019; in Samdin et al., 2021, p. 4) stressed out that the protection motivation is typically related to behavioural intentions, operating as a mediating variable between the threat and coping appraisal processes and protective behaviour.

The protection motivation theory has been widely used in the past studies and clearly explains why people engage in health-protective behaviour. Wang et al. (2019; in Samdin et al., 2021, p. 4) found that both threat and coping appraisals significantly predict the behavioural intention. Similarly, Horng et al. (2014; in Samdin et al., 2021, p. 4) and Verkoeyen and Nepal (2019; in Samdin et al., 2021, p. 4) found that threat and coping appraisals significantly influence tourist behavioural intentions and carbon reduction behaviour intention, respectively.

Anthropause and anthropulse

For the first time, while studying wildlife tourism an eminent ecologist Christian Rutz (2020; in Searle, Turnbull, & Lorimer, 2021, p. 71) coined the term anthropause and later on anthropulse during the time of COVID-19. Before defining and describing these two terminologies, the author including his colleagues start mentioning the types and examples of anthropause events

Pandemic - Black Death (14th century) pandemic in Eurasia and North Africa, Columbian smallpox exchange (16th century), "Spanish" influenza (20th century), COVID-19 (21st century) Anthropogenic disaster- the nuclear exclusion zones in Chernobyl (1986), Ukraine and Belarus, and Fukushima, Japan (2011), State/Military intervention- the Korean demilitarized zone, military bases, and nuclear-tested sites (e.g., Diego Garcia, Bikini atoll; in Searle et al., 2021, p. 71).

Economic Crisis -1930s Great Depression, 1970s US "Rust Belt" de-industrialization, 2008 financial crisis, Eurozone and Argentina monetary crises. Rutz (2022) has developed a basic classification scheme for human pauses based on how widespread (spatial extent), sustained (duration) and pronounced (magnitude) reductions in human mobility are. Importantly, the author recommends that the label anthropause be reserved for events of high magnitude at continental to global scale (and of any duration).

Pause is an interval in a course of action, a space of silence or inactivity; moments of uncertainty doubt or reflection; an intermission; a delay, a lag, a hesitation, a breath, a rest-a pause for thought (*Oxford English Dictionary*; in Searle, Turnbull, & Lorimer, 2022). In a recent Nature article, Christian Rutz et al. (2020, p.1156) a team of ecologists and biologists-coined the term "anthropause" to signify the considerable global showing of modern human activities" due to worldwide mobility restrictions. Briefly, anthropause is an unusual, substantial, temporary, and continental-to-global scale reduction to human mobility (Rutz, 2022). Anthropause has been followed by anthropulse in a recent study of Rutz (2022). Anthropulse is an unusual, substantial, temporary, continental-to global-scale increase in human mobility. Likewise, the term human pause and human pulse are shown equally important in the context of studying anthropause and anthropulse. Human pause is an unusual, temporary reduction in human mobility.

An anthropause is an extreme case of a human pause, in terms of magnitude and spatial extent. While human pulse is an unusual, temporary increase in human mobility. An anthropause is an extreme case of a human pause, in terms of magnitude and spatial extent. It is noteworthy to mention regarding human mobility. Human mobility is the movement of humans and their vehicles (such as cars, ships, and planes) across the environment, including the release of any associated by-products (such as light, noise and pollutants). The above-mentioned definitions, the Black Death pandemic and early COVID-19 lockdowns caused anthropauses, while the Chernobyl disaster was followed by a regional human pause. Some authors have used the word anthropause as a synonym for positive environmental change caused by lockdowns. Some obvious and immediate effects reflected in worldwide reports of reduced traffic congestion, clearer skies, clearer waterways the emergence of wildlife into human settlements. In addition to anecdotal reports, effects are being detected in a variety of long-term physical observations (from improved air quality to reduced seismic noise) and socioeconomic indicators (such as reduced mobility and declining economic growth and greenhouse-gas emissions). While some of these impacts might be considered beneficial to the environment negative consequences are also emerging, cascading effects of poverty, food security, mental health, disaster preparedness and biodiversity (Diftenbaugh et al., 2021). Indeed the way the anthropause concept was originally framed, it makes no assumptions about the sign of environmental responses and any associated conservation impacts. Second, human mobility must be defined, COVID-19 lockdowns caused notable reductions in pedestrian counts and road, water and road traffic (and associated pollutant outputs), all of which likely cause environmental impacts (Rutz, 2022).

The travel motivation literature relating to COVID-19 and previous health crises has predominantly focused on potential demotivators to travel and recognized various risk-related factors, including: perceived health risks (Bae & Chang, 2020; Dandapat et al., 2020; in Aebli et al., 2021, p. 2), negative effects for mental wellbeing including anxiety (Chua et al., 2020a; in Aebli et al., 2021, p. 2), negative anticipated emotions (Das & Tiwari, 2020; in Aebli et al., 2021, p. 2), and the risk of being judged negatively (Matiza, 2020; in Aebli et al., 2021, p. 2). Authors also identified ‘a reliable health system’ (Ivanova et al., 2020; in Aebli et al., 2021, p. 2), ‘preventive health behaviour’ (Chua et al., 2020b; in Aebli et al., 2021, p. 2) and destination-specific factors including ‘destination image’ and ‘accessibility of destination information’ (Ahmad et al., 2020; in Aebli et al., 2021, p. 2) as risk factors in the context of COVID-19. Hygiene and safety concerns (Novelli et al., 2018; Wen et al., 2005; in Aebli et al., 2021, p. 2) and overall perceived risks (Cahyanto et al., 2016; in Aebli et al., 2021, p. 2) were found to be main deterrents in previous health crises more generally.

Herzberg's two factor theory

Herzberg's theory of motivation serves as a useful framework to consider tourists' needs relating to both the 'benefit' (travel motives) and 'cost/risk' (potential deterrents) side of travel. Herzberg's two factor theory suggests humans have two different sets of needs that can be distinguished into lower order needs such as perceived security and higher-order psychological needs such as achievement or recognition (Herzberg et al., 2007; in Aebli et al., 2021, p. 3). Although conceptually related to Maslow's hierarchy of needs theory (Maslow, 1962; in Aebli et al., 2021, p. 3), Herzberg's two-factor theory differentiates between motivational and demotivational factors that respectively add to one's satisfaction or dissatisfaction.

The motivation factors describe content-related features and refer to socio-psychological needs linked to individual aspirations (Herzberg et al., 2007; in Aebli et al., 2021, p. 3). The demotivational factors, also termed 'hygiene factors', describe the basic conditions or contextual features (Herzberg et al., 2007; in Aebli et al., 2021, p. 3). When these latter factors decline to a level considered below acceptance, dissatisfaction or demotivation occurs. However, the presence of hygiene factors does not necessarily lead to motivation as the two factors are not part of one continuum, that is, they act independently from each other. For example, increased perceived security in a travel context does not necessarily motivate travel, since motivation is stimulated by socio-psychological needs, such as social relatedness. Factors related to the context concern the basic 'survival' needs of a person; they serve to meet the needs for avoiding unpleasant situations (Herzberg et al., 2007; in Aebli et al., 2021, p. 3). Both hygiene and motivation factors are required; but it is primarily the motivation factors that lead to behaviour (Herzberg et al., 2007; in Aebli et al., 2021, p. 3). In accordance with Herzberg's theory, hygiene factors in this study represent the contextual factors that are expected, leading to demotivation otherwise; whereas tourists' motives describe inner drivers that motivate tourists to travel.

Microadventure

It is time to reimagine adventure. The COVID-19 pandemic fundamentally questions the importance of discretionary travel for leisure and personal well-being. Prior to recent unprecedented mobility restrictions, adventure travel (e.g., travel to undertake novel, physically challenging activities in remote natural environments) experienced significant growth. This growth was fueled not only by demand from individuals seeking adventure benefits (e.g., nature connection, self-development, well-being), but also by proposed supply-side benefits. Adventure travel was touted for its "vast potential... to address some of the world's most pressing challenges, including socioeconomic growth, inclusive development and environmental preservation" (WTO, 2014, p. 10; in Mackenzie & Goodnow, 2020, p. 1). Nevertheless, the rationale for extended travel requiring significant

equipment, finances, and emissions to fragile environments and communities for personal development is questionable across environmental and social justice fronts.

The ‘microadventure’ movement, which has gained traction in Europe and North America since 2016, emerged in response to these dilemmas. It espouses “adventure that is close to home, cheap, simple, short, and ... effective. It still captures the essence of big adventures, the challenge, the fun, the escapism, the learning experiences and the excitement” (Humphreys, 2014, p. 14; in Mackenzie & Goodnow, 2020, pp. 1-2). This movement reconceptualises adventure from being ‘out there’ (i.e., remote, time and resource intensive) to ‘right here’ (i.e., local, attainable) and reflects broader calls for locavism: short distance, lower-carbon travel that retains financial and social capital locally (Hollenhorst, Houge Mackenzie & Ostergren, 2014; in Mackenzie & Goodnow, 2020, p. 2).

It is time to reimagine adventure. The COVID-19 pandemic fundamentally questions the importance of discretionary travel for leisure and personal well-being. Prior to recent unprecedented mobility restrictions, adventure travel (e.g., travel to undertake novel, physically challenging activities in remote natural environments) experienced significant growth. This growth was fueled not only by demand from individuals seeking adventure benefits (e.g., nature connection, self-development, well-being), but also by proposed supply-side benefits. Adventure travel was touted for its “vast potential... to address some of the world’s most pressing challenges, including socioeconomic growth, inclusive development and environmental preservation” (WTO, 2014, p. 10; in Mackenzie & Goodnow, 2020, p. 1). Nevertheless, the rationale for extended travel requiring significant equipment, finances, and emissions to fragile environments and communities for personal development is questionable across environmental and social justice fronts.

Resilience

According to UNWTO Secretary-General, Taleb Rifai: “Tourism is one of the most resilient and growing economic sectors but it is also very sensitive to risks, both actual and perceived. As such, the sector must continue to work together with governments and stakeholders to minimize risk respond effectively and build confidence among travelers” (<https://media.unwto.org/press-release/2016-11-07/>; in Raj & Griffins, 2017, p.4).

Resilience is one of the most important theories of tourism studies in the context of studying the reset of crises and disasters. Studies based on resilience have been focused by several scholars in the field of tourism crises. Resilience has been used either as a metaphor or as an outcome or process resulting from a triggering event (Hall et al., 2018; Sharifi & Yamagata, 2016; in Prayag, 2020, p. 180).

Resilience in this study is defined as the ability of a socioecological system (SES) to absorb disturbances and reorganize itself after a triggering event, so that it essentially retains the same functions, structures, identity, and feedbacks (Walker, Holling, Carpenter, & Kinzig, 2004; in Prayag, 2020, p. 180). Borrowing from the notion engineering resilience, ecological resilience has been defined as the ability of a system to main and adapt its essential structure and function in the face of disturbances and environmental stress (Walker, Holling, Carpenter & Kinzig, 2004). Within tourism studies, ecological resilience has been the foundation of many conceptual (Bec, McLennan, & Moyle, 2016; Butler, 2017; Cheer & Lew, 2018; in Prayag et al., 2019) and empirical studies (Becken, 2013; Biggs et al., 2012; Orchiston et al., 2016; in Prayag et al., 2019). To date, the resilience of sociological systems, such as tourist destinations (Amore, Prayag, & Hall, 2018; Buultzens, Ratnayake, & Gnapala, 2017; Calgaro, et al., 2014; in Prayag et al., 2019) and local tourism communities (Bec et al.,

2016; in Prayag et al., 2019), has been the dominant scale of analysis (Hall et al., 2018; in Prayag et al., 2019). Studies have also examined the resilience of the socio-ecological systems due specifically to disasters (Becken & Khazal, 2017; in Prayag et al., 2019). Organizations within an ecosystem are vulnerable to both internal and external shocks (Lee et al., 2013; in Prayag et al., 2019). However, the resilience of tourism organizations, often referred to as business resilience (Cheer & Lew, 2018; in Prayag et al., 2019) or enterprise resilience (Dahles & Susilowati, 2015; in Prayag et al., 2019), remains sparsely researched (Hall et al., 2018; Xu et al., 2018).

Macrolevel resilience	<ul style="list-style-type: none"> • Tourism system (components, structures, relationships, stability) • Tourism destinations (where and why) • Tourism dependent communities (vulnerability, diversification, sustainability)
Mesolevel resilience	<ul style="list-style-type: none"> • Tourism organizations (size and ownership) • Tourism non-governmental organizations (NGOs) and public institutions • Tourism networks and value chains (supply chain)
Microlevel resilience	<ul style="list-style-type: none"> • Tourism employees (where and why) • Tourists (impacts and opportunities, segments) • Residents (support and animosity) • Other tourism related temporary population (second-home owners, seasonal workers)

Figure 1. The proposed research agenda for tourism resilience due to pandemics; Source: Prayag (2020, p. 181)

As Figure 1 suggests, a pressing need is to understand what components of the tourism system have been impacted by the pandemic and how this affects existing structures and relationships. Other related questions worth investigating would

be gauging the scale of impacts on the tourism industry from a geographical and temporal perspective (Which regions, countries, destinations, and communities have been impacted and why they have been impacted? How long will such impacts last and how can these be managed?). Recent studies have started to examine some of these questions (see Hall et al., 2020). For tourism-dependent communities, in particular, assessing their vulnerability and diversification pathways to reduce their dependency on tourism should be explored (Prayag, 2020, p. 181). It is time to reset not only for the tourism industry but for tourism researchers as well! (Prayag, 2020, p.183).

Psychological resilience during the COVID-19 shelter-in-place period is related to a higher level of exercise, sleep quality, social support and spirituality (Killgore, Taylor, Cloonan & Dailey, 2020; in Flaherty & Nasir, 2020). A greater understanding of the factors which contribute to resilience across the travel spectrum should lead to the development of tools that can be used during the pre-travel consultation and to support travelers during and post travel.

Social media communication presents different attitudes towards news media reporting. A number of comments suspected the real purpose and authenticity of media coverage and criticized the over attention of epidemic, reports rather than rational cognition (Yu, Li, Yu, He & Zhau, 2020).

The coronavirus (COVID-19, As of 22 April, 2020, over 2.5 million cases and 180,000 deaths with significant under reporting) is the current darling on the media (Yu et al., 2020) and before that it was Dengu (2016, 100 million cases and 38000 deaths), before that Zika (2015, unknown number of cases but can result in microcephaly in infants born by infected mothers and in Guillian Barren syndrome), before that Ebola (2014 -present, Hemorrhagic, 28,600 and 11,325 cases), before that MERS -CoV (2012, Coronavirus; transmitted by camels and humans, case-fatality rate of 35%), before that Swine flu (2009, Influenza-284,000 deaths), before that SARS (2002-2003; coronavirus; 8098 cases and 774 deaths), before that Cholera (1961-present, 1.4 to 4 million annual cases and 21000 to 143000 annual deaths), before that HIV/AIDS (1960-present, Human immunodeficiency virus infection, 75 million cases and 35 million deaths-primarily Africa), before that Hong Kong flu (1968-1969, Influenza, 500,000 to 2 million deaths), before that Asian flu (1957-1958, influenza, 1 to 2 million deaths), before that Spanish flu (1918-1920, Influenza, 500 million cases and 21 to 100 million deaths) (Hall, Scott, & Gossling, 2020). The media loves a good pandemic story, even if they have to make one into a pandemic (Code MC-3).

Major pandemics and pathogen outbreaks

Covid-19: 2019 - till present	The effect of a pandemic on the international tourism industry shows that the international tourist numbers have fallen by 22% just in the first quarter of 2020 with a loss of US\$ 80 billion in tourism income. The number could fall by 60-80% over the whole year with an estimated loss of US\$ 300 billion to US\$ 450 billion in international tourism earnings in 2020 (UNWTO, 2020b; in Kunwar, Adhikari, & Kunwar, 2022, p.117).
Dengue: 2016 - till present	Dengue is the most important vector-borne viral disease of humans and likely more important than malaria globally in terms of morbidity and economic impact. The total annual global cost of dengue illness in 2013 was estimated at US\$8.9 billion. Outbreaks occur periodically but the 2016 outbreak was global in scale.
Zika: 2015 - till present	No vaccine available. The World Bank estimates that the short-term impact of the ZIKV outbreak for 2016 in Latin America and the Caribbean was about US\$3.5 billion primarily in countries where tourism is significant, especially given the hosting of major sporting events.
Ebola: 2014 - till present	Caused by a virus transmitted from wild animals, with a case-fatality rate of up to 90% (50% average). The Ebola vaccine is now available. Estimates of the economic burden of the West African outbreak range from \$2.8 to \$32.6 billion in lost GDP.
MERS-2012	No vaccine available. The MERS outbreak in Korea in 2015 resulted in an estimated \$2.6 billion in tourism loss. MERS advisories continue for those taking Hajj and Umrah pilgrimage to Saudi Arabia.
Swine flu - 2009 Influenza	The economic impact of the pandemic outbreak in Mexico where the swine flu pandemic started was estimated as >\$3.2 billion (0.3% of GNP) with estimated tourism losses of US\$2.8 billion.
SARS 2002 – 2003	Estimated global economic cost of US\$100 billion, and US\$48 billion in China alone. Originating in China, International travel allowed the SARS virus to spread to 37 countries.

Cholera: 1961 - till present	Cholera outbreaks impact negatively on both domestic and international demand for tourism industry services of affected countries. The seventh cholera pandemic began in South Asia in 1961. Recent notable outbreaks include those in Zimbabwe (2008–2009), Haiti (2010–present), and Yemen (2016 – present).
HIV/AIDS: 1960 - till present	First identified in 1983. The earliest known case was in 1959. The decreased life expectancy in many African countries as a result of HIV/AIDS is associated with an estimated lowering of economic growth rates by -0.3 to -1.5% and potentially higher.
Hong Kong flu: 1968 – 1969	The Hong Kong flu was the first virus to spread extensively due to air travel. The WHO (2009) estimated it contributed to a loss of between -0.4 to -1.5% of global GDP.
Asian flu: 1957– 1958 Influenza	The WHO (2009) estimates that between one to four million people died as a result of the pandemic with the resultant change of -3.5% to 0.4% of global GDP. Accelerated development of a vaccine limiting the spread of the responsible strain.
Spanish flu: 1918–1920	The Spanish flu affected one-third of the world's population and claimed the lives of 1–5% of the world's population, far exceeding the death toll of WWI.

Sources: Al-Tawfiqef et al., 2014; Bell et al., 2003; Bloom & Cadarette, 2019; Girard et al., 2010; Gubler, 2012; Huber et al., 2018; Joo et al., 2019; Kirigia et al., 2009; Petersen et al., 2016; Russy & Smith, 2013; Shepherd et al., 2016; Siu & Wong, 2004; Taubenberger & Morens, 2006; WHO, 2009; WTTC, 2020; modified and adapted from Hall, Scott, & Gössling, 2020, pp. 5-6.

Conclusion

In recent years, health and safety information has been recognized as one of the essential components in the tourism literature, especially during the unprecedented COVID-19 crisis. United Nations also designed several policies such as building confidence through safety and security in all tourism operations at the tourism destinations including heritage sites, implementation of electronic check-in at hotels, touchless border control and airline boarding to improve the tourists' safety and security at the tourism destinations, and application of 'new norms' (including the practices of wearing a mask and social distancing). Similarly, Chew and Eysenbach (2010), Reynolds and Seeger (2005) and Vos and Buckner (2016) stressed that it is essential to provide information related to the risk of infection, the seriousness of the infection, and precaution actions during a pandemic to ensure

the public aware the risk and respond effectively.

Throughout several decades, the tourism and hospitality industries have been sensitive to and affected by external and internal factors, such as uncertainties, challenges, crises, and pandemics. One of the most significant among these are pandemics and disease outbreaks that have played a major role in social and economic change throughout the world, particularly in developing and least developed countries. Especially tourism and hospitality industries suffered heavy damage as a result of the COVID-19 pandemic (Madininos, Vassiliadis, Tzavlopoulos, & Vassiliadis, 2021; in Christou & Fotiadis, 2022, p. ix). The spillover impact of COVID-19 in the field of tourism has been evidenced particularly in the global economy, global tourism and its impact on other sectors.

As global hospitality, travel and tourism have expanded over the past 70 years, so people have moved increasingly to viewing such experiences as an entitlement, arguably a right. McCabe and Diekmann (2015; in Baum & Hai, 2020, p. 2398) address the evolution of the notion of tourism as a right or entitlement and recognise that, in a global context, the practical right to travel for tourism is privileged and by no means universal, for a combination of political, economic and sociocultural reasons. Reasonably, McCabe and Diekmann (2015, p. 202; in Baum, 2020, p. 2399) are cautious when they conclude that “tourism might not be considered a human right, and there is no legal basis to support such a right” but they do argue the case that tourism is a social right, extending the context beyond links exclusively to employment (Baum, 2020, p. 2399).

The global hospitality, travel and tourism industry faces a precarious future across its operating sectors and many businesses will not emerge from the crisis in their former shape if at all.

When COVID-19 was declared as pandemic, the researchers have been conducting several researches in different phases. While writing an editorial in their book (2022, p. ix), Christou & Fotiadis developed COVID-19 into three phases. In phase one, there was a plethora of studies that tried to investigate the end of the pandemic and its impacts. However, the studies failed to predict the aftermath of COVID. But it was clear that the pandemic will change the way of tourism operations. Everyone was anticipating the solution, several pharmaceutical companies started producing vaccine drives, this gave hope for tourism stakeholders leading to phase two. Bigger events like Dubai Expo 2020, Olympic Games, and so on were resumed by following COVID-19 health protocols. In this phase, researchers studied the successful COVID-19 intervention by tourism destinations, the role of media and Information Communication Technology (ICT) in the time of the pandemic. In the third phase, people’s perceptions about vaccination and other emerging contextual topics are lined up for study.

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**Search and Rescue Capacity Building of Nepal's Security Forces for
Effective Response**

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Abstract

Capacity building encompasses the training, knowledge, skills, abilities, processes, and resources. The present paper highlights Nepal's security forces integral role in disaster response and its need of the capacity building in search and rescue. Responding to disasters is a special task that demands a high level of training, knowledge, skills, and types of tool, equipment, and accessories. During the study, trained manpower for search and rescue within the Nepali Army, Nepal Police, and Armed Police Force, Nepal, and their capabilities and challenges were analyzed. The study suggests need for investment in capacity building of security forces towards highly-trained manpower in search and rescue as per the international standard. Well-prepared human resource in sufficient number is key to effective response and integrated effort with sound coordination mechanism always gives the net positive results.

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Introduction

Disasters are life-threatening events in human life. They are a serious disruption of the functioning of a community or society involving widespread human, material, economic or environmental losses, and impacts, which exceed the ability of the affected community or society to cope by using only its resources (United Nations International Strategy for Disaster Reduction [UNISDR], 2009). An increase in damage and loss from disaster poses a serious problem in societies. Reducing the risk of disaster is associated with three components, preparedness, response, and recovery. Disaster risk reduction measures are undertaken to build local resilience (Nepal Disaster Report , 2009).

Nepal is highly vulnerable to natural disasters such as extreme drought, floods, landslides, fires, and epidemics effects. Nepal's geographic location also makes it extremely susceptible to seismic activity from the nearby Indian and Tibetan plates. (Nepal Disaster Management Reference Handbook, 2017). Due to the vulnerability of the population and the regular and frequent occurrence of different natural hazards, Nepal is a hotspot for disaster (Nepal Disaster Report , 2009). Similarly, the man-made disaster also has a crucial impact on Nepal. Geology is a key determinant of Nepal's hazard scape. Geologically, Nepal can be divided into five major zones separated by faults namely, Terai and foreland basin, Chure/Siwalik range, Lesser Himalayan, Higher Himalayan, and the Tibetan Tethys Himalayan (Nepal Disaster Report, 2009). Globally, Nepal ranks 4th and 11th in terms of its relative vulnerability to climate change and earthquakes, respectively. The country is among the 20 most disaster-prone countries in the world, both natural and man-induced. More than 80 percent of the total population of Nepal is at risk of natural hazards such as floods, landslides, windstorms, hailstorms, fires, earthquakes, and Glacial Lake Outburst Floods (GLOFs) (Disaster Risk Reduction National Strategy Plan of Action, 2018). Disaster Risk Reduction (DRR) is the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009).

Security forces are actively engaged in rescue and relief activities in different parts of the world. Although, the primary task is to maintain peace and security, especially in the wake of natural calamities security forces intervene in assisting society (Raj, 2008). The secondary role of security forces is "aid to civil power". There has been an international practice to call out security forces in a catastrophic situation. Kumar and Dimri (2018) state when any natural or man-made disaster takes place in any part of the world, the armed forces are frequently deployed for disaster risk management. Kumar and Dimri (2018) further explain security

force's professional training and spirit to deliver and will to assist the community, are always the first choice of any state.

HGU(2011) defines capacity building as the process of developing and strengthening the skills, instincts, abilities, processes, and resources that organizations needed to achieve the organizational objectives. National risk reduction consortium flagship two highlighted national capacity building of the country is essential for enhancing the ability to respond and to scale up preparedness levels including effective partnerships to strengthen coordinated efforts among stakeholders.

Specialized and professional integrated Search and Rescue (SAR) teams for search and rescue workers have not yet been formed in Nepal. In the present situation, the trained human resource of the Nepali Army (NA), Nepal Police (NP), and Armed Police Force (APF), Nepal are carrying out SAR work for disaster response separately. National strategic Action Plan for Search and Rescue (NSAPSAR) 2014 envisaged the national level search and rescue capacity building within security forces. This strategic action plan has been developed by taking the response design of the SAR group under the International Search and Rescue Advisory Group (INSARAG) as a basis and adjusting it to a national form. National Disaster Response Framework (NDRF) 2014 also highlighted the importance of security forces for emergency response aftermath of any disasters, which is further reiterated by the recent National Disaster Risk Reduction and Management (NDRRM) Act, 2017 tasking security forces to carry out the search, rescue, and relief operations.

The study address questions like the number of trained manpower in security forces to effectively respond to any kind of disaster in Nepal, challenges in search and rescue operations, preparedness of Nepali security forces for search and rescue, and capacity-building activities. So, the objective of this study is to assess the capabilities and challenges for search and rescue trained manpower within Nepali security forces. This paper suggests Government of Nepal (GoN) to develop a national SAR team by increasing the number of trained manpower among security forces.

The research follows a qualitative approach via a collection of primary data from observation and interviews with key informants. Secondary data were based on literature analysis, which has been analyzed iteratively about search and rescue. The study was mainly focused on search and rescue trained manpower within security forces and their SAR activities and the necessity to increase trained manpower to develop the national level SAR team.

Literature review

Sendai framework for DRR (2015) highlights disaster risk governance at the national, regional, and global levels which are of great importance for effective and efficient management of disaster risk. Strengthening disaster risk governance for

prevention, mitigation, preparedness, response, recovery, is, therefore, necessary and fosters collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk reduction and sustainable development.

Mallik (2007) analyses the role of armed forces in internal security and explains the principles of necessity, minimum forces, impartiality, and good faith for armed forces in aid of the civil authority to restore law and order. He pointed out that most of the training in the armed forces is focused on the primary role (defending external and internal threats). The armed forces are unable to lay adequate stress on training for their secondary role (aid to civil authorities).

Zaw and Lim (2017) define that the military plays a major role in various aspects of humanitarian assistance because of its readiness, preparedness, facilities, capabilities, mobility, and systematic organizational structure. The involvement of the military in disaster relief operations can be mandated statutorily or requested by civil authorities based on military physical assets. Rietjens (2007) describes the military primary objective in disaster response as creating a secure environment that can be assessable to relief organizational operating disaster response, transportation, and communication. The secondary objective could be to assist in the disaster area for rehabilitation.

UK Essay (2018) stresses on the contribution of armed forces in dealing with disasters is not over-emphasized. This contribution has usually been made under some form of official arrangement for aid to the civil power, as laid down in the standing operating procedures. The flexible organizational structure, the capability of sustained operation in all weathers by day and night, and the well-trained management system of the armed forces make them particularly well-suited for effective disaster relief operations. Thus armed forces can offer assistance to the victims with invaluable support in engineering, communications, transport, rescue, emergency medical services, field sanitation, water supply, and so on.

Dagur (2008) investigates the role of armed forces in disaster management and focuses on two different views one view recommends dampening our response and discouraging enthusiasm, and the other recommends a larger, proactive, and more participative role in disaster management. He also evaluates the other government agencies like the natural disaster response force, a paramilitary force, and state administration in process of disaster management and their coordination with armed forces.

DRRM Act, 2017 defines disaster search and rescue team as a specialized search and rescue team active in search and rescue in time of disaster or prepared to be mobilized for disaster management. It also refers to trained humanitarian workers. Urban Search and Rescue (USAR) is a specialized multifunctional discipline

that involves the location, disentanglement, extrication, and initial medical stabilization of victims trapped in collapsed structures. USAR Team USAR teams are specialized multifunctional resources, comprised of management, logistics, search, rescue and medical (SARTWG, 2014).

Trainor, Mcneil, and Aguirre (2008) highlighted the USAR task forces in the United States, is a collection of multidisciplinary taskforces created by local emergency responders organized under a federal framework for response in the aftermath of structural collapses. These task forces arrive at the site complete with the necessary tools, equipment, specialized training, and skills. Activities such as structural shoring, canine searches, complex rope systems, confined space entry, and technically assisted void search procedures are now being used. The development of heavy rescue search capability was initiated in California, after the 1971 San Fernando Earthquake (Naum, 1993).

Nepal Army is a national army of Nepal that plays a vital role to overcome natural and human-made disaster challenges. Nepal army has played a significant role in rescue and relief distribution in various disaster periods like B.S. 1990 earthquake, B.S. 2045 earthquake in Udayapur, B.S. 2050 earthquake in the mid area of Nepal, B.S. 2065 flood in Koshi river of the eastern region, B.S. 2066 cholera and diarrhea epidemics etc., as well as vital relief during avalanches, fires, landslides, air and other transportation disasters. In the international context, Nepal Army in the role of UN peacekeeping actors have also played a major role in providing emergency assistance during the disaster to needy people of various country (Nepali Army, 2021).

Armed Police Force (APF), Nepal is tasked with the protection of life, property, and liberty of the people by maintaining peace and order. During natural calamities or epidemics in any part of the country, APF, Nepal, has been playing a crucial role by showing the highest level of professionalism in emergency needs of disaster victims such as search and rescue, providing shelters, and distributing relief materials (Armed Police Force, 2021).

Nepal Police has been playing important role in disaster management. Nepal Police has formed Disaster Management (DM) division and conducted activities of pre-planning, prompt deployment, and result-oriented and skillful search and rescue. Nepal Police have deployed their manpower to affected areas for search, rescue, and relief distribution during the disaster period (Nepal Police, 2021).

Ministry of Home Affairs, Government of India (2022) states that the National Disaster Response Force (NDRF) is a disaster response agency under National Disaster Management

Authority (NDMA) which was created by the Ministry of Home Affairs, Government of India. It consists of ten battalions of Central Armed Police Forces

(CAPF), including two each of the Border Security Force (BSF), Central Reserve Police Force (CRPF), Central Industrial Security Forces (CISF), and Indo-Tibetan Border Police (ITBP). It has 13,000 trained manpower and has been mobilizing for search and rescue operations in India, this force also responded to Japan's triple disaster in 2011 and Gorkha Earthquake in 2015.

National Society for Earthquake Resilience (NSET) Program for Enhancement of Emergency Response (PEER) Course (2017) states that PEER has contributed to giving shape to the national emergency response system and has improved the training strategies in Nepal. There has been a growing awareness of the need for developing qualified Medical First Responder (MFR) and Collapsed Structure Search and Rescue (CSSR) instructors to train the end users or responders in PEER partner organizations, mainly the security organizations. The vision of establishing trained and equipped response teams led to steady progress in the Nepali Army, Nepal Police, and Armed Police Force, Nepal. These organizations have taken initiatives in owning the PEER program, utilizing and adapting the MFR and CSSR curricula in the capacity building of their emergency response teams.

Pont (2005) defines training is about developing people as individuals and helping them to become more confident and competent in their jobs. Training implies learning to do something, and when, it is successful, it results in things being done differently (Bramely, 2008)

UN INSARAG (2008) reads that INSARAG activities are guided by UN General Assembly Resolution 57/150 on "Strengthening the Effectiveness and Coordination of International Urban Search and Rescue Assistance", by the INSARAG Hyogo Declaration. The INSARAG mandate entails the development of effective international USAR procedures and operational standards, implementation of improving cooperation and coordination amongst international USAR teams at disaster sites, and promoting activities to improve USAR preparedness in disaster-prone countries. It develops standardized guidelines and procedures, shares best practices amongst national and international USAR teams, and defines standards for minimum requirements of international USAR teams.

Disaster management in Nepal

International Federation of Redcross and Red crescent (2020) states disaster management as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies in particular preparedness, response, and recovery to lessen the impact of disasters. Due to the high occurrence of disasters, GoN has prioritized disaster management

as the top concern. In recent years, the GoN has taken steps to move from the relief response paradigm towards emphasizing disaster risk management by addressing all stages of the disaster management cycle (Nepal Disaster Report, 2013). The Ministry of Home Affairs (MoHA) is the focal agency for disaster management in Nepal which is guided and directed by the Executive Committee headed by the Home Minister. The Ministry acts as a supervisory authority and formulates, and implements national disaster plans, programs, and policies (Nepal Disaster Report, 2013).

Managing disasters are multi-sector engagement with coordinated efforts. GoN has prepared numerous action plans to increase the resilience of Nepali society. All the stakeholders from the local level to the central level have initiated improving coordination between civil society and security forces in building a resilient Nepalese society. In this regard, there have been numerous response plans, joint exercises, awareness programs, resource mobilization, hazard mapping, and interaction programs between civil society and security forces. Nepali security forces are focusing to enhance the capacity of the community by providing awareness, training, and logistics. Such activities are required to build a rapport between civil society and security forces. Disaster risk reduction activities should be integrated into the periodic plan and the program should be regularly monitored (Disaster Risk Reduction National Strategy Plan of Action, 2018).

Constitutional and legal provision of security forces for disaster management

Every country in the world has established a competent security force for internal and external security. In the context of Nepal, there are three security forces with a primary task to maintain peace and security. The Nepali army has always been committed to safeguarding the national unity, territorial integrity, and sovereignty of Nepal. It is under the ministry of defense with active hundreds of thousands of personnel actively engaged in disaster management in Nepal. The constitution of Nepal 2072 has provisioned to mobilize the Nepali army for disaster management without prior authorization of parliament (Nepali Army and Disaster Management, 2020).

Nepal Police are civil police with the primary task of law enforcement, crime investigation, and community policing. It comes under the home ministry with active eighty thousand personnel deployed throughout the country. The police act 2012 and police regulations regarding the duty and responsibility state that every police has to be mobilized for disaster management. (Nepal Police Act, 2012).

APF, Nepal is an elite force established to maintain peace and security with more than thirteen mandates. The primary function of APF is border security, riot control, VIP security, and assisting the Nepali army in the external invasion. The armed police act 2058 directs APF in disaster search and rescue.

National Disaster Response Framework (NDRF) 2013 is the national system for disaster response and international assistance for disaster response, which highlights the actions taken immediately before, during, and after disasters with a certain timeline, by which all the security forces have to deploy their search and rescue team. The functions, duties, and powers of the security agencies are explained in NDRRM Act 2017. Security forces have a vital role in all 4 levels namely the executive committee, provincial disaster management committee, district disaster management committee, and local disaster management committee. By which security agencies shall discharge functions of (a) provide an early warning on possible disasters and making aware the communities about the disaster risk reduction; (b) get mobilized immediately in any place once getting the information about the occurrence of a disaster and communicate such information to the concerned officials or agencies; (c) carry out an emergency search, rescue and relief operations in an effective manner; and (d) conduct training on search and rescue operation and public awareness programs on disaster management.

Nepali security forces in search and rescue operations

Nepali security forces have demonstrated their skill to cope disaster at the most catastrophic event. In both natural and man-made disasters, the availability of Nepali security forces has raised the belief of people towards security forces. The deployment of troops and their presence in every district have ensured security among the people. In the major disasters like Koshi flood of 2008, Jure landslide in 2014, Gorkha Earthquake of 2015, Nepali security forces have saved millions of lives and upheld humanitarian crises. Disaster management encompasses three different stages i.e. pre-disaster, during a disaster, and after disaster. Nepali security forces are actively engaged in all the phases of disaster management and their stringent action is seen during the disaster. The ability to locate victims, extricate them, segregate, and save lives are the activities during disasters.

Nepali security forces have been constantly responding to a small incident to mega disasters within short notice. Immediately after Gorkha Earthquake 2015, NA, NP, and APF, Nepal was mobilized for search, rescue, and relief operations. Altogether 7762 people were rescued by helicopters and 4089 by land transport. While 4521 SAR personnel from 34 countries were mobilized for SAR operation and rescued 16 lives along with security forces. This shows the importance of national search and rescue teams for a timely response since time is of paramount importance for saving lives aftermath of disasters (Nepal Disaster Management Reference Handbook, 2017).

The following data indicate the search and rescue by Nepali security forces in the last 5 years.

Table 1: Search and rescue operations performed by Nepali security forces

Year	Number of disasters	Casualties	Rescue victims	Deployment of Security forces
2017	2046	4375	3815	23607
2018	1874	4748	4405	21937
2019	2636	5766	5212	35682
2020	1763	3777	3341	14810
2021	1958	2658	1543	18110
Average	2055.4	4264.8	3663.2	22829.2

Source: APF Disaster Management and Deployment Division (2022)

Analyzing the data from Table 1, average 2055 disasters occurred between 2017-2021 and 3663 lives were saved after deploying 22830 security forces, which show the importance of search and rescue operations by Nepali security forces in saving the lives of the people.

When asked about the resources crunch for search and rescue, one of the officers working in the APF Disaster Management Training School, Kurintar articulated the following.

“We don’t have rescue vehicle which can transport and provide specialized types of equipment. For the water rescue operation, we need an auto engine motor boat and an electric pump to inflate the raft. Most of the CSSR equipment is not in good condition for eg, the rotary rescue saw is unserviceable while accessories for the electric chain saw are not available in the market. We don’t have enough Personal Protective Equipment (PPE) for eg, the Mitton used for rope rescue is becoming old which costs a high price. As an instructor, we have to provide training and we also have to respond to any disasters occurred any part of the country.”

So above interview shows that there is a lack of sufficient trained manpower, there is a lack of basic PPE to rescue vehicles, and maintenance and sustainability of types of equipment is another challenge. The trained manpower in the unit has both tasks of providing training and deploying for SAR operations in any part of the country because of the limited number.

Nepali security forces in SAR operations in Gorkha Earthquake 2015

The post-Gorkha Earthquake 2015, has haunted the whole nation with serious disruption of life. Criminal offenses like theft, robbery, brawl, and harassment also occurred, creating challenges to security. Nepal Police officer, deployed in response to Gorkha Earthquake mentioned that the aftermath of the earthquake brought lawlessness for some time. Immediately, the situation was controlled with

the deployment of security forces (Adhikari, 2021).

After the destructive Gorkha Earthquake, according to NDRF 2013, Nepali Army in the search and rescue activities has conducted operation crisis relief by its effective presence in the lower level sectors. According to data, 66069 Nepali Army personnel were mobilized in search and rescue operation. The emphasis was on protecting the lives of the victims by operating at the most affected sites faster than in the situation where the earthquake occurred. Initially, an operation of relief from the Nepali army was launched to deliver search, rescue, and relief from all levels.

A total number of 41776 Nepal Police including specialized rescuers of the DM division with the help of different types of equipment, have been deployed to conduct search and rescue operations. During operation, to minimize secondary collapse/hazards, NP had conducted collecting of information on locations of casualties and situations, access to casualties, and extricate activities and trained dogs were also deployed to find the situation of casualties buried in collapsed infrastructure. A total of 59 dead bodies and 4 live victims were rescued. NP had conducted SAR operations on the front line and also managed the chaos, uprising criminal activities, and uprising fear of citizens by unnecessary publicity of earthquake for maintaining peace and security during the disaster period. Nepal Police in local units had conducted SAR operations by utilizing indigenous TEAs in rural areas.

APF, Nepal has immediately mobilized 24775 personnel for search and rescue operations during Gorkha Earthquake 2015. Out of a total, 628 disaster management trained personnel were mobilized. In the initial period of the earthquake, APF, Nepal immediately started to collect information, analyzed the information and deliver the analyzed information to concerned units to mobilize personnel for SAR operations to minimize the damage and immediate rescue of victims. APF, Nepal rescuer had also provided as long as available first aid to a victim in locations before mobilizing to various health units and hospitals.

Trained personnel with rescuing tools had been deployed for search and rescue activities in various areas of Kathmandu along with Sindhupalchowk, Kavrepalanchowk, Dolakha, Gorkha, and other districts. As a result of disaster preparedness, APF, Nepal was able to find the trapped victims from collapsed infrastructure and evacuate them safely. APF, Nepal has been deployed for collapsed infrastructure management, the search for historical and archeological monuments, to free the traffic, shelter management, demolishing the dangerous infrastructure, and other various social services. The data of wounded rescued and dead body management by APF, Nepal personnel have given below in a table.

Table 2: Rescue and dead body management by APF, Nepal

Area	Live rescue		Dead body search and management	
	APF alone	Joint rescue	Single	Combined
Kathmandu Area	258	369	285	1457
Eastern Development Area	21	20	3	57
Mid Development Area (Excluding Kathmandu)	65	178	38	6588
Western Development Area	1	70	14	449
Mid-Western Development Area	0	0	0	2
Total	345	637	340	8553

Source: Operation Department, APF, Nepal Headquarters (2015)

Table 2 shows that APF, Nepal itself rescued 345 lives from rubble and combined with national and international search and rescue team, were able to rescue 637 lives from the collapsed structure and rubble.

One of the rescuers has been interviewed who had experience in search and rescue operations in Kathmandu areas during Gorkha Earthquake 2015. He mentioned the following:

“During Gorkha Earthquake 2015, APF, Nepal, and other security forces have gained experiences working together with different international SAR teams like NDRF of India, China International Search and Rescue (CISAR) team of China, Groupe de Secours Catastrophe Français (GSCF) of France, Israel, Turkey, United States of America, Hungary and others. They highly appreciated the rescue job performed by Nepali security forces.”

So the performance of the Nepali security forces was praiseworthy and has been highly appreciated by the Nepali people as well as the international community, primarily for search and rescue operations in saving lives and secondarily by assisting the GoN in early recovery.

Nepal’s security forces preparedness for search and rescue operations

Disaster management has been a crucial task from a global perspective. It involves different phases. The period of preparedness, formulation, and implementation of strategy, response planning, capacity building, and hazard mapping is the

activity in the pre-disaster phase (National Institute of Disaster management, 2020). National preparedness includes a combination of efforts and resources i.e., equipment, training, education, and funding (Institute for Security Governance, 2022). The Constitution of Nepal, 2015 has set the policy of early warning, disaster preparedness, rescue, relief, and rehabilitation for preventing disasters (Disaster Risk Reduction National Strategy Plan of Action, 2018). Nepali security forces are actively engaged during the time of disasters and their necessity has been raised day by day. Hence, it has been a prerequisite to train the personnel (Paudel, 2021). All three security forces have prioritized SAR training and have established their training schools. The objective of training school has given ample emphasis to producing competent, confident, and committed technically trained manpower in disaster-related rescue operations and other humanitarian relief activities. Furthermore, all security forces have established disaster management dedicated units in all layers of operations. The Nepali army has established a Disaster Management Training School under the Directorate of Disaster Management. The primary roles of the Nepali Army in disaster relief are search and rescue missions, medical assistance and evacuation, air rescue, mass evacuation, flood control, etc. (Nepali Army, 2021).

Similarly, APF, Nepal has established a Disaster Management and Deployment Division under the operation and border security department. APF was the only security force to envision the concept of a disaster management training school in Nepal. The training school conducts various disaster-related basic and advanced courses and other professional courses to enhance technically disaster search and rescue skills in MFR, CSSR, Dead Body Management (DBM), water-induced disaster rescue including Out Boat Motor (OBM), rappelling and climbing, firefighting techniques, and deep diving training (Armed Police Force, 2021). These technical training builds confidence and develops professional and trained disaster personnel who are effective in rescue operations.

In Nepal Police, DM Division consists of a training section that conducts training and simulation exercises for technical skill development and capacity enhancement of police as per the community requirement. An officer of the Nepal Police states all police are skilled in community-based search and rescue. As Nepal Police is the first responder in all disasters, they are trained in MFR, DBM, Canine handling, Fire-fighting, Rope rescue, road crash rescue, confined space rescue, and water-induced disaster rescue (Nepal Police, 2021).

When asked about the constraints of capacity building in disaster management, one officer working in the DM division of Nepal Police articulated the following:

“Though there is a disaster management company in all provinces but overall number of disaster-trained manpower is less. we can produce only 180 DM trained manpower in a year. We don’t have any water rescue equipment including raft boats, and a limited water rescue-trained manpower who have undergone training in APF disaster management training school, Kurintar. We have a few fire-fighting equipment but there is no compressor to fill the oxygen in the cylinders. We need to go outside to fill the oxygen.”

Three security forces have developed nearly two to three months of disaster management course which consists of CSSR, MFR, DBM, firefighting, rope rescue, water rescue, and camp management packages. As of now, the following DM-trained manpower has been produced by respective training schools:

Table 3: Disaster Management trained manpower in Nepal’s security forces

Organization	DM Trained Manpower	Total Strength	Percentage
Nepali Army	11000	96000	11.45%
Armed Police Force	2770	37054	7.47%
Nepal Police	1739	79554	2.18%
Total	15509	212608	7.29%

Source: Directorate of Disaster Management of Nepali Army, APF Disaster Management and Deployment Division, Nepal Police Disaster Management Division (2022)

In total, 7.29% of the total strength have undergone DM training within Nepali Army, Nepal Police, and APF, Nepal. This number is quite less because trained human resource is a pre requisite for effective response. Since the role of the Nepali security forces has been broadened from raising awareness in the local community to immediately deploying to carry out search and rescue operations. This number should be increased to deploy the trained manpower in all units.

Security force operational capacity is highly dependent on Tools, Equipment, and Accessories (TEAs). Tools and equipment are the major weapons to overcome disaster response. The availability of equipment reduces the workload and saves a lot of time (Paudel, 2021). SAR operations require specialized TEAs capable of penetrating concrete, locating trapped victims, communicating in complex confined spaces, and performing difficult and delicate rescues. The dearth of necessary TEAs was felt during SAR operations during Gorkha Earthquake 2015. To address the paucity of TEAs, GoN has presided over efforts to procure, assemble and stockpile SAR tools and equipment to strengthen the capacity of security forces.

Nepali security forces are advancing for preparedness after lessons learned and experiences during major disasters. Nepali Army has strengthening SAR capacity. APF, Nepal is emphasizing capacity building by advancing its DM training school in Kurintar and acquiring more SAR equipment, and prepositioned them in Provincial Brigade. Nepal Police has formed a disaster management company with a strength of 125 in all seven provinces. Security forces have a limited number of TEAs specially CSSR and MFR equipment for search and rescue in collapsed structures, which was used after Gorkha Earthquake. Both the NA and APF, Nepal has water rescue capabilities having rescue rafts and motor boats, mostly used in monsoon floods. Security forces have fire-fighting and rope rescue equipment. APF, Nepal has the deep diving trained manpower along with deep diving equipment, prepositioned in provincial units. Nepal Army has air capabilities with stand-by helicopters in command headquarters for emergency rescue and relief operations. But this equipment is less in comparison to trained manpower.

When interviewed with one of the officers working in the directorate of disaster management in the Nepali Army about the major challenges in DM, he mentioned the following:

“We are producing trained manpower from our training school but we have a limited number of search and rescue equipment. TEAs are important means for professional search and rescue. Sometimes we also face the problems of good coordination among stakeholders during and after any incidents. To take the credibility of work is another problem after any disasters, every organization has unhealthy competition to gain credibility for their task.”

So, the interview shows that there is a paucity of TEAs in all the security forces.

Nepali security forces are advancing in preparedness for emergencies in hospitals. The lesson learned from Gorkha Earthquake 2015 has alerted GON to prepare for HOPE (Hospital preparedness for emergencies). All the security forces of Nepal have dedicated hospitals to provide curative and rehabilitative health services to personnel and their dependents. During the time of mega-disaster, security forces and hospitals have contributed to the treatment of victims. The enhancement of preparedness programs, conduction of HOPE training, and cooperation with health institutes to save life are concurrent activities. After the spike of COVID-19, APF, Nepal has transformed its hospital into a COVID dedicated hospital. It has proved to be admirable in responding to citizen medical treatment.

When interviewed with one officer working as a commander for SAR operations, when asked about the challenges he has faced in terms of training, equipment, and morale of the rescuer, he mentioned:

“The trained manpower who are scattered in all units need refresher training so that they can operate the equipment. Another problem is most of the equipment, specially CSSR Equipment is now old and not maintained well and they are not in practice in most of the units. There are some sophisticated equipment like Ground Penetrating Radar, and only a few people can operate it. Such new equipment needs to be practiced by all rescuers in time basis. There is lack of PPE for firefighting and they are responding such incidents by traditional approach. We can use water carrying drones, old model helicopters, and blower machines to control fire. Morale and motivation parts for rescuer is also overlooked, they put their life at risk but do not get any incentives. At least rescuer should get minimal allowance while operating in major disasters.”

The study found that the preparedness level of security forces is advancing after Gorkha Earthquake 2015, but most of the DM trained manpower need refresher training and they need to be intact in the unit not scattered in all units. The trained manpower should be familiarized with the TEAs so that they can easily operate in an emergency. The incentive parts of rescuer are also overlooked which minimizes work efficiency. Similarly, joint training, seminar, workshop, and national-level simulation exercise among all stakeholders provide clarity on roles and responsibilities and create a coordinated environment to work in integrated effort during and after disasters. Recently, the National Disaster Risk Reduction and Management Authority (NDRRMA) as per NDRRM Act, 2017, has been supporting Nepali security forces for capacity building and providing search and rescue equipment.

The importance and necessity of national-level search and rescue teams

The GoN has envisioned an independent SAR team. Till today, trained specialized capable, and skilled personnel from the NA, NP, and APF, Nepal are actively engaged as a SAR team since Nepal does not have a unified SAR force. To meet the existing challenges and enhance coordination in SAR activity, GoN has prepared National Strategic Action Plan for Search and Rescue (NSAP SAR), 2014. It is the first step in disaster response which has envisioned developing the minimum level SAR capacity from the trained and dedicated security personnel NA, APF, Nepal and NP. Which is based on the National Strategy for Disaster Risk Reduction (NSDRM), 2009 and analytical recommendations received from INSARAG in 2011.

The essence of NSAP for SAR is the formation, capacity building, and strengthening of integrated SAR by enhancing overall capacity and enhancing the rescue capacity for every new emergency response.

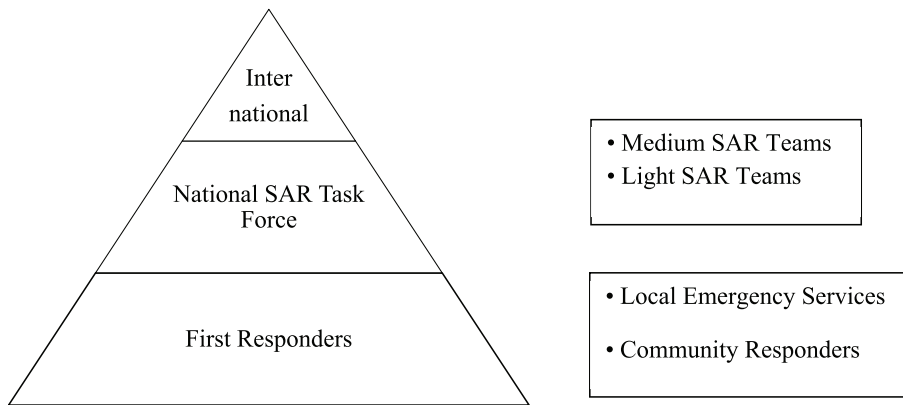


Figure 1: SAR Response Framework

Source: National Strategic Action Plan for Search and Rescue (2014)

SAR Response Framework shown in Figure 1 is the concept of a three-tiered structure of SAR teams, comprising community volunteers (including the Nepal Red Cross Society (NRCS), light SAR teams within the Nepal Police and Kathmandu Municipality Fire Department, and two medium SAR teams, one each managed by the Nepal Army and the Armed Police Force, Nepal.

The study of NSAP SAR has found that personnel from NA, APF, NP and Red Cross are not only extremely motivated to take on the responsibility of responding to a major disaster but also that some, such as those from the APF DM training school, have received training in the fundamentals of search and rescue. Capitalizing on this motivation and training the different security forces are developing dedicated search and rescue units. Ultimately, these dedicated units will train and work together as a cohesive search and rescue response across Nepal in highly specialized teams (MOHA, 2015).

Basic Disaster Response Program (BDRP) would become a foundational training course as shown in Figure 2. The benefits of this approach would be as follows: a) Standardized curriculum across all the SF and the fire service. b) Standardized equipment list used by all the SF and fire service resulting in interoperability and efficient supply chain management, c) Improved operational efficiencies so that all the responders would have the same training and hence understanding of standard operating procedures. d) Improved response to day-to-day accidents and incidents which is scalable to major incidents and disasters, when required. and e) Increases efficiency regarding developing a pool of instructors and increased efficiency in running refresher training.

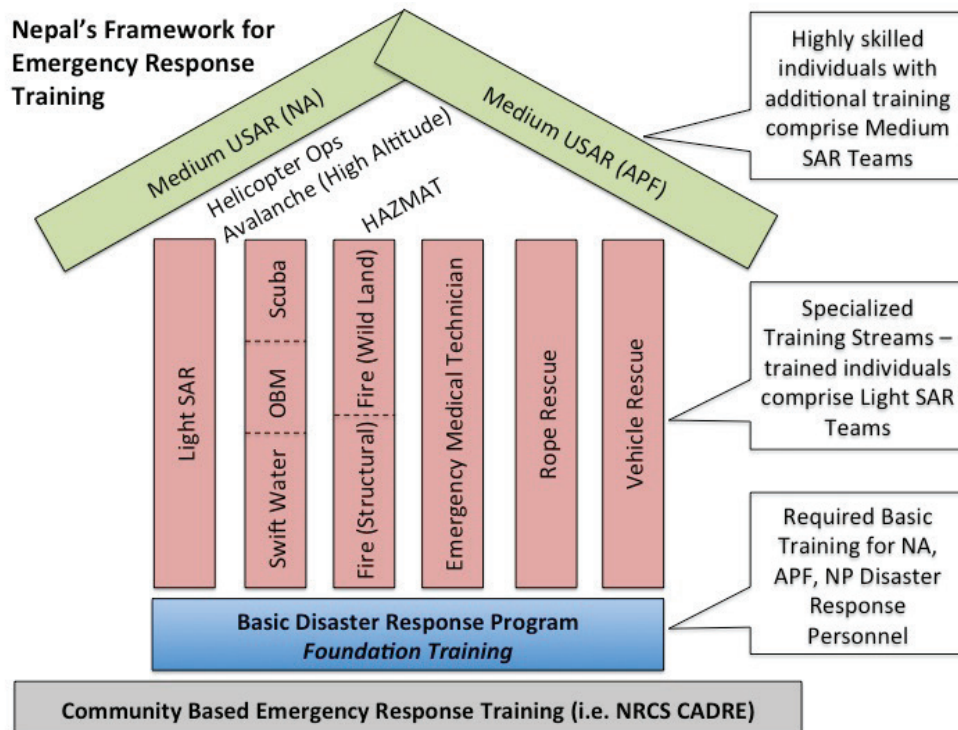


Figure 2: Nepal's Search and Rescue Training Framework

Source: Search and Rescue Technical Working Group (2014)

Figure 2 illustrates the need to build more specialized levels of capacity on a solid foundation. Simplistically, to build a house, the first requirement is a solid foundation, thereafter the walls can be erected and once the walls are in place, the roof can be placed on top. Without a strong foundation, the structure will not stand; similarly, to develop a sustainable capacity in Nepal, it needs to be developed on a strong foundation.

Medium level USAR team comprises different functions of management, logistics, search, rescue and medical. It needs to have a minimum 50 team members in which management team consists of 10 members, logistics team with 6 members, search team consists of 8, rescue team consists of 22 and medical team with 4 members (United Nations Development Program, 2012).

When interviewed with one officer who is working and studying disaster management asking the necessity of a medium-level search and rescue team in Nepal, he said:

“Once medium level SAR team is formed within NA and APF as well as light team in NP, all the team can be prepositioned in a suitable location to promptly and effectively respond to any kind of disasters in Nepal. Such highly

specialized SAR teams will act as an instructor to develop skilled trained manpower within respective organizations. INSARAG standard medium level USAR team can also respond as an international SAR team in disasters in other countries."

The INSARAG network is strongly encouraged to assist disaster-prone countries in developing the capacity of their national USAR teams. The organizational and operational guidelines for national USAR teams are developed as a guidance document for capacity building of national teams so that there are common operational standards around the world (INSARAG, 2011).

The vital component in developing national capacity is the establishment of a national accreditation mechanism. Such mechanism allows a country to establish, monitor, and manage officially approved standards and adhere closely to the INSARAG guidance in developing its USAR national response systems. The national authority, with the relevant laws and regulations, is the ultimate authority to establish and certify that teams meet the national standards, in line with the INSARAG Guidelines.

Conclusion

Capacity building in SAR is a process of developing and strengthening SAR training, knowledge, skills, abilities and resources. It is revealed that 7.29% DM trained manpower within security forces is not sufficient to conduct search and rescue operations in disaster-prone country. So Nepal's security forces have to increase the number by multiplying the number of training in their respective training institutions. At the same time, safety of rescuers should be ensured, their morale and motivation should be maintained, and career planning should be carefully designed to retain highly trained manpower.

Disaster management is an integrated effort and there is always essential of a sound national coordination mechanism. The practice of national-level simulation exercise, mock drills, workshops, seminar, national symposium, collective exercise, and familiarization within and among all security forces build up better coordination and develops unity of work.

It is imperative to develop a national level light and medium USAR team within security forces which will improve response to day-to-day accidents and incidents which is scalable to major incidents and disasters and increases the efficiency regarding developing a pool of instructors and increased efficiency in running refresher training.

Limited number of trained manpower of Nepali security forces has been performing their duties for disaster management, primarily search and rescue operations in saving lives are praiseworthy. But lack of sufficient number of trained manpower

and their strategic preposition, adequate number of sophisticated equipment and their maintenance and sustainability, lack of national level SAR team as per INSARAG standard, and morale motivation factors for rescuers are hindering swift, prompt, and effective response in any kinds of disasters in any part of the country. So, the effectiveness of highly skilled trained manpower within Nepali security forces will be maximized if the GoN prioritizes increasing more trained manpower, acquiring more TEAs and developing national level SAR teams in Nepal.

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Study of Earthquake Preparedness in Kathmandu City, Nepal

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Abstract

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Earthquakes cannot be predicted but effective planning and preparation may reduce the impact. Impacts from earthquake risk is believed to be increasing very rapidly mainly due to the improper development activities. People require to have basic knowledge on preparing themselves to mitigate the impacts from the earthquake. This paper studied the effectiveness of implementation of knowledge and skills to mitigate the impact of earthquake by focusing on the knowledge and ability of the household members in the community. This study also helped the respondents and institutions and stakeholders who were the part of this research to reflect, analyse and assess their own earthquake preparedness measure. It is seen that there is a necessity for a sound coordination and realization on importance of better preparedness which is essential to mitigate the impact from the earthquake.

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Introduction

Nepal is exposed to multiple hazards and because of its geographical and climatological conditions it is regarded as a disaster-prone country. Vulnerability of the population with regular and frequent occurrence of different disasters claim large number of lives and economic losses every year. Nepal regularly suffers and faces serious threats from disasters due to rapid population growth, unplanned settlements and environmental degradation. Disasters such as earthquake, droughts, floods, landslides, fires, and epidemics affect our country annually (Ministry of Home Affairs, 2019).

Disaster often happens without warning with damaging effects that are sustained from hours to days, and they are measured in terms of lives lost, injuries, damaged or loss of property, and environmental degradation. Centre for Research on the Epidemiology of Disasters (CRED) defines a disaster as “a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering”. Smith (1999) posits that disaster is also the range of effects such as immediate destruction and to the impacts that are not experienced physically for many years. Disasters adversely affect humans since their existence. Individuals and societies have attempted to decrease their exposure to the consequences of such disasters. All these efforts and attempts to decrease disaster consequences all have the same goal which is disaster management (Coppola, 2015).

Kunwar (2012) explains that both terms, crisis and disasters are used interchangeably to indicate major destructive events. Deciding how to respond to a crisis is important, but equally important is implementing that decision (Nystrom & Starbuck, 1984; in Reilly, 1993, p. 132). Crises management starts well before any event boils into a full-blown crisis (Fink, 1986; in Santana, 2009: 307; in Kunwar 2012). Crisis is a term which have different synonyms in the literature: disaster (Gephart, 1984; Turner, 1976; in Reilly, 1993), catastrophe (Mitroff & Kilmann, 1984; in Reilly, 1993), jolt (Meyer, 1982; in Reilly, 1993), problem (Kiesler & Sproull, 1982; in Reilly, 1993), threat (Staw et al., 1981; in Reilly), and turning point (Milburn et al., 1983; in Reilly). Crisis are unexpected, though predictable, whereas disaster is unpredictable (Faulkner, 2006; in Kunwar 2012). Management Study (2022) describes that building earthquake resistant buildings, preparing evacuation plans, taking mitigation measures as precaution can be an example for crisis management.

Mitigation, preparedness, response, and recovery all are equally important to reduce the impact of disaster in a community. All these processes will not prevent disaster from occurrence, but early preparedness may reduce the impact. Kunwar (2012) states that risk is expected and is predictable, so planning before a crisis is

risk management. Risk management, emergency preparedness and response plans save lives and property. It helps to act quickly and reduce the impacts. This is achieved by maintaining disaster management plans and arrangements (Gencer, 2017).

According to the Global Report on Disaster Risk, Nepal ranks the 11th position in terms of earthquake risk. When the devastating earthquake struck Nepal on 25th April 2015, country suffered heavily and caused impacts on various sectors. 2015 earthquake caused damages and loss of life, properties and infrastructure, and suffered greatly in the aftermath of powerful countless aftershocks. United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage sites such as temples and centuries old buildings in Kathmandu valley were destroyed. Thousands of houses all over the country were destroyed and 8790 people died and 22300 were injured (National Planning Commission, 2015).

Area of study

Area of study stretches Gangalal Hospital towards North, Dhobikhola towards East, residence of Prime Minister and speaker of the House of Representative towards west, and to the South it lies Gyaneshwor covering total area of 403.1 hectare. The total population is approximately 78000. There are 13100 households approximately and total number of 52 schools and colleges in the study area. As per the information provided by the community police, there are 35 different organizations from different sectors which includes NGO/INGO, local clubs, local authorities working in various sectors and engaged for the development and betterment of the local community (Kathmandu Metropolitan City, n.d.).

The objective of this study is to assess earthquake preparedness of household members and to analyze the efforts of stakeholders in enhancing the coping resources of the people. The study address questions like awareness in household members for preparing themselves to mitigate the impact, efforts taken by local authorities and stakeholders in spreading awareness on earthquake preparedness measures.

Literature review

National Disaster Response Framework (NDRF) is endorsed by the Government of Nepal (GoN) in 2013 which works as a key guideline for disaster response. This framework defines the role of various stakeholders in times of disasters. NDRF works as comprehensive guide for an effective and coordinated national response and limited to the preparedness and response (Ministry of Home Affairs, 2013).

Nepal Disaster Management Reference Handbook, October 2020, covers in depth about country's disaster profile and outlines policies related to disaster management. The Disaster Risk Reduction and Management (DRRM) Act 2017

and Local Government Operation Act 2017 guides our disaster governance under Constitution 2015. DRRM Act 2017 was amended as DRRM Act 2019 in March 2019 when it established National Disaster Risk Reduction Management Authority (NDRRMA) under the Ministry of Home Affairs (MoHA). NDRRM is responsible for managing DRRM related functions in the country. DRRM has several structural arrangements such as the National Council, the Executive Committee, and the NDRRMA under MoHA. National Emergency Operation Centre (NEOC) coordinates response efforts from national and international organizations through MoHA. DRRM executive committee and the National Disaster Risk Reduction and Management Authority (NDRRMA) response after receiving the information from the site where emergency is about to rise for disaster relief and emergency (Disaster Management Reference Handbook, 2020).

MoHA has been taking initiation to address the issues of disasters and mitigate the effects and is a national focal point of disaster management in Nepal. MoHA is highly active in raising awareness among peoples, training and networking with national and international organizations to mitigate the impact of disaster (United Nation Disaster Risk Reduction, 2013).

Nepalese Army has always been committed towards safeguarding the independence, territorial integrity and sovereignty of Nepal. This institution exhibited their professionalism in countless battles fought during the unification campaign of modern. Nepalese Army is committed to support the efforts of the Nepalese government in establishing disaster resilient community (Nepali Army, n.d.).

Armed Police Force (APF) is administered by the Armed Police Inspector General and other armed police officers for the protection of life, property, and liberty of the people by maintaining peace and order. During natural calamities or epidemic in any part of Nepal, APF has played a role by showing highest level of professionalism in emergency needs of disaster victims such as search and rescue, providing shelters, and distributing relief materials (Armed Police Force, n.d.).

Disaster Management Division was established with a vision to provide quality service in the field of Disaster Risk Reduction (DRR). Disaster Management Division comprises expert and trained manpower who are mobilized whenever and wherever necessary. Disaster management division is self-sustained with disaster rescue equipment with trained manpower ready to deal with disasters such as: earthquake, landslide, flood, fire, road, air, and industrial accidents (Nepal Police, n.d.).

For the last 27 years National Society for Earthquake Technology (NSET) has been actively involved in conducting trainings, awareness programs by involving security forces, community people and educational institutions. NSET works to strengthen earthquake preparedness by working with schools, hospitals,

transportation authorities in coordination with the government to conduct risk assessments and to develop a plan (National Society for Earthquake Technology, 2012).

The United Nations organizations, Clusters Humanitarian Organizations, donors, INGOs, and professional groups are appealed by the Government of Nepal (GoN) (Council of Ministers) for international humanitarian assistance in case there is a large-scale disaster. United Nations Development Programme (UNDP), United Nations High Commissioner for Refugees (UNHCR), United Nations International Children Emergency Fund (UNICEF), World Food Programme (WFP), World Health Organization (WHO) are some of the international organizations committed in protecting community resilience against conflict, environment degradation, and challenges raised by disaster and crises (Disaster Management Reference Handbook, 2020). International Federation of Red Cross and Red Crescent Societies (IFRC), International Committee of the Red Cross (ICRC), Nepal Red Cross society (NRCS) are humanitarian organization that provides assistance to victims of disaster, and has been promoting humanitarian activities in affected areas (Center for Excellence in Disaster Management & Humanitarian Assistance, 2020).

There are multiple global initiatives which promotes disaster risk reduction. Amongst multiple initiatives, *Yokohama Strategy, Japan (1994)* is one of the initial international DRR initiative. Nepal participated and presented a national action plan on disaster management in this first world conference on DRR which was held in Yokohama, Japan in 1994. *Hyogo Framework of Action (HFA) (2005-2015)* was drafted and approved by 168 countries in 2005 at the world conference for disaster reduction. HFA is a guidance to achieve a set of outcomes and results by mobilizing stakeholders at all levels to achieve Millennium Development Goals (Capacity for Disaster Reduction Initiative; International Strategy for Disaster Reduction, 2015). *Sendai Framework for Disaster Risk Reduction 2015-2030* was adopted at the Third United Nations World Conference in Sendai, Japan, on March 18th, 2015. It was held from 14th to 18th March, and this is the successor instrument to the HFA 2005-2015 (United Nations International Strategy for Disaster Reduction, 2015).

Goula, Oliveira, and Roca (2006) explained that urban planning is an important component of earthquake risk mitigation. In the name of urban development, expansion of paved roads and areas, inadequately planned cities, rise in population will affect environment and lead to increase in disaster risk. Rapid urban development will increase disaster risk but as a new wave of urbanisation also creates new opportunities for building resilience (United Nations Disaster Risk Reduction, 2013). DuFrane and Stephenson (2002) explains that disasters and development are linked closely that can destroy development initiatives and create

development opportunities. Similarly, Marxist interpretation on disaster reflects development and disaster management both aimed at reducing and increasing disaster vulnerability. Economic conditions and political powerlessness cause poor, minorities, and other marginalized people to live in dangerous areas and also affect their capacity to manage and recover disaster (Shamim, 2016). Hoffman and Smith (1999) also stated that community members are neither unaware nor inactive of the risky situations where they are often placed. The development of the process and events affects major social- organizational components of a community by disrupting or destroying the functions of the group (Hoffman & Smith 1999).

Coppola (2015) discussed about understanding of the universal principles of emergency management. Disaster management is rapidly expanding and improving according to modern needs. This book is a collection of facts, statistics, checklists and insightful information for future challenges and also includes possible solutions. All countries are faced with risk from known and unknown hazards having adverse effects on populations and environments. Actions are taken to prepare and mitigate the effects. Hazard profiles are not always the same in every country. Disaster strikes without warning giving us less time to respond. Preparedness is actions taken in advance to ensure adequate response to its impact. Information from this book benefits readers to act as an expert in disaster preparedness and also can be a guide and reference for everyone interested and involved in disaster management.

Hoffman and Smith (1999) explored both technological and natural disasters including cultures and societies from different continents and the definition of disasters from anthropological perspectives. Editors explain that disaster is seen as a process which leads to an event involving a combination of a destructive agent from the natural or technological sphere. The development of the process and events affects major social- organizational components of a community by disrupting or destroying the functions of the group (Hoffman & Smith 1999).

How to make cities more resilient, Geneva 2017 is a handbook designed for the local government leader and policy maker to build a resilient city and support the implementation of activities to reduce the disaster risk. High density of population and critical infrastructure most likely causes severe disaster impact in urban centres resulting in increased economic losses. This handbook also explains why cities are at risk and what it is like to be a disaster resilient city (Gencer, 2017).

Community Disaster Preparedness Guide explains in detail about the importance of preparing for a disaster with a plan for the family, pets, and vulnerable groups. Preparing community people to respond and reduce fear of disasters that may occur in their community is important. Community preparedness builds confidence in individuals to reduce the effects of the hazards and manage existing resources until the arrival of assistance (DaBreo, McLean & Thomas, n.d).

Coppola (2015) justifies that there will be no time to decide, to learn new skills, or to get the supplies if you wait for the disaster to strike. Disaster preparedness includes knowing what to do and the actions performed beforehand to prevent such last-minute actions. It is all about knowing how to do and what needs to be done with the right equipment and with information to act effectively. Disaster preparedness activities are conducted by many different organizations and individuals as well as other sector related with disaster management. Disaster preparedness includes planning process, operation plans, exercise, training, equipment, statutory authority, warning, and public preparedness which can be a difficult process and to reach satisfactory level it may take years (Coppola, 2015. pp. 275-307).

Tkachuck (2016) discussed about disaster preparedness to understand the effectiveness of disaster preparedness programs. This paper examined students' preparedness for disaster and their confidence in university preparedness. It is related to how prepared and concerned they are in preparedness for disaster. This paper discovered mixed results regarding the relationship between perceived threat and preparedness which will help for this research on anticipating how students think about disaster preparedness. This paper finding was that there is the necessity for increasing disaster preparedness at academic institutions which will be focused during this research (Tkachuck, 2016).

Muttarakand & Pothisiri (2013) investigate on how well residents of the Andaman coast in PhangNga province, Thailand, are prepared for earthquake and tsunami. A survey was conducted in several households by carrying out interviews during the period of aftershocks. The paper examined what emergency preparedness measures were taken and concluded that formal education can increase disaster preparedness. In their paper, they provided evidence that individual, household, and village education have a significant relationship with disaster preparedness. Disaster related education is important because it enhances personal preparedness level (Muttarak & Pothisiri, 2016).

Bhandary, Dahal, Tuladhar and Yatabe (2015) explore local people's knowledge on DRR. It examines disaster knowledge of people, disaster preparedness, and awareness and evaluates the effectiveness of DRR programs implemented by various INGOs and NGOs in the rural communities of Nepal. Furthermore, they added that natural disasters are attributed to inadequate public awareness, weak coordination of government agencies, lack of financial resources, and technical knowledge for mitigating the natural disasters. This article also suggests that disasters can be significantly reduced if people are well informed and motivated about measures taken to reduce vulnerability.

Irani, Moez, Shahkolai, Shokouhi and Yeganeh (2020), in their research article, aimed to determine the level of earthquake preparedness of households and its

predictors. Methods they applied was observational descriptive and analytical study, which was conducted on 933 households in Hamadan province, located in the west of Iran. The earthquake preparedness of the participants was low and had a significance relationship with gender, home ownership, marital status, economic status, and previous experience of earthquake (Irani et al., 2020).

Shamsher (1992) explains his experience of the devastating 1990 earthquake in Nepal. At the very beginning of his book, he mentioned that the 3 minutes earthquake destroyed almost everything which was not even possible by years and years of wars. From that earthquake, total number of 8,519 lives were lost out of which 3,850 were male and 4,669 female. 2,07,740 number of houses, temples and other heritage sites were destroyed by that earthquake. He wrote this book to share his experience so that people will be prepared for future earthquakes and save lives and reduce the impacts. He has explained many preventative measures which he earned from his experience. Author highlights about the post-earthquake situations such as difficulty in effective communications, water scarcity, and food scarcity problems, fire hazards. He pointed out that war can be predicted but earthquakes cannot and suggests that preparation is a very important issue, and nothing is to be left behind while planning (Shamsher, 1992).

Methodology

This study is based on the author's Master's thesis but it has been thoroughly revised. This study adopted a qualitative methodology using collective opinions and experiences of the individuals. The researcher applied purposive non-probability sampling method. This research was conducted to find out about the earthquake preparedness measures within the study area of Kathmandu municipality. The primary data was collected from 34 household's members to understand their earthquake preparedness and readiness. 8 key informant interviews and 15 telephone inquiry were conducted with related persons to generate in-depth information. 22 respondents were males and 12 were females. The age group of the primary respondents ranged from 25 to 82. All the respondents had a very diverse educational background from illiterate to PhD levels. Out of 34 respondents 25 were the actual house owners and 9 were the residents living in a rental house.

Furthermore, secondary data were collected from various books, reports, previously conducted research papers, journals, internet articles, published literature, news articles, handbook, brochures, and pamphlets. Assessment of preparedness level and awareness are analysed based on semi structured interviews. The researcher conducted simple observation at different household and offices to understand the settings and basic earthquake mitigations measures if they have taken. The primary data collected from this study was analysed by grouping, summarizing, and interpreting the findings which are specified and detailed in headings and subheadings. This study was mainly focused on earthquake preparedness in a

community without considering other phases such as, mitigation, and recovery.

Findings and discussion

Earthquake risk reduction preparedness measures

Earthquake risk reduction basic preparedness measures based on NSET various information kit (pamphlets & brochures), structural mitigation measures mean the measures taken to mitigate the impact cause by any of the stationary things like houses itself, buildings and other house structures. Non-structural mitigation is the measure taken to mitigate the impacts caused by any movable objects like chairs, bookshelves, tables, closet, cabinet, table lamp, hanging pictures, hanging lights, mirrors or similar other things. Similarly, NSET describes the earthquake ‘GO BAG’ (*Jhatpat Jhola*) which should include items sufficient for an individual to survive for at least 3 days. This GO BAG is meant to be grabbed quickly during emergency evacuation from the house or building and should have an individual name on it. They also advise about the Household Emergency Kit (HH Kit) which is a box or a container that contains tools, equipment, and accessories (TEAs). This kit is only used for light search and rescue (LSAR) purpose and all family members should be aware of its location. Also mentioned in their information kit is about adopting safe behavior during earthquakes which can save lives “Drop, Cover, and Hold on” technique. This is one of the effective ways which is practiced worldwide to be safe from earthquakes.

Structural and non-structural mitigation measures

Among all the respondent, 24 were confident about the structure of their house although there were some minor damages from 2015 earthquake. Nine respondents who were not the owner of the house were not able to answer the question confidently. Only one respondent said that he is not confident and need to strengthen his house but was not able to rebuild his house because of financial constraints. Majority of the respondents answered that they are not aware of non-structural mitigation measures. They are seeming not familiar with the technical term of non-structural mitigation when asked but their (those who experienced 2015 earthquake) actions showed that they have taken care of securing indoor moveable items.

My house was damaged from 2015 earthquake. One of my relatives is an engineer. I called him to inspect my house and I was suggested to rebuild the house. He said that it is very risky to stay in the house. We left the house and stayed with my brother whose house is in the North side partitioned by a wall. We were not able to renovate the house because of our financial problems. We adjusted at my brother's place for many years and moved back during the time of pandemic. Even though there is a risk we had to move back and we had no any other option except to sell the land. – A respondent from Bishalnagar.

ParbatiThapa Magar (Pseudonym) is a wife of Nepal Army soldier living with one and half year-old son in a rented house. Her husband lives in the barrack and comes to visit family during holidays only.

I am not sure about this house because it is not ours. But this house looks good compared to our house in the village. I and my husband moved in this house three years ago just after getting married. I have never thought about earthquake preparedness measures, and we never discuss this matter.

Respondents who were living in a rental house were asked if they manage to enquire with their landlord about the status of the house after 2015 earthquake before moving in. Among the nine respondents, eight respondents never asked their landlord if the house is still livable after 2015 earthquake. This reflects those respondents who didn't own the house were least bothered about the safety of the house and didn't care to ask before moving in.

Earthquake plans

Respondents were asked about basic earthquake plans which included, what you will do if you are stuck at home, if required emergency evacuation, if there are no water and power supply, if communication interrupts and so on. 33 respondents said that they don't have any plans, nor they discuss about earthquake planning process with their family. Only one respondent who was a shopkeeper said that he makes plans and discuss with their family.

We discuss about evacuation plans with my wife and two sons (11 and 15 years). I have heard about the importance of earthquake preparedness measures from different media and also from my two sons. 2015 earthquake taught me some lessons and I also took part in one of the orientation programs conducted by Ward No. 5. After 2015 earthquake, I shifted my father's room on the ground floor. This is because to save time for emergency evacuation since my father needs support to walk.

All the other respondents didn't think about having a plan in case of earthquake emergency for individual as well as for family.

I don't think that Nepalese people plan ahead for earthquake emergency evacuation. I personally think that planning is necessary for office, hospitals, cinema halls, and apartment where there is a crowd involved but not necessarily needed for a private house. - A respondent from Handigaun.

This study on selected group found that earthquake preparedness and planning for the vulnerable ones are being neglected by 33 out of 34 respondents. During researcher observation, it was found out that all houses were not seen with physically disabled person friendly environment settings though there were no any such persons identified during this research. It was also observed that majority of

the houses did not have clear pathways to escape. Stairways were partly blocked with household items like indoor plants pots, passages partly blocked with shoe case rack, and there were many other household items seen that may delay or block your escape route in case of emergency evacuation.

Emergency kit

It was found that none of the houses had fire extinguisher and GO BAG. This is only limited to 34 houses where the interview was taken. 29 respondents had never heard about the GO BAG whereas 5 knew and heard about the bag. Out of 5 respondents, 3 of them came to know about the GO BAG from their children.

I heard my granddaughter talking about her school, that they practise evacuation drill once in a month and teachers had to carry GO BAG kept in each class during earthquake drill practice. It was also the duties of the student to update and replace items included in the GO BAG if needed, and every week, student will also be changed to take over the GO BAG responsibilities.
- A respondent from Bishalnagar.

When inquired about fire extinguisher, 27 respondents answered that they never thought about getting a fire extinguisher in the house but 7 respondents who were the owner of the house did answer that it is a must needed item but don't have in the house. All the respondents did have some common items like shovel, pick, bucket, hammer, screwdriver, torchlight which are all for gardening and other household jobs rather than rescue purposes. However, 31 respondents had first aid kit in their house and 3 respondents who lived in rental house did not have.

Most of the respondents said that arranging such kit takes lot of efforts and purchasing equipment causes lot of money. Financial resources and lack of knowledge are found in majority of the respondents which are the main reasons for not owning such useful items.

Stock ration

When asked about stock ration, stocking up on food (dry ration) is done by all respondents enough for a week and few respondents said they have enough for a month. They do it as this had been a trend since past. Majority of the respondent assured that their regular storing of ration will work in case of emergency.

We do stockpile dry ration enough at least for a month. We have been doing this from long time. If there is an emergency, we will use the same then we can replenish again. – A respondent from Dhumbarahi.

I know that we have to be self-sustained for at least 3 days and honestly speaking I've been ignoring this thing. I do store dry ration for at least for a month in our kitchen storeroom. - A respondent from GahanaPokhari.

Drop, cover, and hold on

When asked about the technique ‘Drop, Cover, and Hold on’, 12 out of 34 respondents answered they know and had heard about the technique. Among others, nine respondents had heard this technique from their children and three respondents said that they heard from the national media. 22 respondents never heard about this technique. It was found that none of the respondents ever practise this technique. NSET suggest that this technique is to be practised inside home or offices by identifying proper place in indoor and outdoor. It was seen that those respondents with children, seems to have knowledge about this technique in comparison with the respondent who were living independently or without children.

Open safe space

Majority of the respondents had no clue on where to find open safe place around the study area which was amicably accepted by Ward Chairman. Few respondents from Maligaun, Sano Gaucharan, and Naxal mentioned about the space where they sheltered after 2015 earthquake which were located at Sano Gaucharan football ground and Brihaspati School premises. During this research, it was found that there are few open spaces suitable to fit an average of 10 to 15 family in the school premises, but this is to be realized by the local authority also. Key informants were not able to mention about the availability of an open space in school premises during an interview. All 14 schools were ready to provide their school premises in case of emergency and said that in 2015 earthquake, their premises were widely used by the community people as shelter.

Learning from past experiences

When inquired, 29 respondents answered that they experienced 2015 earthquake and there were minor damages to their house too. Among all the respondents, five were out of the country during 2015 earthquake hence they didn’t experience that earthquake. Regarding the impacts of earthquake, none of the respondent’s house were severely damaged and had to bear any fatalities in family member and relatives. Respondents who felt the 2015 earthquake shared their experience and said that they could still recall those fear. It was understood from the response that experience of 2015 earthquake helped respondents to identify existing risk and then also in finding solutions.

Community preparedness

When individuals are prepared, communities are also prepared. Federal Emergency Management Agency (FEMA) (2021) suggests that residents must work together as a community to be prepared. This includes awareness about risk and hazards

in their area, finding people with skills and identifying vulnerable groups in the community too. Although members of Community Based Disaster Risk Management (CBDRM) perform door to door surveys in selected communities or as per request from the local authorities, still they are not able to reach for larger audiences. Kabita Khanal (Pseudonym) is an employee from NSET and active member working in CBDRM field. She said that their organization is aware of the fact about many people who are left behind because of the lack of manpower and timeline in reaching out to all individuals.

23 respondents mentioned that they don't know about the activities of the community and never participated in any of the community programs. They all said that they don't have an idea on community preparedness. 11 respondents mentioned that they are not willing to take part in any of the community activities due to unavailability of their time. According to Deputy Chairperson of 'Dhumbarahi Tole Sudhar Samiti' Mr. Ratna Prasad Neupane (Pseudonym), there are few 'Tole Sudhar Samiti' in ward 4 that conduct community meetings once or twice quarterly, but this has stopped during the pandemic. He also said that such meetings have very low participation from community members.

We try to conduct meeting every month but due to unavailability of the time of 'samiti' members it is not possible. In our meeting, we usually discuss about the supply of safe drinking water, health shelter, development project, installing CCTV, safe environment in the community, and so on. To be frank we never discuss about disaster preparedness because we have other priority like drainage problem, lack of drinking water and other which I had mentioned earlier. We must accept the fact that we don't have such persons who have knowledge of disaster management. For this we have to rely upon our community police.

Awareness activities of key organizations and local authorities

National Society for Earthquake Technology (NSET), Nepal

Kabita Khanal (Pseudonym) believes that raising earthquake awareness is a major component for reducing damage and this is the reason that they have developed innovative ideas to spread awareness by involving individuals, local authorities and groups.

According to Mrs. Khanal, NSET produces various information, education materials in the form of flier, poster, advisory, brochure, books, information kit and many others which is disseminated in all levels of people and organizations. Researcher was also provided different brochures and pamphlets which was helpful to learn about the activities they have been doing in the past in order to raise the awareness among communities. Out of many activities, few are summarized

below based on interaction with Khanal and various other NSET brochures and fliers to give brief information on their various activities which were conducted in other remote parts of the country in a different period of times.

My village has conducted resilient program intended to establish safer building construction practices including activities like building and infrastructure regulations, multi-hazard risk assessment and planning, and emergency preparedness at community level. Baliyo ghar program is housing reconstruction technical assistance program which focused on many remote areas and more specifically in Kathmandu, Dolakha, Dhading, and Nuwakot which were mostly affected by the earthquake. Capacity enhancement activities are training conducted for mainly construction workers, social mobilizer, contractors, policy makers, and other stakeholders for earthquake safer construction practices. NSET aims to raise awareness among schools and education stakeholders to reduce earthquake risk and enhance preparedness in schools through making resilient school program which started back in 1997 through intervention at schools. Building Code Implementation Program in Nepal (BCIPN) was implemented to raise awareness among local communities, related stakeholders, and representatives from government offices about the importance of building safety regulations for safer buildings to reduce the risk of losses due to earthquakes.

Disaster Management Division- Nepal Police

Nepal Police since the beginning have been actively involved in maintaining peace and security throughout the country. Apart from this regular duty, involvement in disaster response and management, involvement such as: search and rescue, investigation, crime control, relief activities in crisis situation are their other major responsibilities. According to Senior Superintendent of Police (SSP) Sudhir Gyawali (Pseudonym) and Superintendent of Police (SP) Aman Poudel (Pseudonym) Disaster Management Division has conducted numerous duties related to disaster which are summarized in below paragraph.

Data collection and dissemination is one of the most important tasks in which the data are collected from all over the country that are analysed to develop an early warning system. They provide training and exercise to locals in coordination with Nepal Army and other stakeholders. They also have training facilities and areas for practical and simulation exercise for group as well. The department has also been conducting orientation and refresher trainings from time to time. The recent awareness program according to SP Poudel regarding DRRM was conducted on 2078/08/03 in Samakhusi where 1100 trainees participated during this interaction programme organised at Gitamata Madyamik School of Samakhusi. All participators were provided with information about Medical First Aid, hands-on exercise on CPR and handling fire from leaked LPG gas cylinder. Similarly, on 2078/09/26 training with same objectives was conducted in Manohar Madyamik

School of Samakhushi with total of 50 trainers within local community.

Ward offices

Natural Disaster Management Committee is established as a different component in the ward office and managed by the Ward Secretary. They have relief items and emergency rescue equipment as told by the Ward chairman and time to time orientation program is conducted with the purpose of spreading disaster awareness. Mr. Umesh Sharma (Pseudonym) who is Ward Secretary of ward 5 believes that understanding how to prepare for earthquakes depends upon their surroundings and settings rather than learning from various other resources. In this regard he said that,

The strategy used in Japan will not comply with our urban settings. I think that the ability to respond to earthquakes depends on the readiness of those particular settings and individual's resources and capacity.

Ward informant said that they were not able to conduct any type of disaster awareness program except on Pandemic awareness recently due to COVID - 19 lockdown and other movement restrictions. After the lockdown they have been facilitating and managing the government vaccination program.

None of the respondents were satisfied with the role of their respective wards in activities towards spreading disaster awareness but all responded by saying that they are well satisfied of the developmental activities till now. Few respondents expressed their disappointment by saying that these development activities are done without proper planning.

Our community is getting populated. High apartment buildings are being raised, few open spaces which were available are being transformed into small parks by the wards. -A respondent from Maligaun.

Majority said that there are no public awareness activities for earthquake in their ward and majority of the respondents accepts that their community earthquake preparedness level is weak for which they indicate that local authorities to take responsibility on the issue.

There are tall compound walls standing side by the road within our community which is very risky to walk through narrow road. The collapse of these walls will block streets. Local authorities, ward office and other concerned governmental offices should be monitoring and taking necessary actions towards such thing. - A respondent from Baluwatar.

Different local groups and organizations

According to Umesh Sharma and Ratna Neupane (Pseudonyms) there are many other organizations and committees like Tole Sudhar Samiti, Aama Samuha,

internationally affiliated organizations working for the betterment of the community peoples. Various awareness programs are occasionally conducted with the help of community police and recent efforts are on providing drinking water in a community, establishment of health post, road pavement project and continuation of COVID awareness. Some of the common activities done by these organizations and different groups are like collecting relief material from donors and distributing to people in need, free health camp, distributing health items in schools, free help desk in the ward to facilitate cleaning campaigns, various projects and so on.

Educational institutions

Two key informant interview was conducted with the school principal and a teacher from Tangal High School and Whiz- Kid International respectively. Telephone inquiry was made with 12 different schools from both Wards. 14 schools were selected to collect data on how they educate their students about disasters. All schools said that they have subject about disaster topic in different classes but due to lack of qualified teachers most of the schools said that they request security organizations, ward office, or other organizations related and arrange a visit in school to share information.

Community Police Service (CPS)

As information provided by Maligaun Police Deputy Superintendent of Police (DSP) Man Bahadur Chettri (Pseudonym), the community police are available near doorsteps of every citizen for providing safety and security. DSP Chettri helped researcher to coordinate for a meeting with the community police representative of both Ward 4 and 5. As per the information provided from CPS, regular awareness programs are like: traffic and road safety, drug awareness in schools, cyber security, anti-ragging and bullying, cleaning campaign, crime control and more. Time to time interaction with community regarding safety and security is conducted involving policy makers and other representative from local authorities. Also, hoarding boards with information on various topics are placed in public areas by CPS to spread awareness among community's people.

Discussion

UNDRR (2013) warns that rapid urban development will increase disaster risk. In our context also development activities unknowingly are increasing risk factors. Open space are being used for other purposes and not being maintained. Initiatives to save and maintain remaining open space were not discovered during this study. As this study finds that open spaces are being replaced by small parks, and tall buildings are being raised, key informants also agree on lack of proper planning while development activities are being carried. In line with Marxist theory which illustrate that haphazardly development may result in increased or reduced disaster. Earthquakes cannot be prevented, but by adopting preparedness measures which

are designed to reduce vulnerability to hazards can minimize the impacts (Mileti, 1999; Tierney et al. 2001; as cited in Bhuiyan & Paul, 2009, p. 339; Hoffman & Smith 1999).

As literature explains community people are the first emergency responder before the arrival of any other assistance, this study showed that household members preparedness are low and preparing plans are being neglected. For this, our government and stakeholders need to encourage household members to develop such plans for mitigating the impacts from earthquake. Dabreo et al. already explained that community preparedness builds confidence in individuals to reduce the effects of the hazards and manage existing resources until the arrival of assistance. The local authorities are determined to work for the safety of community no matter what but due to the low participation from the household member they are being demoralized therefor, there is an urgency to develop strategy for enhancing household members readiness and preparedness as well as to encourage all families to develop family level preparedness plan at all households' levels.

It was obvious during the research that financial burden and previous earthquake experience played a key factor in individual's preparedness measures. Iraniet al. (2020); Bhandary et al. (2015) in their article also mentioned that previously experienced were found to be more prepared. Again, in line with Marxist economic theory, it is explained by this study that respondents having financial constraint seems to have affected in undertaking preparedness measures. Bhandary et al. (2015); Irani et al. (2020) also stated that poverty is both cause and consequences of disaster in under-developed or developing countries and significance difference in an earthquake preparedness.

In line with HFA strategy and Sendai Framework priority to use knowledge, and understanding disaster risk, disaster awareness lessons in the school curriculum are already there in educational institutions and one of the positive findings from this study was that educational institutions are playing a vital role in spreading earthquake risk preparedness measures. Muttarak and Pothisiri (2013) already stated in their case study that formal education is important to increase disaster preparedness measures and reduce the vulnerability to natural hazard. As informed by the school teachers, there are lack of well-trained teachers in the schools. Hence, government should draw their attention in initiating proper training to the teachers.

With regards to activities of different organizations from this study, there should be increase in regular plan for awareness, regular meetings, simulation exercises, alarm system, alternative plans, community people equipped with proper emergency equipment's, capacity to respond. It is important for government and stakeholders to draw their attention to all these problems.

Conclusion

Human lives are not threatened by earthquakes, but highly depend upon structural collapse, and individual's actions taken during the earthquake. For this reason, earthquake resistance building, awareness about the earthquake risk reduction measures are much more important factors to save lives and property. The earthquake does not seem to have had many impacts in the study area compared to other area which might be the reason that the importance of earthquake preparedness measures are being neglected by the household members.

Though many respondents present themselves to be aware regarding earthquake preparedness measures, such as acquiring emergency equipment, stocking of rations, planning emergency escape, retrofitting their house, structural and non-structural mitigation measures are not seen undertaken by majority of the respondents, hence they do not replicate in their actions. In a nutshell based on the findings of this study, we can say that our government, National Society for Earthquake Technology, Disaster Management Division, Nepal Police, local authorities has been highly involved in spreading public awareness of earthquakes mitigation measures throughout the country. Unfortunately, effects of such programs and progress are not visible when it comes to household levels. Coordination among the local authority, community, and stakeholders are also seen lacking, hence it needs to have proper link and coordination among them.

Various stakeholders, local authorities, local government, organizations related to disaster management is supposed to intervene and take on specific tasks in times of emergency. In practice, the community are the first responder. As a first responder to an emergency, community people should be actively involved in, for which most importantly they need to be organized and self-sufficient with all the equipment and resources within their capabilities. As from this study, household members, community, local authorities all have lack of coordination to react to emergency situations such as earthquake. Effective plans, back up plans, communication and exchange of information needs to be established. All authorities are required to give more emphasis in raising the awareness on the importance of earthquake preparedness measures which should not be neglected by all levels.

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**Effects of Landslide on the Livelihood of People at Ghumthang,
Sindhupalchok**

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Abstract

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Keywords

Disaster, landslides, livelihood,
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Landslides are considered as one of the most recurring and common disaster in Nepal. They cause huge loss to infrastructure, property and human casualty. The intensity of landslides in Nepal's mid hills are rising as one of the most common and devastating disasters. The 2020 Ghumthang landslide in Nepal's Sindhupalchok District destroyed the houses, lands and infrastructures and impacted livelihoods of the people living in the area. Every monsoon landslides in hilly region of the country lead to impact on the livelihood of the people and this aspect has not been analyzed in depth. The disaster-affected people face the destruction crop, livestock, and land. They also face damages of house, drinking water and other infrastructure,. In addition they face non-economic effects like health and mental stress. This article based on a household survey combines quantitative and qualitative data from 50 respondents. Questionnaire, interviews and focus group discussions were held during field survey to solicit their perspectives. Secondary sources were consulted and lived experience used to triangulate the survey findings for accuracy. This study reveals multidimensional nature of the impact of landslide on the life of people who live in the affected area.

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Introduction

Nepal is one of the disaster-prone countries facing frequent landslides fragile geographical structure, active tectonic process, unplanned settlement and high slope are some of the underlying causes of landslides (Poudyal Chhetri, 2001). Poudyal Chhetri (2001) further adds that, lack of public awareness, low literacy, absence of technology, weak economic condition, shortage of technical manpower, undeveloped early – warning systems are other factors that make Nepali people vulnerable to disaster. Geographically, Nepal lies in the tectonically active zone between Gangetic plain of India and the arid plateau of Tibet, China (Pokhrel, Bhandari, & Viraraghavan, 2009) with diverse geographical regions (mountains, hills and Tarai regions). More than 80% of population of Nepal is vulnerable to floods, landslides, windstorms, hailstorms, fires, earthquakes and glacial lake outburst floods (Ministry of Home Affairs [MoHA], 2017). Geologists and disaster management experts have warned that due to weakened landmass by the 2015 earthquakes, Sindhupalchowk district is likely to face increased landslides (Emergency Response Coordination Centre [ECHO], 2020 Sep 14).

In the months of July and August, landslide in Sindhupalchowk district caused death of total 74 people, 40 people have gone missing and 3,297 people displaced. Total 37 people died, 2 people have gone missing and 5 people injured in the village Lidi, Jugal rural municipality. Likewise, landslide led to death of 2 people and 27 people have gone missing in Jambu, Sindhupalchowk district (Armed Police Force, Nepal [APF], 2020).

A month later on 13th September, a heavy rainfall triggered massive rock, sand and soil mixed landslide that led to high flow in the Ghattekhola striking the settlements of Bhirkharka, Nagpuchhe and Newar Tole at Ghumthang of Barhabise Municipality of the same district. In the disaster 16 people died, 15 people have gone missing and 3 injured in ward number 7, of the municipality (APF, 2020).

The objective of the study is to assess the impact of the landslide on the livelihood of the people living in the disaster-prone area. The study focuses on the presenting of the micro perspective on the impact of disaster on the livelihood of people. It is an event based case study of Ghumthang landslide. The study encapsulates the present condition of the villagers living in the risk zone with respect to the landslide risk. It also presents livelihood status of the Ghumthang villagers following the landslide.

This paper is organized in six sections. The first section provides introduction. Section 2 and 3 reviews the impact and cause of landslide. Study area and methodology are presented in section 4. Results and discussion are presented in section 5. Section 6 presents conclusions.

Disaster and livelihood of victims

The concept of livelihood describes how people struggle to make a living by putting emphasis on people's view of their own needs (Scoones, 2009). Livelihoods refer to the resource and asset that people possess which is required for them to meet their basic needs. Such needs refer not only to food but also shelter, clothing and social relations (Gaillard, Maceda, Stasiak, Le Beree, & Espaldon, 2009). Besides loss of life in the disaster area people lose houses, lands, assets and other infrastructures which bring a wide range of impacts on their livelihoods.

We can analyze the impacts on the livelihood of the people on the basis of their income sources (crops, livestock, soil/land, and trees), assets (housing, drinking water, properties) and physical condition (health, mental condition). Bates and Peacock (1992) explain that almost all the societies have a similar pattern of household activities and use almost similar physical items to perform day to day house hold activities. When disaster damages that pattern it takes time for people to get back to their normal living condition.

Due to small scale and scattered household landslides events are underreported, impact on human livelihood and development underestimation while leading to limited scientific attention (Msilimba, 2010; Petley, 2012). This study assesses impact of landslide on livelihoods of the people is analyzed by type and monetary value. Apart from the income sources and damages in assets, the study also assesses non-economic impacts like effects on health and mental stress caused by the losses of their family. The next landslide can again threaten livelihoods of the people.

Landslide not only causes environmental impact but also lead to societal disruption. A landslide that wipeout the agricultural lands creates economic as well as social consequences. It is observed that the effects are long term effect on primary economic activities (Abedin, Rabby, Hasan, & Akhtar, 2020) and thus have serious effect on livelihood of farmers (Mertens, K., et al., 2016) who lose significant part of their income from agriculture. The affected people are likely to get involved in wage employment or self-employed for their livelihood. However, these types of income do not seem to compensate the loss occurred by landslide in their agriculture or other type of income (Mertens, et al., 2016; Parera, Jayawardana, Jayasinghe, Bandana, & Alahakoon, 2018).

After hit by a disaster, affected people sell their properties or cattle in low price to fulfill their immediate financial need. This will have negative financial effect in future and pushes them into poverty. Likewise, health problem arises in the affected area due to poor sanitization, malnutrition, infectious disease and anxiety. Forest an important to the livelihood of rural people is also wiped out by landslide (Geertsem, Highland, & Vangeouis, 2009). After disaster, children can be deprived of education and forced to perform unpaid tasks while domestic work load of

women increase. They need to travel long distance for water and forage and if they need to collect wood fuel for cooking purpose their burden increases (Kaur, Habibullah, & Nagaratnam, 2018).

According to UNDP (2019) the five core indicators shown in table 1 can be used to measure the human impact of disaster: Living condition, health and education, livelihoods, food security, gender equality and social inclusion.

The first indicator (living condition, health and education) measures the impact of disaster on sanitation, water, electricity, cooking fuel, housing, education and health. Second (livelihood) shows the measurement of impact of disaster on employment, productivity, resources (financial, physical and natural) and income. Food security is measured by the impact on food availability, food access, food utilization; study of coping behavior that can lead to food insecurity. In the same way, gender equality tells how women cope with the gender biases and what the outcome of disaster on gender equality is. This also measures the impact on gender specific role (like reproductive, productive and women's community role) and its effect on access and control of services, resources and decision making. Social inclusion considers the particular group of affected people who are regarded as disadvantaged group (in term of cast, ethnic, livelihood or physical disability) among disaster affected population.

Table 1: The Human Impact Analysis: Core indicators, sub indicators and final analysis (The World Bank)

Core Indicators and Sub Indicators				Final Result
Living condition	Standard of living	Health	Education	Multidimensional poverty
Livelihood	Livelihoods	Income	Productive assets and Resources	Income poverty
Food security	Pillar	Households coping strategy		Food security outcomes
Gender equality	Differential impact	Excess to resources and decision		Gender equality
Social inclusion	Equal access	Equal participation	Opportunities	Inclusiveness – leaving no one behind

Source: UNDP (2019)

Causes of landslide occurrence in Nepal

Landslide in Himalayan mountain region is very high due to torrential rainfall and earthquakes (Ahmed 2017; Sharma, Chandel, & Kahlon, 2018). Sarkar, Ghosh, Kanungo and Ahmed (2013) stated that landslide has become one of the major disasters results in considerable loss of lives and properties every year. Proper assessment of landslide hazards can minimize the losses.

About 17% of the natural hazards in the world are recorded as landslides. It has been predicted that with the increase in urbanization, deforestation, shift in land use, over exploitation of natural resources and uncontrolled excavations can result in higher susceptibility of surface soil to instability resulting in increased occurrence of landslide will increase in the future (Ayalew & Yamagishi, 2005; Akgun & Bulut 2007; Manivannan Sandrasekaran & Kasthuri Thilagam, 2020; Andersson-Skold, & Nyberg, 2016).

Other studies have shown that both human activities and climate change are leading to more intense and frequent disasters. The impact of climate change on precipitation and temperature affects the stability of natural slopes which is one of the factors that induce the landslide occurrences (Crozier 2010; Gariano & Guzzetti, 2016; Huggel, Clague, & Korup, 2012; Schmidt & Dehn, 2000).

In a low income country like Nepal, families may take longer time to overcome economic loss and human impact is high (Keating, et al., 2014). The poor are more vulnerable to disaster than non-poor (Chambers, 1989). Osure et al. (2016) has revealed that people often return back to high-risk area due to poverty, population pressure, low knowledge of disaster risk preparedness and their cultural beliefs. Relocation is thus unsustainable. Likewise, Mertens, et al. (2016) finds that people living with higher assets have faced less impact than those with fewer assets.

Generally, disaster affect socially marginalized sections of the society and leading to the heavy loss of life and property (Hewitt, 2013) which is also termed as disciplinary losses. It has also been found that, economic loss in monetary value is high in high income countries but human fatalities and relative damage are observed high in low- and middle-income countries (Yasuhide, Okuyom, & Sahin, 2009).

Study Area

Ghumthang village is situated in Sindhupalchok district, Bagmati Province, central Nepal under Barhabise municipality of ward number 7 between 27°88'33" N latitude and 85°86'67"E longitude. It is 98.8 km. away from the capital city, Kathmandu. The Araniko Highway passes through the village (Xu, Tian, Zhou, Ran, & Yu, 2017). And multiple landslides after 2015 earthquake

has destroyed the highway connecting China .The destruction of the highway is a physical evidence of the landslide in Sindhupalchok district facing severe impacts on the livelihood of the people (Van der Geest 2018).



Figure 1: The picture of landslide in Ghumthang village and villagers sheltered in the tent.

The area surrounded by hills and mountains is landslide prone. After the earthquake 2015, the condition of soil has become fragile and loose which has increased vulnerability to landslide in the monsoon.

Methodology

This study uses field survey, Key informant interview, field observation, interviews and response of local people of the study area. 10 Key informants including ward president of ward no. 7, Barhabise municipality, battalion commander of No. 15 Battalion of Armed Police Force, local social worker, health worker, local politician was selected as respondents to meet the research objective. The study also used informants' experience and knowledge too.

The interview was conducted with 25 individual and the number selected for such interview is as per the rule of saturation as per recommendation of Guest, Bunce, & Johnson (2006), Creswell (2007) and Pratt (2009). In this regards, Guest et al (2006) and Creswell and Plano Clark (2007) suggested the number of interviewees should be between 5-25 or till the saturation of the data. Likewise, household's survey was conducted with 50 villagers (victims) to collect quantitative data. Affected number of households in the study area was 92. Beyond the household survey, researcher conducted key informant interviews and focus group discussions. Questionnaires are one of the primary sources of obtaining data. Questionnaire with both open end and closed ended questions is regarded preferable to obtain the detail data as (Zohrabi, 2013). So, in this study closed ended questions were asked as a survey instrument and open-ended questions are asked in the interview section

(Kalaian, 2008). Questionnaires are highly structured to collect the empirical data in the social research (O’Leary, 2017). The questionnaire was administered at respondents’ home, public place and agricultural field.

Four random starting points were selected from the entry area of the village to the end of the village. The respondents were selected as per availability from the entire village. Questionnaires are asked in Nepali language. The household questionnaire is the main data source for this study. The questionnaire inquired about basic socio demographic data and posed questions about peoples’ livelihood activities, income, assets, and food security. It also inquired the coping measures they adopted. Enumerators were hired for data collection from structured interview with 50 respondents. They were explained about questionnaires, data gathering process, trained on data gathering and elicitation methods along with ethical issues. Secondary sources and eye witness accounts were also used and consulted to triangulate the survey findings for accuracy. A total of 12 participants were involved in two FGDs who were from the landslide affected area.

The data is analyzed using SPSS (Statistical Package for Social Science) and Excel.

Results

In our survey with 50 respondents, it has been found that 92% of the villagers have lost their agricultural land, 12% have lost livestock, 32% lost crops and 52% lost their house and other infrastructures as shown in chart 1. It was also found that 92% of the local residents were dependent on agriculture for their livelihood as the main source of income which was reduced to 74% after landslide. This was due to loss of agricultural land at the time of landslide. Apart from agricultural loss, victims of landslide reported other loss such as livestock loss and loss of crops/seed. The percentages of the loss are shown in Figure 2.

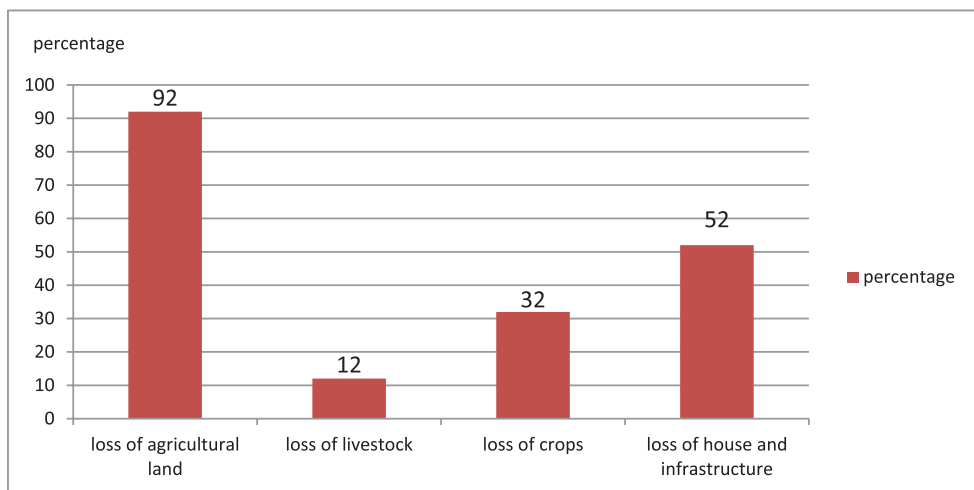


Figure 2: Type of loss from landslide

Due to landslide 180 people were compelled to leave their house due to insecurity issues as the houses were damaged. 83 household stayed on tent and remaining choose to stay in their relative's house or on the rented house. It was further found that 84% people had 6-15ropani of agricultural land and 88% people had only agriculture as their primary source of income. From figure 1, it is clear that people residing in the disaster-prone area are facing acute problem in their livelihood due to loss of their agricultural land. This study has also found that the majority of the people were depended on agriculture and more than half of them have monthly income below NPR 10,000 (\$78.44) per month (See table 2).

The amount in dollar was as per foreign exchange dated 7th July, 2022

Table 1: Monthly income of the family before landslide **N=50**

Monthly income of the family Before Landslide	No of respondent	Percentage
Below 10K	29	58%
10K-25K	11	22%
Above 25K	10	20%
Total respondent	50	100%

This study found that more than half of the victims were availing credit facility from the financial institution and many of them are facing difficulties in payment of loan that is overdue.

Figure 3 shows that 96% of the total population was without any income for one month after landslide, 16% of the victims were without any income for more than 6 months. Thus, it can be concluded that most of the victims had no income after landslide and only 4% of the affected people had job after landslide or having income sources as a regular income.

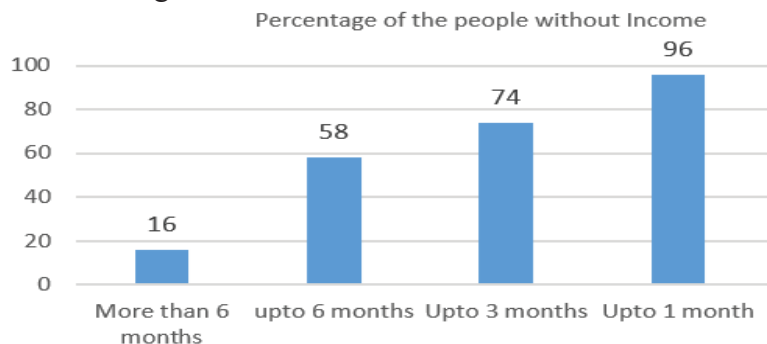


Figure 3: People refrained from regular income after landslide

Likewise, around 53% of the survey participants were availing loan from the financial institution but due to disaster they faced financial crisis and are not able to pay the interest regularly. 70% of the respondent agreed that they are facing difficulties in payment of interest of the loans as well as principal.

Regarding the loss faced by the respondent, almost all of them (46 out of 50 respondents) lost their agricultural land due to landslide in Ghumthang village and had direct impacts on the livelihood of the respondents as agriculture was their major income source. Some respondent agreed that they withdrew kids from school and few reported that they made their minor children work for income. It was also mentioned that some people sold their assets such as gold, silver and livestock as short term coping strategy though it was nominal in number.

In our survey, (Table 2) 92% of the total respondents (46 respondents out of 50) were engaged in agriculture and 8% (4 Respondents) had other jobs. After landslide, however, only 80% of the respondents were dependent on agriculture because most of the people lost their agricultural land and the productive capacity of the land. Our survey revealed that some people switched to other business and jobs from agriculture work.

Table 2: Livelihood of respondent before and after landslide

Before landslide	Livelihood measures	No. of respondents	% of respondents
	Agriculture	46	92
	Job	4	8
	Total	50	100.0
After landslide	Livelihood measures	No. of respondents	% of respondents
	Agriculture	40	80
	Business	3	6
	Other jobs	7	14
	Total	50	100.0

Discussion

The researcher visited landslide area of Ghumthang several times, for short period and developed comfortable relation with the interviewees. Then the tools were used and respondents encouraged to share their experience in detail.

During visit, it was observed that initially out of total 87 affected households 83 households were sheltered in the tent and that they were using basic household and personal supplies provided by NGO's and INGO's. These victims were found to be pessimistic toward government support as they felt that support did not reach the needy persons. Some studies have also found that political intervention may be the reason of diverting the immediate relief to other group rather than to the victim as an emergency assistance (Masud-All-Kamal, 2013).

Most of the respondent (90%) were highly dissatisfied with the relief program of the governments irrespective of the level but positive with the support of NGO and INGO. This was not so with educated respondent who were dissatisfied with

them. During in-depth interview, it was revealed that the cause of dissatisfactions was the religious motive of few INGO's. In the same way, respondent had positive feeling for the support provided by neighbor, friends and relatives.

During second visit, abandoned tents in the shelter area were noticed. It was found that there was a shortage of safe drinking, and proper sanitation facilities in the camp area. Most of the victims left the shelter area and went to live temporarily with their relatives, friends and neighbors. We also observed that most of the land of the victim was not usable compared to use prior to the landslide. Respondents shared that no amount of money or compensation could bring back their loved ones and return them to the level of well-being they had before the landslide. People residing in the landslide prone area experienced severe mental stress and trauma about losses and had fear of new landslides.

It is believed that action should be oriented toward reduction of social, economic and human consequences as humanitarian responses are made during the time of disaster. Because disaster can neither be predicted nor prevented totally, Rayamajhee & Bohara (2018) suggest to focus attention on enhancing disaster preparedness and mitigation strategies at local level.

Landslides have devastating effect on farmers as their land cannot be used for growing crops for many years, seeds are destroyed and loss of livestock and food stock occurs (FAO 2020). In some cases, such land cannot be used again for the cultivation even though almost all of the resident of the research area may be dependent on agriculture for their livelihood. As we found in the survey, 92% of the victims were farmers of which 88% had only agriculture as their source of income. They are now forced to depend upon donations and help of NGOs, INGOs just as they were immediately after the landslide. Study by Merten, et al. (2015) on the impact of landslide on household income in Uganda finds significant loss in income and more than half of the affected household facing hunger after landslide. The study shows that 64% of household faced hunger and average loss of 20% was incurred for the income from agriculture.

Msilimbe (2010) affirms that when support from government is lacking for reconstruction and regeneration of production had improved economy people become unemployed and loss their livelihood and start migrating. Similar tendency has been noted in case of Ghumtang. Landslide, victims were seeking shelter in their ancestral place for the sake of livelihood.

It was observed that victims were helping each other in managing food, work, building house and in other necessary chores. They returned to their home from tent with the help of local community and shows that networks and such support have positive effect on those in the aftermath of disaster (Aldrich, 2015). Social capital is one of the strengths associated with resilience (Yonson & Noy, 2019).

Conclusion

Most of the people in the effect area of Ghumthang village have lost their land due to the landslide of 2020. The impacts on the livelihoods of the people dependent on agriculture were high. The landslide wiped out not only their land, but also destroyed their house, physical assets, life of spouse and relatives. Many of them have lost source of income. It was found that even though non poor households lost more in monetary value in the landslide while livelihood of poor were severely affected as their resiliency was very low. People not only faced income related problems, but also psychological problem, like mental stress and health impacts: the non-economic effects. Governments should adopt short term (immediate action) action and long-term strategic plan to address landslide hazard and safety of disaster victims. Hilly area of the country is vulnerable in terms of landslide and each monsoon people; especially those who live in landslide prone zone face the hazard of a probable landslide. The development of the villages is not well planned in Nepal and people settled in risky area.

The settlements in the village are scattered, in small number and located in remote areas. Providing basic requirements like roads, supplying drinking water, electricity, sanitation facility, health facility, and drainage system is costly and unpractical to each scattered village. Most of them live in disaster prone area and far from the reach of the rescue and relief institutions like Nepal Police, Armed Police Force, Nepal Army, Red Cross and INGOs, NGOs and other social organizations. It is recommended that the settlement should be reorganized by analyzing risk free area with respect to the disaster. Implementation of Integrated village development policy considering risk factors related to disaster is a must in Nepal to minimize the loss of life and property. Acharya and Yang (2015) recommend that the identification of settlement in disaster prone areas should be done with the help of landslides hazard maps in land use planning. In the future, landslides hazard maps should be prepared and used in land use planning as a tool to minimize the loss and damage at local level.

During disaster like landslide, distribution of relief items like foods, cloths and daily necessity goods and providing immediate shelter is necessary. In Nepalese context central, provincial and local governments have the prime responsibility to deal with such immediate problem. Saving foods, using alternative foods and reducing expenditure are some ways that help revive from the impact of landslide. Victims of the landslides should be helped to get support to overcome financial crisis through loan and beginning new business. In case their ancestral land is unstable and the probability of further landslide is high, the farmers/people should be supported to migrate to safer places.

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A Study of Inter-Agencies Cooperation in Border Governance of Nepal

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Abstract

Coordinated border management (CBM) refers to a coordinated approach by border agencies, both domestic and international for achieving efficiencies by facilitating trade and travel flows, with maintaining a balance with compliance requirements. The core objective of this paper is to identify governmental agencies cooperation for border governance of Nepal. For the purpose of understanding inter agency cooperation the research uses both qualitative and quantitative approach with descriptive design using both primary and secondary data. The findings show that there are 12 ministries at federal level and 14 departments with 670 borderline agencies in Nepal. The central ministry, departments, regional offices, district offices and borderline offices are the hierarchical system in intra- agencies. At national level there are different working groups and committee form different ministry. At district level, District Administration Office plays a lead role for local border management by instructing and supervising others agencies in inter-agency coordination. In order to maintain peace, security and curtail cross border crime, the security agencies are having cordial cooperation by exchanging high level information exchange, sharing of work, regular training and joint inspection by constructing different working groups. The study suggests establishing a national border management policy to incorporate all tiers agencies by constructing national border management Authority to coordinate all agencies from central level to local level which reduce unnecessary work duplication by amending relevant statutes.

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Introduction

Boundary serves different purpose and has numerous functions depending on what those who draw them and what those living among them want to use them for, the nature of international boundary have an impact on livelihoods of local community and the stability of nation-state (Okumu, 2010). Shrestha (2003) defines the concept of the border as an independent nation has its own defined and demarcated boundaries, a permanent population, own strong and independent government and, are also capable of conducting international relations beyond its borders. Governments thus see themselves confronted by policy choices that, on the surface, might appear to be in conflict with one another to facilitate the legitimate movement of people and goods while also maintaining secure borders (IOM, 2017).

An effective border management can help nations and region to achieve a more balanced approach that enhances their own national security, in compliance with international law, and protects the rights and reduce potential vulnerabilities while crossing borders. Good border management serves by helping to balance national interests in both facilitating cross-border movements and maintaining security. Achieving this balance depends upon border management policies and interventions focused on four areas of work: identity management, border management information systems (bmis), integrated border management (ibm) and humanitarian border management (HBM) (IOM, 2017).

Governance is understood as an act of governing a political decision-making process where actors organize themselves through relationship structures, shaping a set of principles and rules in order to implement processes (deliberation, negotiation, decision making) for a “better use of power” to ensure a better performance and or obtain better outcomes (Jose, 2020). Border governance is an act of governing the border areas of any country to boost the mechanisms for better integrations and cooperation to enhance national security. Cross border governance is an act to a strengthened collaboration between actors from the public, private, and non-profit sectors. This collaboration among various levels of the politico-administrative system and across different systems has to be based on exchange and negotiation. Border agency co-operations are based on vertical, horizontal and lateral networks to achieve common goals, values and rules. Even if the territorial aspect is of less importance, cross-border governance activities also show, in most cases, a well-defined spatial reference framework and are always dependent on the specific context, situation, and on the specific actors involved (Zumbusch & Scherer, 2015)

Van Houtum (2000) stated cross-border cooperation (CBC) is considered as a fundamental strategy or political procedure to promote territorial integration by exploiting the opportunities within the border regions. It is possible to appreciate formalized and less formalized forms of CBC for overcoming territorial challenges

that can emerge from the transformation of pre-existing arrangements among the cross-border networks, developing governance structures that involve a variety of stakeholders. International Organization of Migration (IOM, 2017) highlights the implications of ineffective and inefficient border management structures, governments should continue to invest in border management reform, and in enhancing capacity in terms of border and migration management structures and procedures. Good border governance promotes the balance between facilitation of cross-border movement and the need to uphold national security.

Coordinated border management (CBM)

Coordinated border management (CBM) refers to a coordinated approach by border agencies, both domestic and international in the context of seeking greater efficiencies over managing trade and travel flows, while maintaining a balance with compliance requirements (Aniszewski, 2009). It is a well-defined rules and regulations in a correct manner to address a strategic issue across the border governing agencies. Aniszewski (2009) further stated in increasing risk that border management organizations perform their functions in a coordinated manner. The lack of communication and coordination between border agencies might prevent different agencies from being able to link the vital information necessary to make an informed decision about potential threats that in turn leads to inefficient delivery of government services. Cross border cooperation (CBC) is considered as a fundamental strategy or political procedure to promote territorial integration by exploiting the opportunities within the border regions (Jose, 2020). In order to manage borders the inter agencies working across portfolio should rely on coordinated manner to achieve a shared goal. Coordinated border management consists of two approaches which are domestic border management and international border management (Polner, 2019). In national level, many more governmental agencies share responsibility for regulating and controlling imports, exports and transit of commercial goods. Different governmental bodies are tasked with ensuring conformity with state regulations and intervene in trade activities on the political as well as the operational level. Border control system usually reflects different national needs and concerns. In order to meet the benefit, all government agencies whose policies include border governance need to be actively engaged on cooperative functions to maximize output. World Custom Organization (WCO, 2009) stated agriculture, health, bio-security, interior, economy, investment and infrastructure, energy justice, environment, port authority, finance and foreign affair as stakeholders in cooperative states bodies in the field of coordinated border management approach.

Good border governance of Nepal requires multi sector cooperation along with policy engagement from domestic and international agencies. Among many issues in border management of Nepal, voices have been raised on lack of coordination

between ministries and governmental agencies for smooth governance. This paper is intended to study inter-agency cooperation in border governance of Nepal. The core objectives of this paper are as follow:

1. To identify governmental agencies of Nepal and their coordinated role and responsibility for good border governance.
2. To understand areas of cooperation with existing intra- agency and inter-agency cooperation by governmental agencies of Nepal.
3. To understand security agency coordination for cross border security management.

Literature review

Caparini (2006) highlighted democratic governance of border management by removing barriers for trade by reassuring domestic population of state to enforce migration control with generating remittance by shifting responsibility with different stakeholders in collaborative manner and shared goals. Coordinated border management is an important element to remove border delays in smooth movement of goods in a region and countries taking concerted measures to address the issues.

Baral (2019) defines border management is a mechanism to ensure the security of national borders and to regulate legitimate movements of goods and people on borders to meet various needs of the nation by cultural-social-economical interactions which are performed through the borders. Baral (2019) further stated collaborate and coordinate efforts are needed to improve the situation along their border by setting up joint task forces to investigate cross-border crimes, sharing real time intelligence, conducting coordinated patrolling, re-installing missing border pillars and repairing the damaged ones and jointly developing infrastructure along the border.

Border security and border management are intertwined to each other.

WCO (2005) argues CBM has existed for many years and refers to a coordinated approach by border control agencies, both domestic and international, in the context of seeking greater efficiencies in managing trade and travel flows, while maintaining a balance with compliance requirements.

CBM represents an approach to manage borders involving public service agencies working across boundaries in a coordinated manner to achieve a shared goal, thus providing a cohesive government response to the challenges of border management. CBM can be referred as a logical way to manage border operations to ensure efficient and effective processes and procedures used by all regulatory agencies who are involved in border security and regulatory requirements that apply to travelers, goods and conveyances crossing international borders. The objective of

a coordinated border management system is to facilitate trade and the clearance of travelers at the same time ensuring secure borders (WCO, 2010).

European Commission (2009) highlighted the concept of integrated border management, an essential element of IOM programming. It encompasses national and international coordination and cooperation among all relevant authorities where all agencies involved in border management and trade facilitation in order to establish effective, efficient and coordinated border management. Integrated border management seeks to enhance three levels of coordination: intra-service, inter-agency and international cooperation.

COMCEC (2016) defines uncoordinated border management as little or no communication, duplicative control, conflicting requirements, separate functional silos whereas coordinated border management as smooth flow of information, streamlined line control, clarity in requirements and cross functional collaboration. Furthermore, the areas of integration in border governance were suggested to be technical, operational, legislative and institutional.

In the real world of international trade, national borders are fraught with obstacles to efficient and profitable trade flows. Oftentimes, the most disruptive obstacles present themselves simply as lack of coordination between government agencies at the border. This lack of coordination leads to poor data sharing, duplicative procedures, and a level of inefficiency that results in delays, product deterioration, and overall reduced profitability. In order to address this degree of disorganization, initiatives must be taken to increase interoperability at the border. This interoperability is often referred to as CBM or integrated border management (IBM). These terms, while seemingly different, both focus on the same goal of increasing trade efficiency. Increased efficiency improves productivity, reliability and profitability for all parties involved. Furthermore, to achieve the goal of efficient trade flows across national borders, a country must address pivotal elements of coordination, including data flow (accumulation, sharing, and dissemination), authority and responsibility at the border, existing trade infrastructure (physical, technological and organizational), legislation and regulation of border activities, and funding availability for project development (IDB, 2010).

CBM is ultimately about cross-border regulatory agencies within the same country, as well as like-minded cross-border regulatory agencies across borders, putting in place official measures, mechanisms and communication channels to ensure that regulatory processes are streamlined and effective (WTO, 2018).

Intra-agency cooperation is about aligning goals and work within one organization, either horizontally between departments or vertically between headquarters and local branches, in particular border-crossing offices and stations. Ways to foster

horizontal intra-agency cooperation include development of intranet networks, cross-training, inter-departmental rotation of staff, and establishment of joint task forces that tackle multifaceted challenges like transnational terrorism (IOM, 2017).

Managing borders include demarking the boundary, providing strong and effective security, arranging cross border movement of people and facilitation of trade and tourism (Shrestha, 2003). The multi-sector engagement with concerned stakeholders needs to have cooperated for better management of border (Upreti, 2021). After reviewing different literatures there is a significant gap in assessing the problem with coordinated border management with inter-agency cooperation in Nepal border governance.

Methodology

For the purpose of identifying border governing agencies of Nepal and their coordinated role, this study used quantitative approach where as to understand existing intra-agency, inter-agency and security agencies cooperation the study used mixed-model approach with descriptive design. Both primary and secondary data have contributed in construction of this paper. Primary data are based on telephonic interview with officers from related agencies whereas secondary data are collected from books, newspaper, articles, journals, and reports. The quantitative data of borderline agencies are extracted from respective agencies website which are shown in table. This paper have revealed different working group of India-Nepal border coordination as most of the border issues are related with Indo-Nepal border.

Findings and discussion

In order to meet the objective of the research, the researcher have sequenced the findings from border management practices, border crossing points, border agencies engaged in Nepal, areas of cooperation and existing different level of inter agencies cooperation in Nepal.

Border management of Nepal

As an independent nation Nepal has its own defined demarcated boundary. The Treaty of Sugali in the year 1816 A.D. with East India Company and treaty of Betrawati in the year 1792 AD are the major constituent of Nepal's border demarcation. Nepal share 1414 km long controlled border system with China in north. Most of the northern part is covered with high Himalayas and area within 30 km from border is considered as demilitarized area (Shrestha, 2003). Apart from northern side, Nepal shares 1880 km long border with India. Nepal and India signed Treaty of Peace and Friendship in 1950 which does not restrict the cross border movement in Indo-Nepal border. The people of both countries share religious and cultural affinity.

Due to open access and freedom of mobility, cross border crimes are major issues for both countries. There have been enormous efforts to curtail cross border crime and facilitate trade, commerce and tourism from both countries, as a part of border management.

Regulation on socio-security, trade, commerce, health, transportation and infrastructure sector will produce a better result in border governance. For many years the borders of Nepal were not governed. After Peace and Friendship Treaty of 1950, custom offices were established at the border areas of Nepal (MOF, 2019). Similarly, Armed Police Force, Nepal (APF) was authorized for border security in the year 2008 A.D. which permits APF to secure the border areas and control cross border crimes (APF, 2022). Furthermore, the government of Nepal and India has constructed integrated check post (ICP) in three different places for trade facilitation. One ICP have been constructed in Nepal- China border.

Border crossing points of Nepal

Crossing points are authorized area in an international border selected by bilateral agreement for legitimate movement of people and goods with safety protocols. The movement of goods and people are authorized as per the law of the concerned country. The crossings are generally established to facilitate cross border movement of people and facilitate international trade and tourism. Also, border crossings prevent unauthorized entry of people and reduce cross border crimes. Such crossings are also called as check points where different governmental agencies are deployed with different role and responsibility to achieve common goal.

Due to geographical difficulties there are very few border crossing in Nepal-China border. The open swath of land in Indo-Nepal border has made easy availability of mobility of people in southern border. Officially, there are 25 border crossings points in Nepal which are shown in the figure 1:



Figure1: Border crossing points of Nepal, Adapted and modified from the book, Border Management of Nepal. (Shrestha, 2003)

Border agencies of Nepal and their role

To counter all the challenges in border management, Government of Nepal (GoN) have established different functional agency with different tasks. These functional agencies from different clusters are established with different task to achieve a common goal. The growing engagement in cross border activities of Nepal with its neighbor countries requires a good border governance and active role from different governmental agencies. Good border governance requires well coordination among different clusters of administrative, economic, security, intelligence, legal, health and environmental agencies.

There are 12 ministries at federal level and 14 departments with 670 units for border governance in Nepal. All the agencies have their dedicated role and are co-operating each other for common objective to strength border governance.

Table No 1: Border governing agencies of Nepal

S.N.	Federal Ministries	Departments & Agencies	Tasks	Border Units
1	Office of Prime Minister and Council of Ministers	1. National Security and Diplomacy Division. 2. National Investigation Department (NID)	1. National Security and Diplomacy Division. i. Cooperation and coordination in international borders, border security, border administration and security of international borders ii. National /international coordination in cross border governance. 2. NID i. Intelligence collection	None
2	Ministry of Defense	Nepalese Army (Survey and Boundary Monitoring Directorate)	Observation of International border.	None

3	Ministry of Home Affairs	1. APF, Nepal 2. Nepal Police 3. Immigration Office 4. District Administration Offices(DAO)	1. APF, Nepal i. Maintain Peace and security at border. ii. Establish Checkpoints. iii. Border Patrolling, iv. Inspection of Pillars. v. Border Surveillance. vi. Revenue, customs, and security 2. Nepal Police i. Law Enforcement ii. Crime Investigation 3. Immigration Office i. Monitoring, controlling and regulating entry and exit of foreign nationals. 4. DAO i. Monitoring, regulating and cooperating with all borderline agencies.	1. APF, Nepal i. Border Out post. ii. Forward Post iii. Check Points 2. Nepal Police i. Area Police Station ii. Police post (Chauki) 3. DAO i. Border administration offices.
4	Ministry of Foreign Affairs	Embassies and Consulate General Offices.	i. Protection and promotion of rights, interests and security of Nepali nationals living abroad ii. Diplomatic exchange. iii. Trade and tourism Facilitation.	None

5	Ministry of Finance	i. Department of Custom ii. Inland Revenue Department	i. Revenue collection ii. Budget allocation iii. Seizure of illegal goods.	i. Custom Offices
6	Ministry of Land management, cooperatives and poverty alleviation	i. Department of Land Management	i. International Border Demarcation, border pillars construction and recordkeeping.	None
7	Ministry of Agriculture and Livestock Development.	i. Plant Quarantine and Pesticide Management Centre	i. Inspection of plant and animals on cross border movement.	i. Quarantine Offices
8	Ministry of Health and Population	i. Health Service Department	i. Health treatment at border check points.	Health Posts.
9.	Ministry of Physical Infrastructure and Transportation	i. Department of Railways	i. Railway service to needy people and facilitate tourism.	None
10.	Ministry of Law		i. Drafting Border Law	None
11.	Ministry of Forest and Environment	i. Forest and wetland Department.	i. Protection of forest and wildlife at border areas.	i. Forest Posts.

12	Ministry of Commerce and Supplies	i. Department of Commerce, Supply and Consumer Protection	i. Facilitate international Trade. ii. Import and export of good	None
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Source: Adapted and modified from OPMCM (2022); MoD (2022); MoHA (2022); MoFA (2022); MoF (2022); MoLCPA (2022); MoALD (2022); MoHP (2022); MoPIT (2022); MoLJPA (2022); MoFE (2022); & MoICS (2022)

As shown in Table 1, there are 12 ministries and 14 departments engaged in border governance of Nepal. Office of Prime Minister and Council of Ministers is the apex units which coordinated neighboring countries for international border management and supervise all others offices for domestic border management. Ministry of Home Affairs is the lead managerial unit which consists Administrative agencies and security agencies. These administrative and security agencies are further deployed in borderline. Ministry of Finance consists trade and custom agencies where its sub units are deployed in border areas as custom offices. Furthermore, different cluster of border governing agencies deployed in district level as shown in the table below.

Table No 2: Agencies at District level

<u>Administrative Agencies</u> i. District Administration Office ii. Immigration Offices. iii. District Forest office. iv. District Transportation Office	<u>Custom & Trade Agencies</u> i. Custom And Revenue Office. ii. Commerce, Import and Export Office. iii. ICP and Dry Ports iv. Banks and Money Exchange Center
<u>Security Agencies</u> i. APF, Battalion/Company ii. District Police Office. iii. Nepal Army, Battalion iv. National Investigation Department	<u>Health and Safety Agencies</u> i. District Quarantine Office. ii. Hospitals and Health Posts. iii. Fire Brigade office.
<u>Land Agencies</u> i. District Land management Office ii. Survey Office	<u>Non-Governmental agencies</u> i. Maiti Nepal. ii. World Wide Fund For Nature (WWF) iii. Peace Restoration center.

Source: Author's compilation

Areas of cooperation

Polner (2019) highlighted four areas of cooperation by border governing agencies. They are technical area, operational area, legislative area and institutional area. The border governing agencies of Nepal relies on operational, technical areas and legislative area for cooperation.

Operational Area

Operations are the task which needs to be done. The existence of any agency depends upon its operational capacity. Timely actions are foremost factors of good border governance. All clusters of border agencies of Nepal cooperates each other for operational output. Specially, at borderline the trade and custom agencies are operated to collect revenue form imported goods where security agencies plays a vital role by conducting inspection of goods, confiscation of illegal goods and nabs fugitives. Both the agencies are benefited as both agencies are able to achieve their operational output. The operational achievement can be achieved by sharing of information, cross training, joint- meetings, joint inspection, risk management and knowledge sharing.

Technical area

Good border governance cannot be achieved without adaptation of information and technology. Many countries of world have started smart border management where technology plays dominant role in border governance. Slowly, Nepal has been adapting the use of technology in border governance. All the clusters of border governing agencies coordinates each other to become technological competent. The means of technological cooperation are skill exchange to use electronic devices, cross training of custom and quarantine procedure to security forces, gaining knowledge in GPS tracking system.

Legislative area

Legislative are the legal areas of cooperation by all cluster border governing agencies. The central agencies are policy making agencies. The ministries coordinates each other in drafting of effective border law, rules regulations, guidelines and amends unnecessary laws that acts as a barriers of coordination of borderline agencies.

Existing cooperation among border agencies

Border agency cooperation refers to an organized, shared and collaborative approach by border control agencies to achieve greater efficiency in border security, trade and facilitating legitimate movement of people with maintaining a proper balance with compliance requirements. Greater implementation of border agency

cooperation can lead to secure society, shorter delays in trade quicker release, better predictability and lower costs. In order to reduce the hurdles for proper border governance, a deep coordination between the stakeholders is a predominant task. Borders areas of Nepal were considered to be marginalized area with very little population. These areas were under immediate security threat of dacoits and wild animals. With the development of technology and communication, the borders area of Nepal has been a center of attraction. Many governmental clusters have been assigned for a proper border management. Till now, Ministry of Home Affair is the leading organizational for border management of Nepal. The others clusters are working under their hierarchical command with intra and inter agencies cooperation and coordination.

Intra- agency cooperation

Intra- agency cooperation refers to cooperation between the same units of one organization. It is also called as vertical approach coordination of same organization from central level to lower levels. It consists of flow of instruction, information, regulations and guidelines from higher authority of lower units. The central ministry, departments, regional offices, district offices and borderline offices are the hierarchical system in intra- agencies. There are different operational areas of ministries and departments of Nepal. Ministry of Home Affair is responsible for maintaining peace and security of nation along with protecting its border. Being a focal ministry, administrative and security agencies are it's under commanded agencies. There is a Security and Coordination Division commanded by joint secretary in MoHA. Under this division, there is Border and Immigration section commanded by undersecretary. Furthermore, security agencies, custom agencies, land management agencies and health agencies also follows intra- agencies coordination from central, regional to borderline units to achieve desired objective.

Inter-agency cooperation

Inter-agency cooperation is the process by which different agencies joins together for the purpose of attaining a common goal. It involves two or more agencies deciding to work together in partnership to achieve a common goal. It is also called as horizontal approach coordination of different organization. Good border governance in Nepal cannot be achieved without inter-agency cooperation. The key element for inter- agency cooperation are institutional guideline, legal and regulatory framework, exchange of information, sharing of infrastructure, training of human resources, joint inspection, sharing of technology and international values. More than 12 ministries at federal level and more than 670 agencies at borderline coordinate each other desired output. At national level there are different working groups and committee form different ministry. At district level, DAO plays a lead role for local border management by instructing and supervising others agencies.

Table No 3: Inter-agencies cooperation from central to borderline

Area/ Scope	Organizations	Coordinating Task
Central Level	Office of Prime Minister and Council of Ministers, Ministry of Finance, Defense, Home, Agriculture, Forest, Law, Health, Foreign Affair.	Border inspection and follow-up committee, survey, scrutiny, probe committee
District Level	District Administration Office, District Police Office, APF Battalion/ Company, Intelligence Office, Custom Office, Quarantine Office, District Forest Office, Hospitals,	Joint Field Visit, Joint Training, Information exchange, Joint Operation, Joint command post,
Local level (Border Line)	Local Municipal Offices, Custom points, Integrated check point, Health posts, Border Observation Posts (BOP), Area police offices.	Joint Border area inspection, Joint Meetings for border dispute solution, Joint Awareness program.

Source: Author's compilation

Table 3 shows hierarchy of high level coordination to border line coordination of concern authority. Federal ministries coordinate each other to enhance cross border security and trade facilitation and delegates authority at lower levels. District level agencies acts as a bridge by flowing relevant information, issues order and provide suggestions to border line agencies. Borderline agencies are first liner agencies which are operationally engaged in field.

Table No 4: Number of border agencies of Nepal

SN	Agencies	Department	Number of Units		All over the country
			India Border	China Border	
1	Border outpost	APF	220	8	228
2	Area Police station	Nepal Police	160	10	170
3	Custom Office	Custom	151	15	166

4	Quarantine Office	Plant and Quarantine	11	3	14
5	Forest Post	Forest	26	13	39
6	ICP	Intermodal	4	-	4
7	Dry Port (ICD)	Intermodal	5	2	7
8	NGO/ Volunteers	NGO	25	-	25
9	Immigration Office	Immigration	8	2	10
10	Border Administration Offices	Administration	2	5	7

Source: Adapted and modified from MoHA (2022); MoF (2022); MoALD (2022); MoFE (2022); APF (2022); NP (2022); & NITDB (2022)

International cooperation

Center for Strategic and International Studies (2010) has mention that international borders can ignite a war between the neighboring countries unless governed properly. Every state has serious concerns on managing its international border. The flow of goods and services from one region to another region, in one hand has created an opportunity to enhance international trade, and in other hand there is alarmed security distress in international borders. International cooperation concerns the establishment of communication and coordination channels at the local, bilateral and multilateral levels between the agencies of neighboring countries. All forms of coordination are done in order to strength international cooperation which is also termed as cross border cooperation. It includes high level information exchange, sharing of work, regular training and joint inspection. The operational area for international cooperation between the states is cross border trade, cross border immigration, and cross border crimes. The international cooperation is possible by mutual understanding in legal framework and shared values.

Nepal have enhanced in international cooperation with both neighbors. The formal diplomatic relation with China was established in 1955 A.D. After 1955 A.D. trans-border movements were restricted and were controlled. Due to high Himalayan there are only 10 border crossing points and limited governmental agencies are deployed. Nepal has signed a formal diplomatic relation with India on 17 June 1947 A.D. However, the guidelines of border demarcation were set by Sugali Treaty 1816 A.D. To carry out the border demarcation issues, Nepal India Joint Technical Level Boundary Committee (JTC) was formed in November 1981 A.D.

The JTC was tasked to conduct joint field survey to re-establish and reconstruct the boundary pillars that are found lost, and prepare the modality for periodic inspection for cross border governance. JTC consists of inter-agencies mechanism with representative from both countries which resulted into the formation of Border Working Group (BWG), Survey Official Group (SOG) and Field Survey Team (FST). The BWG cooperates on construction of strip map, inventory of border pillars, GPS observation, updating inventory about no-man's land encroachment and other task as mandated. The JTC was dissolved in January 2008 A.D.

Table No 5: Structure of different working committee

SN	Working Group	Head Official	Meetings	Task
1	Eminent Person Group	Related Experts	9	Review various aspects of the bilateral relationship.
2	Border Working Group	Head of Survey Department	6	Strip map construction, inventory of pillars, Encroachment solution, border protocol construction.
3	Survey Official Group	Deputy Director of Survey Department	11	Technical Specification, Field Survey, situation report to BWG.
4	Field Survey Team	Chief District Officer	As per necessity	Documentation of Field work, Joint Inspection, situation Report to higher Authority
5	Field Team	Deputy Superintendent of Police	As per necessity	Field Visit, Local level coordination, Exchange of information, Discussion on security issue.

Source: Armed Police Force, Border security Division (2022)

Table 5 shows different working group between India and Nepal. Eminent person group was tasked to review the agreements and treaties, including Nepal-India Friendship Treaty of 1950 A.D. Both team have finalize the joint report, with recommendations on amending bilateral treaties and agreements and further enhance trade, commerce, water resource, people-to-people contact, cultural affinity of the two countries. The final report of EPG is yet to submit to the head of government of both countries. BWG is coordinating in bilateral issues on

land encroachment, trade and security. The field team cooperates at local level according to the work priority.

Security agencies coordination

The border areas of Nepal are considered to be very fragile in terms of security. The northern frontier lies in high altitude having less settlement. Due to very little human settlement, there are not many security issues. Nevertheless, land encroachment, Tibetan refugee, cattle pasture are some issue alarming security concern.

Indo- Nepal border acts as a major security challenge in cross border governance. The porous border limits security agencies of both side to curb illicit trade, smuggling, organized crime, human trafficking, money laundering, illegal migration, poaching of animals, killings and murders.

To guard the unmanned Indo- Nepal border, Government of Nepal officially deployed APF, Nepal in 2007AD. APF, Nepal, as a dedicated border security force, is coordinating with Sastra Sema Bal (SSB) of India and People Armed police force (PAPF) of China as respective counterparts. The comparative deployment of different border security force is as shown in the table below.

Table No 6: Border security force at Indo- Nepal and Nepal- China Border

SN	Country	Security Agency	Strength at border	Unit	Km per Post
1	Nepal	APF	12883	228	8.54Km (India Border) 176.75 km (China Border)
2	India	SSB	45000	535	3 km
3	China	PAPF	725	18	78.5 km

Source: Armed Police Force, Border Security Division (2022)

In order to maintain peace, security and curtail cross border crime, the security agency of each country need to have a best level of coordination and cooperation in exchanging relevant information. Exchanging information helps in operational achievement. APF, Nepal, being a border security agency of Nepal have conducted and participated in different cross border coordinating meeting with its counter parts. There have been many security coordination meetings with counter parts of both countries which are as shown below:

Table No 7: Border security agencies coordination

Year	Nepal-India Security Meeting	Nepal-China Security Meeting	Total
2015	25	2	27
2016	40	1	41
2017	50	4	54
2018	41	8	49
2019	48	10	58
2020	67	3	70
2021	118	2	120
2022	149	5	154

Source: Armed Police Force, Border Security Division (2022)

By the end of 2021 AD, 120 different meetings were held in different levels. Till mid-2022, 154 meetings between the security agencies were organized. The study finds coordination among the security forces is in increasing trend. Counterpart meetings cover the issues relating to mutual security concerns, intelligence exchange, training and capacity building, disaster management, requirements, exchange of experts/instructors, exchange of high level and functional level visits, joint expeditions and adventure sports activities and joint operation. Joint operations are meant for controlling cross border crimes which includes joint patrol, joint inspections and joint exercises. In recent time, joint patrols are beneficial in confiscating contra band and illegal goods.

Table No 8: Number of joint patrols and confiscated goods and weapons

Year	Joint patrol	Confiscated goods (In Billion)	Confiscated Illegal Weapons
2015	78	2.08	45
2016	272	2.43	31
2017	430	2.15	13
2018	686	1.44	13
2019	1068	4.4	38
2020	1314	6.1	30
2021	2779	8.1	35
2022	3323	8.7	25

Source: Armed Police Force, Border Security Division (2022)

Need for Improvement

A well-managed border of any country improves trade, increases revenue; facilitate cross border movement and enhance the security measures. The approachable border between India and Nepal has acts as an opportunity and threat for both countries. Due to adverse terrain, social and cultural affinity, and porous landscape the border management in Nepal have been a daunting task. The government of Nepal has prioritized coordinated approach in border governance. In short span of time, many borderline agencies have been established and have been following the CBM Model. In order to meet up with the globalized world and to enhance coordinated border approach the study suggests the government of Nepal should consider the followings points:

1. Establish a national border management policy incorporating all tiers agencies and including coordinated management approach in all agencies rules and regulation.
2. Establishment of national border management authority consisting of all stakeholders with an authority to coordinate all agencies from central level to local level.
3. Cross agency trainings, joint inspections, resources forecasting and exchanging activities should be prioritize in development of national action plan for inter-agency cooperation for good border governance.
4. Reduce unnecessary work duplication by amending relevant statutes which acts as unrelated acts in cooperating inter agencies corporations.

Conclusion

Most of the countries of the world have been adopting CBM model to facilitate international trade and robust border security. It has been a vibrant instrument to enhance international trade faster and easier. More specifically, coordinated border management is a way to enhance operational efficiency among trade, custom, health and security agencies at the border line. With the growth in globalization in the world, the cross border movement of people also has posed a threat in internal security. By adopting a CBM model, European countries are able to achieve success in curbing its internal security challenge and facilitate its cross border trade and tourism. Border offers both opportunities and challenges as it can be used by terrorist as a gateway, and also a point to collect revenue. Hence, every nation requires adopting good border governance.

Lately, Nepal has adopted coordinated border management with engagement of multi-sector for better border governance. The acceptance of WCO Kyoto Convention for one stop border posts, joint public- private partnership, harmonized

relationship between the working agencies need to adopt for better result. Lack of border outposts, custom, quarantine and immigration office at borders areas have impetus for border crimes in Nepal.

The essence of CBM is technical and operational integration of different agencies. It is therefore necessary for horizontal and vertical cooperation to have operational efficiency to achieve the targeted output. In Nepal, most of cooperation takes place at ad hoc basic. It is necessary to have routine based meetings, visits, inspections and cross trainings. Gradually, Nepal is strengthening its capacity for border security. The number of security post of APF, Nepal has been increased with a target to meet 500 border outposts. Apart from enhancing border security, it is also necessary to synchronize all other agencies for the better governance.

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Climate Adaptation Financing in Nepal

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Abstract

Nepal as a country vulnerable to the effects of climate change, and with limited domestic resources must priorities adaptation actions and relies on international support to finance its need. There have been substantial amounts of climate finance flowing into the country from a multitude of sources mainly in the form of grants and debt instruments, with over US\$3 billion committed by international providers over the last decade. Commitments to finance adaptation have been steadily increasing over the same period, however not all commitments translate to results on the ground, as over half of reported adaptation finance can be considered over reported. Specific challenges have been identified in absorbing climate finance in Nepal, including governance issues, lack of internal capacity, lack of coordination, inadequate climate finance management and lack of legislation and implementation strategies. This paper proposes reforms along the lines of transparency and accountability, localization and government ownership, capacity building, coordination, climate budgeting, monitoring and legislation to tackle these challenges and ensure better efficacy of climate finance in adaptation programs in the country.

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Introduction

Climate change has become ubiquitous over the past several decades with global temperatures slated to increase by 1.5° C before the mid-century (Intergovernmental Panel on Climate Change [IPCC], 2018). It is important for countries to recognize their vulnerability to its effects and this holds particularly true for a country as resource strapped and climate vulnerable as Nepal.

In 2019, Nepal was ranked as the 11th most vulnerable country amongst 187 countries by the Climate Risk Index and 47th by the ND Gain Index (Ministry of Forest and Environment [MoFE], 2020). This vulnerability manifests itself through adverse impacts such as droughts, floods, forest fires, glacial lake outbursts and increased prevalence of diseases in new areas. Ministry of Health and Population (MoHP, 2017) which are predicted to be more frequent and severe in the future. The Himalayas are expected to lose their entire ice cover by the year 2300, with snow mass at lower elevations projected to decline by 50%-80% by the end of this century (MoFE, 2021). The impact of these changes will be highly devastating for the Nepalese population and economy (Ministry of Finance [MoF], 2021). Each year, climate-induced disasters claim 647 lives and result in economic losses of over US\$22 million on average (MoFE, 2021). Such disasters are on the rise, with economic losses of up to US\$45 million recorded in just three quarters of 2019 (Rai, Chhetri & Dhital, 2020). This could translate to Nepal losing more than US\$62 billion (2.2% of annual GDP) by 2050 (Asian Disaster Preparedness Center, 2021).

Given this vulnerability, Nepal's miniscule contribution to global emissions at 0.027% (MoHP, 2017) and significant resource constraints, Nepal's climate change actions need to be focused on adaptation strategies. This involves increasing its systemic ability to adjust to climate change and its impacts, moderate potential damages, cope with the respective consequences and take advantage of opportunities (IPCC, 2001). Various adaptation measures and projects have thus been undertaken by the Government of Nepal (GoN) with significant financial support from the international community.

The scope of this paper upon reviewing the literature was limited to analyzing public monetary flows for climate action, given the present ambiguity in defining CF in the literature. Private sector financing and non-monetary concepts such as non-transferred resources and technical assistance were removed from consideration within this paper. This scope limitation was done to sharpen focus on the funds reflected in the governmental budget and on institutions involved in its management.

This paper seeks to analyze the effectiveness of the aforementioned financial influx in Nepal's adaptation efforts. Along this line, the following objectives are adopted:

- Outlining the historic effectiveness of climate adaptation financing in Nepal,
- Identifying existing challenges within Nepal's climate governance and financing mechanisms,
- Proposing systemic reforms to address identified challenges and improve absorption of climate finance.

Literature review

Before delving into the efficacy of climate finance (CF) in Nepal, available data, opportunities and challenges in CF as cited in the literature must be understood.

A concrete definition of CF is yet to be agreed upon internationally, but subsequent to the 2010 Cancun Agreements, much emphasis has been given to CF being “new and additional” and “adequate and predictable”. Development Initiatives (2016) poses it as incorporating local, national and international resources flowing through a multitude of intermediaries, instruments and implementing agencies whereas Climate Funds Update (2022a) mentions it as having differing structures of governance, modalities and objectives. Development Initiatives (2016) also considers CF to include non-financial instruments such as in-kind support, technical assistance and non-transferred resources. It therefore has an ever-evolving architecture that requires more understanding.

CF is critical for vulnerable countries as immense resources are required for adaptation action. The cost of adaptation for developing countries worldwide between 2010 and 2050 is estimated to be between US\$70 billion - US\$100 billion annually (Kalirajan, Singh, Thangavelu, Venkatachalam & Perera, 2011). Development Initiatives (2016) show that while the amount of funds marked as relevant to adaptation have significantly increased over the past decade, it may still be inadequate as between US\$28 billion to US\$67 billion more is required annually in addition to existing resources. They further provide the typology of adaptation support globally as primarily consisting of concessional loans (44%) and grants (44%) with the rest coming from non-concessional loans and other instruments.

CF faces various challenges globally. Monitoring exact flows is difficult due to a lack of a concrete definition and consistent accounting rules per Climate Funds Update (2022a), along with inadequate monitoring mechanisms at project levels (Atmadja, Liswant, Tamara, Lestar, & Djoudi, 2020). Kalirajan et al. (2011) states that funds have historically been wasted through inefficient project managements or corruption, with fungible resources being misappropriated for unapproved activities. They further claim that the presence of multiple providers can weaken coordination and harmonization of projects within a country. However, this is not to say that opportunities do not exist, as various interconnected activities can be linked and synergized to improve budgetary (Atmadja et al., 2020). Furthermore,

they claim that climate actions can be made more efficient and sustainable by integrating CF in national budgets as a cross-cutting policy issue and leveraging different funds and social capital at the local level.

Methodology

After defining the scope of study, the research to be conducted, the following methodology was adopted to address the context of CF in Nepal. First, within the “Effectiveness of adaptation finance in Nepal” query, the institutional framework and policies in place concerning climate action and financing in Nepal were analyzed. This was done through accessing governmental publications on climate change and relevant issues. The historical flow of CF into Nepal and its effectiveness was then analyzed through two primary mechanisms: a) sifting through publications and reports of Civil Society Organizations (CSOs); b) compiling and analyzing the available data concerning climate assistance to Nepal as found on the Organization for Economic Cooperation and Development- Development Assistance Committee (OECD-DAC) database. This helped to establish the historical trends in effectiveness of CF flows to Nepal, along with the overview of CF as understood through the institutional and policy frameworks. Second, for the “Specific challenges identified” section, both government publications and CSOs reports were referred to in order to identify gaps seen within climate action and finance mechanisms in Nepal. The diversity of sources utilized, along with holding an expert stakeholder consultation on the topic, helped to corroborate findings and provide coherence to arguments. Finally, in order to provide suggestions to be adopted within the “Proposed reforms” section, international principles on CF management, past CSO recommendations and findings of various ministries of the GoN were referred to, in addition to the potential opportunities for reforms identified after analyzing existing gaps. In this manner, mechanisms for institutional reforms that would help improve CF absorption in the country were identified and proposed, before coming to an actionable conclusion. A visual representation of the adopted methodology can be found in Figure 1 below.

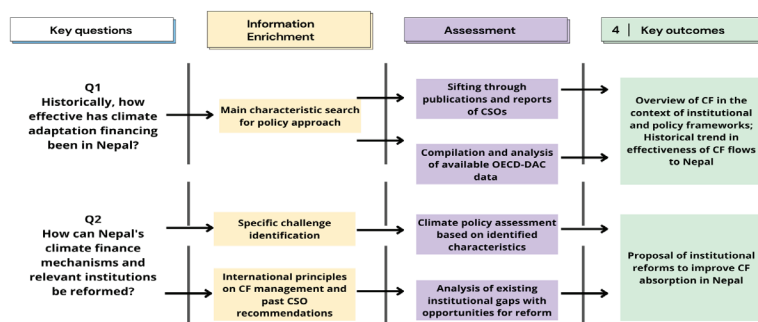


Figure 1: Visual representation of research methodology

Effectiveness of adaptation finance in Nepal

Institutional framework

Climate change action in Nepal is implemented by sectoral ministries and departments at the national and local level. However, a few focal government bodies - the Ministry of Forests and Environment (MoFE), the Ministry of Finance (MoF), the National Planning Commission (NPC) and the Ministry of Federal Affairs and General Administration (MoFAGA) - are identified for their roles in climate action and finance.

The MoFE is the primary agency responsible for the coordination of the country's climate change planning. It has a dedicated Climate Change Management Division which promotes national climate action with coordination amongst government agencies, the private sector and CSOs. Further arrangements for climate coordination within the MoFE are seen in Figure 2 below.

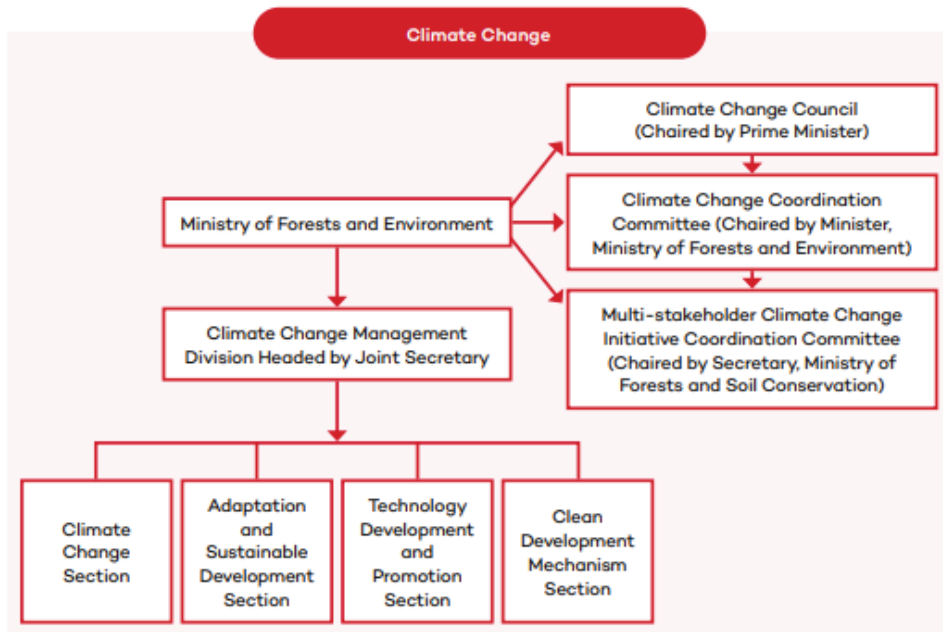


Figure 2: Institutional arrangement for climate coordination

Source: MoFE

The MoF contains the International Economic Cooperation Coordination Division which directly deals with international providers as the national focal point. It has oversight over the three modalities of development finance (budgetary support, earmarked support and earmarked budget) reflected in the national budget (Institute for Social and Environmental Transition Nepal, 2018). Within this division, the CF Unit has been established to better absorb and manage CF in Nepal.

The NPC is responsible for the formulation, coordination and assessment of national development plans in Nepal. As such, it is critical in ensuring coordinated adaptation actions by encouraging the integration of climate change actions within sectorial plans in its fiscal year planning. Similarly, the MoFAGA is responsible for the coordination, facilitation and monitoring of activities at subnational levels, which can play a critical role in localizing climate action, though such a spotlight has not traditionally been placed on this ministry.

Policy framework

Nepal's policy framework on climate change and financing includes the National Adaptation Program of Action (NAPA), 2010, the Local Adaptation Plan of Action (LAPA), 2011, the Climate Change Budget Code as introduced in 2013, the Climate Change Financing Framework (CCFF), 2017, the National Climate Change Policy (NCCP), 2019 and the National Adaptation Plan (NAP) for 2021-2050.

The NAPA framework was formulated to outline the climate impact and adaptation actions to be taken in the country. It adopts a top-down approach and does not provide for clear participatory mechanisms for local representatives in decision making and policy processes (Institute for Social and Environmental Transition Nepal, 2018).

LAPAs supplement the NAPA and lay out the framework for localizing climate action. It suggests a flexible and responsive bottom-up approach towards enhancing local level resilience to climate change. LAPAs are mostly externally funded, projectized, and face capacity limitations while local governments lack ownership over the process (Prakriti Resource Centre, 2018). Additionally they lack mechanisms for explicitly seeking out and incorporating available scientific knowledge in planning processes of development projects (Institute for Social and Environmental Transition Nepal, 2018).

The Climate Change Budget Code was formulated in 2012 and implemented in the 2013/14 fiscal year to facilitate better oversight over climate inflows and expenditure in Nepal. 11 defining criteria are used to classify the climate-relevance of projects as “neutral”, “relevant” or “highly relevant”. It is yet to be adopted at the subnational levels.

The CCFF is the national framework for integrating CF into planning and budgeting processes. It guides the GoN on aspects such as resource mobilization for the achievement of Nepal's strategic and climate goals and suggests mechanisms for monitoring expenditures. It proposes mainstreaming CF into existing processes and calls for more effective coordination between top-down policy measures and bottom-up planning and budget formulation. It emphasizes the need for capacity building within sectorial ministries and the MoF to ameliorate the CF architecture in Nepal. However, the framework only serves as a guidance document and has

not been implemented fully (Chhetri, 2021), nor is supported by any implementing legislation.

The NCCP serves as the GoN's current overarching policy on climate action. It seeks to ensure transparency, accountability and active public participation in climate efforts, especially adaptation programs. Under the policy, adaptation measures are to be adopted in line with the local context (including knowledge, skills and technologies) of vulnerable areas. It explicitly defines the role of the different tiers of the GoN in prioritizing adaptation actions and promises an allocation of minimum 80% of total CF for programme implementation at the community level. It also proposes the modification and institutionalization of the budget code at all levels to ensure better financial tracking. Finally, it also states that an inter-ministerial coordination committee under the leadership of the MoFE is to be formed for climate change-related matters. However, such a committee is yet to be established.

Finally, the NAP sets out Nepal's short-term (2025) medium term (2030) and long-term priorities designed to help achieve the adaptation actions set forth by the GoN in its 2020 Nationally Determined Contributions (NDC). Adaptation actions within the NAP are to be integrated with development efforts and will require US\$47.4 billion for their implementation up to 2050 - of which the government aims to contribute US\$1.5 billion. Of this, the GoN will require US\$2.1 billion annually until 2030 (MoFE, 2021). The NAP is yet to be implemented but government representatives are confident in receiving the required support from international providers (Chhetri, 2021). Reviews of the NAP are to occur on a five year basis and the policy is to be updated every 10 years.

The interaction of various levels of government and the various policies can be visualized as seen in Figure 3 below.

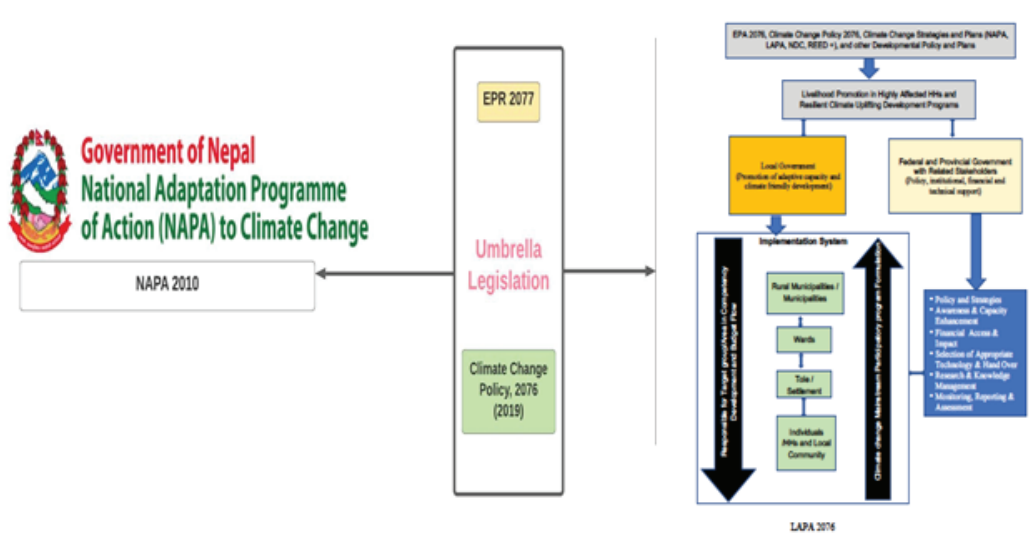


Figure 3: Governance framework for adaptation action across government tiers
 Source: MoSTE. (2010). National Adaptation Programme of Action [NAPA] to Climate Change. Kathmandu

Historical CF

Over the past decade, Nepal has been mobilizing both domestic and international financial resources for its climate needs.

Expenditures on all climate actions constitute approximately 2% of the national GDP and 6% of total GoN expenditures (Patra & Terton, 2017). Climate-relevant finances within the national budget have increased significantly over the decade, from NPR 517,240,000 (10.34%) in 2013/14 to NPR 1,315,161,700 (37.03%) by 2018/19 (Prakriti Resource Centre, 2018). Finance marked as “highly relevant” however has not seen increases as 2018/19 figures amounted to 4.4% of the national budget compared to 5.36% in 2013/14 (Prakriti Resource Centre, 2018).

Based on the information compiled within the OECD-DAC database, Nepal has received CF commitments of US\$3,255,942,722 over the span of 2010-2022 from 37 providers across 1176 projects. Of this, on average 82% is annually marked as relevant for adaptation, with this percentage increasing over the decade, from 74% in 2010 to 98% in 2020. Adaptation finance has largely been provided through debt instruments (US\$1.8 billion or 62.3%) and grants (US\$1 billion or 37.5%). There seems to be an increasing trend of financing through debt instruments towards the end of the decade as the share of debt instruments increased from 35% in 2010 to 82% in 2020.

CF Effectiveness

Resources flowing into Nepal are not adequately allocated, with significant amounts not effectively reaching vulnerable communities and ecosystems. Per a study tracking adaptation finance in Nepal over a sample of 10 large and five complementary projects, 59% of reported adaptation finance could be considered over-reported (Rai et al., 2020). The study assessed the climate vulnerability context, the stated purpose and the linkage of activities to climate vulnerability amongst the sampled projects. It found that observation assessments of projects resulted in equal or lower scores compared to scores derived from project documentation. Only three out of the 10 large projects presented a high overall score rating while four out of five of the complementary projects scored high, indicating that larger budget projects tend to have proportionately lower contribution to adaptation in Nepal. Further discrepancies were noted in project execution as only two out of the seven highly adaptation-relevant projects within the sample had equal scores in the project documentation and in the field observation. The remaining five had lower field observation scores indicating discrepancies in activities as planned versus executed.

Specific challenges identified

Various challenges within the climate governance and financing mechanism in Nepal have been identified under the following themes.

Governance issues

While the NCCP requires integration of climate concerns into the policies of sectoral agencies, most have failed to mainstream climate change into their development process (Asian Disaster Preparedness Center, 2021). Symptomatic of this, adaptation actions are more project-based and lack governmental ownership, especially at the sub-national level. Many LAPAs have been prepared by non-governmental actors and are neglected by local governments in budgeting and implementation (Chhetri, 2021). Per the NPC, 460 LAPAs are still in the formulation phase, with a lack of local government initiatives (Chhetri, 2021). The implementation of adaptation projects thus largely remains top-down, with minimal participation of ground level entities (Institute for Social and Environmental Transition Nepal, 2018).

Lack of capacity

CF effectiveness is severely hindered by low internal capacity. Traditional structures in place for CF are seen to be rather fragmented, sectoral and isolated with limited resources (Regmi & Bhandari, 2013). Lacking capacity and experience in handling international funds, institutions are unable to adequately meet fiduciary standards and safeguards (Chhetri, 2016). The capacity for absorbing international funds is limited within the MoF and sectoral ministries, hindering systematic addressal of climate change (MoF, 2017). Local governments further lack the capacity to conduct specific activities to achieve NCCP targets in various sectors. This is largely due to inadequate financial resources and lack of governments' familiarity with the NCCP and NDC (Prakriti Resource Centre, 2018). Furthermore, local governments lack adequate human resources with the technical knowledge and skills required for localisation of climate action (Prakriti Resource Centre, 2018).

Lack of coordination

Climate action and financing requires institutional coordination to achieve effective results. There is a disconnect between priorities within the 3 tiers of government and sectoral ministries (Asian Disaster Preparedness Center, 2021). While climate change coordination committees exist, updated information on their mandate and achievements is lacking, leading to in transparent and unaccountable functioning. Such committees have also been established at the provincial level, but function in an ad hoc and informal manner (Prakriti Resource Centre, 2018). Sectoral ministries execute the majority of climate budgeting without proper coordination on collecting, monitoring and analysing outcomes and financial data of projects

(MoF, 2017). This may be due to lack of clarity on roles and responsibilities of different ministries within climate actions and financing. Despite linkages between the activities of different ministries, coordination to achieve policy alignment is lacking (Institute for Social and Environmental Transition Nepal, 2018). An example being the lack of coordination between the MoFE, Ministry of Home Affairs (MoHA) and the NPC despite potential for synergies between their respective mandates of addressing climate change, disaster risk reduction and SDGs (MoFE, 2020).

Inadequate CF management

Climate budgeting in Nepal faces various systemic problems. Access to international CF is rather unplanned and lacks alignment with national policies and priorities. Sources of finance are scattered and inadequately accounted, making it difficult to holistically access CF in Nepal (Chhetri, 2021). Additionally, climate budget ceilings are not benchmarked across the three tiers of government, hindering adequate tracking of the funds being channeled sub nationally. Despite the NCCP promising 80% of the climate budget for community level action, less than half of total funds reach the local level, due to inadequate mechanisms to transfer the funds (Institute for Social and Environmental Transition Nepal, 2018).

Many budget allocations made under climate expenditure are not climate-related (Asian Disaster Preparedness Center, 2021), indicating problems with the climate budget code. The criteria for defining climate activities have not been refined to reflect sector specific needs and are subjectively interpreted by sectoral planners, leading to climate budgets being overestimated (MoF, 2017). The budget code only reflects the allocation of resources, not the status of expenditure and does not distinguish between adaptation and mitigation activities. Coding occurs solely at the project head level rather than the activity level and expenditure tracking has not been established. As a result, specific information about climate expenditures are not included within the national budget monitoring system (Institute for Social and Environmental Transition Nepal, 2018).

Lack of legislation and implementation strategies

Climate policies and frameworks in Nepal largely take the form of guidance documents without imposing any legal obligations on the GoN to conduct climate action as specified. Implementation strategies are lacking for existing policies, with a stark example of LAPAs wherein their implementation has not yet been mandated to the local governments (Prakriti Resource Centre, 2018). No implementing legislation has been noted for the NAP, NCCP and CCFF either. Furthermore, the Environment Protection Act, 2076 (2019) mentions climate change, it is far from a comprehensive law mandating government action. Under article 24(1) of the Act, the different tiers of government may make and implement adaptation plans at

their respective levels. However, as can be noted from the language of the text, this does not impose any hard obligations and ownership for any level of government to undertake adaptation actions, leaving it up to governmental discretion. As such, there is a lack of comprehensive legislation on climate action and financing in Nepal that explicitly defines the roles and responsibilities of different governmental bodies.

Proposed reforms

Given these gaps and challenges, systemic reforms for climate governance and financing are suggested per the following themes.

Transparency and accountability

Transparency and accountability must be guiding principles in CF management to ensure good governance (Climate Funds Update, 2022b). This requires the establishment of a platform containing publicly available, verified and timely data and information on climate action and finance. It should integrate all relevant information from governmental bodies, institutional frameworks and laws to data on finance and results of proposed and implemented projects. The platform should also incorporate linkages to disaster risk management and SDGs to promote efficient policies. This could help policy makers across all levels of government to inform their decision making with an understanding of the overall CF architecture, implementation status and past experiences, while enabling the public and CSOs to hold the government accountable to climate policies. Effective communication of such a platform through publicity campaigns and training for concerned stakeholders will be imperative for ensuring transparency.

Localization and government ownership

Given that climate action is ultimately taken at the local level, the NDC, NCCP and CCFF should be localized, with subnational governments taking ownership over climate action. Following the principles of subsidiarity as expressed in the Rio Declaration of 1992, subnational governments should be empowered to develop coherent climate adaptation policies. Detailed implementation plans outlining policy targets should be adopted for localization upon identifying the strengths and gaps of local governments (Prakriti Resource Centre, 2018). Effective localization with two-way communication amongst governments at all levels will ensure improved resource allocation for the specific needs of each community.

Capacity Building

Capacity building is critical to CF as policies are ineffective when implementing institutions lack capacity. The aforementioned transparency platform can be used to educate governmental bodies on policies, national development priorities and mechanisms for coordinated climate action. Effective communication of climate

policies would sensitize sector ministries and sub-national governments and enable a better understanding of their roles and responsibilities (Prakriti Resource Centre, 2018). This should be supported by systemic capacity building of policymakers involved in climate action, disaster risk management and SDG achievement to promote policy alignment (MoFE, 2020). Furthermore, technically skilled human resources and adequate funding should be provided to local governments to enhance their fund absorption capacity.

Coordination

Given potential synergies across different thematic and sectoral policy processes, coordination should be improved between all institutions. Implementation strategies encompassing common objectives and financing for joint implementation of climate action, disaster risk management and SDG achievement should be established and systemic dialogue should be maintained between the MoFE, MoHA and NPC. Sectoral climate budget planning, monitoring and reporting should be coordinated with the support of the CF Unit. Ministries must collaborate amongst each other to establish thematic development agendas ensuring the implementation of existing climate policies. National and subnational level climate change targets should also be coordinated. The MoFAGA can be provided the mandate to oversee subnational climate action and financing for streamlining this coordination. Finally, information on the mandate and achievement of existing coordination mechanisms should be updated and made publicly available to provide greater opportunities for coordination and accountability.

Climate budgeting

CF should be streamlined into national development priorities rather than remaining projectized. Information flows between national and subnational levels should be strengthened to allow informed fiscal planning. All internal and external finances should be channeled through the public financing system to ensure CF is consolidated under a singular policy direction that can be held accountable to the Parliament (National Planning Commission, 2011). The government should thus develop a concrete definition of CF for Nepal and reflect it in the climate budget code, along with sector specific criteria for climate-relevance of projects. The code should also distinguish between mitigation and adaptation financing. The code and CCFF should be implemented at subnational levels, with inbuilt mechanisms for tracking climate expenditures.

Monitoring

Monitoring is critical in CF and will help address the gaps between needs and available funds. A national Measurement Reporting and Verification system to monitor climate action should be implemented per Paris Agreement requirements (Pillay, 2020). It could also incorporate disaster risk management and SDG

achievement efforts to develop better policy alignments between the three (Ministry of Forests and Environment, 2020). A frequent reporting on financial allocations and effectiveness of climate expenditure across ministries and subnational governments will improve transparency and inform policy decisions. Key performance indicators can be developed and reported through the public finance management system to allow for better review and analysis of trends. The Office of the Auditor General should be mobilized to conduct audits of climate expenditure. Additionally, the Parliament's Development Committee and the Committee on Natural Resources, Economic Rights and Revenue Sharing could be engaged to enhance CF monitoring in Nepal (Asian Disaster Preparedness Center, 2021).

Comprehensive legislation

Nepal needs to begin legislative processes to adopt a comprehensive legal framework on climate action and financing. The framework should clearly establish the role of subnational governments and sectoral ministries in implementing climate policies and establish a legally binding mandate for adopting the climate budget code and mainstreaming climate action. The Local Government Operation Act, 2074 can be amended for local level integration of adaptation and the Business Allocation Rules, 2074 should be updated to mandate the establishment of a climate change unit within each ministry. Finally the architecture for mobilizing CF as mentioned above should be codified for a binding effect on public institutions.

Conclusion

While Nepal has been receiving substantial CF for climate adaptation, not all of it has translated to results on the ground. While institutional and policy frameworks governing the CF architecture cover a wide variety of issues, challenges as mentioned above hinder effective absorption of funds. This has resulted in far less than the 80% fund transfer to local levels that climate policies in Nepal promise. In light of these gaps in Nepal's climate efforts, systemic reforms are necessary for better fund absorption. Large strides must be taken in enhancing transparency and accountability of climate governance mechanisms, increasing localization and government ownership of climate actions, building institutional capacity, ensuring coordination and implementing a robust CF management system. To this end, comprehensive legislation adoption is critical to translate past learning and existing guidance documents into reality. Such measures will also improve the credibility of Nepal, providing opportunities for significant increases in future CF influx to the country. Current institutional and policy mechanisms must be revisited in light of these proposals to mark Nepal as a climate action role model for other Least Developed Countries.

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Nepal's Geo-Strategic Significance, Challenges And Opportunities

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Abstract

Geo-strategic significance is an important factor for the development and prosperity of the country. Nepal's geo-strategic location, crammed between India and China, has its challenges and opportunities. Due to its unique location, Nepal is getting heightened attention from great powers. The factor of having a strategic location doesn't quite guarantee the nation's sovereignty, prosperity and growth rather it needs conscious and constructive efforts. Being a buffer state, security situation in Nepal is always a major concern for both neighbors. Traditionally India had an important role in Nepal's economic cooperation, trade, transit and investment. After Nepal's transition to a republic state China's support has seemingly increased in Nepal with its investment in development projects, increased bilateral visits, bilateral mechanism and cultural cooperation. China's increased role in Nepal can be understood as competing other global power's geo-strategic interests. Question arises, whether Nepal has geo-strategic significance because of its location, which could be capitalized for growth of the nation and at the same time carefully; formulate its foreign policy while balancing its diplomacy to avoid precipitation of a spiral of counterbalancing intrusion? Nepal should carefully analyze these global powers and its emerging foreign policies and should devise its diplomatic exercise prioritizing Nepal's national interests and keeping perfect balance among them.

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Introduction

Geo-politics is the study of the effects of the earth's geography (human and physical) on politics and international relations. It is struggle over the control of geographical entities with an international and global dimension, and the use of such geographical entities for political advantage (Flint, 2016, p.16). Geopolitics looks at a particular use of power: how countries and other groups compete to control these entities within the international community. Controlling these entities is seen to help countries and groups reach their goal. Geopolitics is always looked at with an international and global dimension, meaning that the issues being looked at are connected to the global scale (Flint, 2016, p 36). Geo-strategy, a subfield of geopolitics is a type of foreign policy guided principally by geographical factors as they inform, constrain, or affect political and military policies and decisions (Ahmed, Rubab & Akram, 2015). Geo-strategy implies the importance of a country or a region by virtue of its geographical location. Geo-strategy considers the factor in the tactical military sense, political sense and culturally defined territorial sense in terms of the spatial distribution of resources, peoples and geophysical systems (Pokherel, 2021). Geographical location and the features of a country or region provide some opportunities to tap on and by the same token, it may also generate some challenges, which need to be dealt with caution. To stabilize, endure and prosper, the nation-state should understand the geography and its strategic importance and utilize it to the best of its national strategic interest; similarly, it must shield its vulnerability, if there are any. Geo-strategy and foreign policy are consistent with the geography of the nation. "Nature imposes; man disposes of," (East, 1967). Undoubtedly, man's actions are limited by the physical parameters imposed by geography. No one can argue with geography rather it is the most prominent factor for national development (Handerson, Shalizi & Venables, 2001). "Geography is the most fundamental factor in the foreign policy of states because it is the most permanent. Ministers come and go, even dictators die but mountain ranges stand unperturbed." (Spykman, 1942, p. 41). Geography constitutes the various facts about international affairs that are so basic we take them for granted. Geography constitutes a set of opportunities and constraints, meaning a structure independent of agency and general patterns and long-term process can be aptly explained by geographical conditions.

Nepal is located between two of Asia's competing powers, China and India, hugely surpassing in size, population, economy, and military strength. Metaphorically, it is described by King Prithivi Narayan Shah as a 'yam' between two boulders. He had good reason to feel vulnerable. Nepal is one of the few countries around the globe that has maintained its independence throughout history and has never taken its independence for granted. After the war with the colonial British in 1816, Nepal underwent self-imposed isolation until 1950, a feat possible by its Himalayan

geography (Griffiths, 2018). Geopolitical realities necessitate maintaining a fine balance in Nepal's relationship with its immediate neighbors (Thapa, 2022). Considering its geo-strategic position, immediate neighbors and traditional global powers have heightened their attention in Nepal. It may provide the opportunity for assistance for development and with the same token it brings the challenges. "For a country like Nepal that is highly dependent economically on its immediate and distant neighbors, foreign policy doctrines should be adopted considering its own merits and demerits" (Bhatta & Menge, 2022, p13). Hence, Nepal's development, optimum utilization of natural and human resources, national security and foreign policy should be based on the geo-strategic context.

Geo-strategic location

Nepal's geographical location in the Himalayan range has to be analyzed in the context of its geological and geomorphologic features. The shape of its Nepal is almost rectangular with an average length and width of 885 kilometers and 193 kilometers respectively. It is located approximately north-west to the south-east orientation between 80°04' and 88° 12' east longitude and 26°22' and 30°27' north latitude. If Nepal is compared with its neighboring countries like India and China, it found to be 23 times smaller than India and 68 times smaller than China. According to Department of Survey of Nepal, Nepal shares a 1414 km border with China consisting of rugged topography, mostly above 5000-meter high mountains and Indo-Nepal shares 1880km boundary (Bhattarai, 2005 p.7). Nepal's location is cascading slope-like shape decreasing towards India and ascending towards the Tibetan autonomous region of China. Nepal is a landlocked nation, practically from three sides of India and the nearest sea access is towards the south which is about 670 km from the Haldia for small ships and Vishakhapatnam 1432 km for large ships. On the northern side, Nepal shares its border with China, where due to its unforgiving terrain it is less assessable and nearest seaport located in Tianjin, which is 3276 km from Nepal's border.

Geo-strategic significance

Nepal's geo-political situation is challenging; however, it may also provide opportunities to navigate and prosper the nation. The rise of India and China as regional and global super power, conventionally non-aligned Nepal should cautiously steer the raging geopolitical water to evade becoming a geo-strategic part of regional / global powers and superpowers. China and India are considered to be an emerging regional / global superpower with second and fifth largest economy, high economic growth, nuclear and military power. Nepal's geostrategic significance has enticed these regional/global powers as they have been consistently competing to extend their influence in diplomatic, political, economic, cultural, security and strategic ranges. Repeated skirmish between regional/global powers has further amplified Nepal's geo-strategic significance. The political, economic

and strategic interests of these powerful nations directly or indirectly influence the foreign policies of Nepal. These powerful nations strive to magnify their power with their main goal to achieve their national interest (Pokherel, 2021).

Security issues

National security is a quite important and sensitive issue that is directly interrelated to protecting national unity, territorial integrity, and political independence of the nation, the sovereignty of nation-states and the safety of its people (Buzan 1991; in Wagle, 2021). The geo-strategic dimensions and the relationship with India and China are crucial factors in the National security of Nepal (Bhattarai, 2005, p.27). The principal interest of both India and China in Nepal should be seen as security issues.

Security concern of India

Nepal and India enjoy excellent bilateral ties. Founded on the age-old connection of history, culture, tradition and religion, these relations are close, comprehensive, and multidimensional and are pronounced more in political, social, cultural, religious and economic engagements with each other. To add up the formal flavor to such historic relations, the two countries established diplomatic relations on 17 June 1947. Formal relation between Nepal and British India was determined after Anglo Nepal in 1816 in the form of the Sugauli Treaty. However, diplomatic relations began in August 1947 (Muni, 2016; in Baral, 2021). Nepal and India share more than 1880 km open border, due to which is bound to have several security challenges between the two historical neighbors. Nepal as its northern neighbor remained one of the critical concerns in regard to security for India (Baral, 2021). India's solicitude in regards to security was with their goal towards ensuring that there should not be any anti-Indian security challenge, which may harm the security interest of India.

India's major security concern from Nepal is its open border to south, east and western parts of the country which shares borders with India. Indo-Nepalese borders are not separated by any natural barriers; additionally there is a free movement of people, which could be used by terrorist or criminal groups to access India.

India is also security conscious about the expanding networks of terrorist outfits especially those supported by extremist groups. This fretfulness, about the use of Nepali land against India, became more acute after the hijacking of an Indian Airline from Kathmandu. The flow of counterfeit Indian currency is the next vital security concern for India in the context of security in relation to Nepal (EFSAS, 2018).

Security concern of China

History witnessed Nepal and Tibet, the autonomous region of China; relation can be traced back to the 7th century with the marriage of the Tibetan King to the princess of Nepal. Nepal-Tibet relation is clinched by its geographical proximity, and economic, social, and cultural dimensions. Prior to the establishment of diplomatic relations with China in 1955 August 1, China was a distant entity which had limited interactions with Nepal.

Nepal's geostrategic location has made rising China more serious in its security. China's security concern is mainly radicalism and separatist movement. It is extra sensitive about anti-China activities, especially from Tibetan exiles. The Tibet issue, such as the 'Free Tibet' movement is one of the main security threats perceptions of China in Nepal's affairs. Approximately 20,000 Tibetan refugees are inhabiting in different districts throughout Nepal and China suspects that they can conduct anti-China activities under spiritual and humanitarian pretexts (Baral, 2019). China's main security concern with Nepal is that there should not be any anti-China activity, especially in the form of the 'Free Tibet' movement. Time and again, every elected Nepalese representative in the government including all parties and security institutions has confirmed their commitments to verboten any anti-national activities against their neighboring countries in the land. China has been continuously expressing their concern on this matter and Nepal feels the need to frequently reiterate its adherence in order to demonstrate the elusiveness of stability on this issue (Acharya, 2019).

China's investment in strategically important infrastructure projects like airports and highways, roads and hydropower is equally important for security as well as establishing a positive brand identity in order to make deep outreach connections including people-to-people contact and build soft power within the nation (Baral, 2021).

Geo-political contest

Nepal is situated at a hot spot of power games; Nepal foreign relations have always examined under the prism of geopolitics. This sensitivity further shapes Nepal's geo-political environment and affects its domestic politics, which entangles Nepal in to more geopolitical game (Liang, 2022). With underdeveloped economy and major fragment of its national budget is dependent on foreign aid, the prospects for development is closely linked to its relation with other countries. This has led to Nepal having little to no interest in choosing sides in growing competition among powerful nations. However, with the growing competition, Nepal would most likely benefit from establishing and maintaining multiple engagements throughout the power nations but the pressure to choose an allegiance with one side might increase in the coming future which could lead to Nepal falling in to a crisis of

maintain and balancing relations. The inability to balance relations among the powerful nations may possibly backfire politically as well as economically (Bhatta & Menge, 2022).

Relation between India and China could be classified as complex where Nepal can be seen in the middle between two very ambitious nations. Both neighbors are competing over positive influence in their neighborhood. Though, it is not a new state of affairs; the dynamic has been fast-paced in recent years. Nepal's cultural, political and economic relationship has been connected with India for decades in comparison with China. China has intensified its engagement with Nepal as well as built better relationship with other parts of South Asia. The Gangetic plains geographical linkage to Central Himalayas has built India a leverage to influence as well as interact with Nepal based on multifarious dimension of trade, culture, education, health facilities and religious connectivity. Nepal and India shares unique security concerns due to open border and free movement of people and services. Due to its cultural, religious and geographical terrain, Nepal has been maintaining a symbiotic relationship with India.

In the race for the world power, India and China are competing to make their presence felt by considering Nepal as an area of geo-strategic importance in line with their neighborhood policy. The balance of power has gradually changed throughout recent years. China has raised its political and security cooperation with Nepal from the comprehensive level to a more strategic level. Chinese Communist Party and Nepal Communist Party (later, the then ruling party in Government, was cleaved with three different names) has signed MOU for the enhancement of high-level contacts. The MOU consists of the idea of sharing and training communist ideology and development models on a party-to-party basis, which was established in September 2019. Apart from the Belt and Road Initiatives (BRI) mega project, Beijing's infrastructure development and foreign direct investment (FDI) are also seen as a step toward strengthening Nepal China relation. With the main purpose of increasing road connectivity, China has taken the initiative to fund the reconstruction of China –Nepal Highway (806 km) that will be connecting Lhasa with Nepal border (Zhang, 2019). Under the Economic and Technical Cooperation Program, China has extended grants and loans in order to assist Nepal in further development projects. In comparison to the Indian component, Chinese projects have met the credibility of early completion in Nepal. China has also been working towards increasing the usage of 'soft power' to create and maintain conducive scenario. The engagement with Nepal's political parties has been considerably increasing during recent years; while the exchange on a broader level i.e. people-to-people level is still relatively limited (Bhatta & Menge, 2022 p10). Competitive power politics within Nepal characterized by intense power tussles between parties with democratic and communist ideologies

have led to competing influences (Mishra, 2020, pp. 20-41).

China's spectacular rise during the last decade has also heightened interest in the periphery by other major global powers. Currently, both the Asia-Pacific and the Himalayan subcontinent are going through a transition period of disintegration of the geopolitical status quo of the past and the creation of a balance of power based on a new configuration of power. In order to maintain the status quo or to prevent the spread of political influence initiated by China during the ongoing transition phase, the immediate neighbors of China became valuable. Hence, this is the reason why Nepal, which is in a sensitive geopolitical position, leading the state, has felt the movement of increasing geopolitical competition (Gokhale, 2021). The competition in the region should be understood as a confluence of both India's attempt to maintain its monopoly power in the Himalayan region and the USA's alliance strategy (Poudyal, 2022). Nepal is the first South Asian country to have been qualified for the Millennium Challenge Cooperation (MCC), an independent foreign aid agency that provides grants to countries based on a range of criteria connected to political liberties, good economic policies, and potential for economic growth. Through MCC, this is the first time the USA offered Nepal a 500 million USD grant – the largest single grant Nepal has ever received – for infrastructural development. There was a huge debate and political turmoil in Nepal's political and public stance on whether to accept this grant or not .

Lost development opportunities

Geo-strategic issues reckonings of a nation-state encompass national priorities in terms of strategic, political, military and economic issues. Though Nepal is surrounded by the largest and fastest growing economy of the two nations, it is one of the poorest countries in the world. Due to its geo-strategic settings India, China, USA and other western powers are continuously providing grants, loans and technical assistance since 1951. The real impact of foreign aid on the economic growth of Nepal is negligible and statistically insignificant considering the large sums of aid inflow (Pradhan & Phuyal, 2020). Generally, due to the inability to negotiate favorable terms, the geo-strategic and geo-political interest of the neighboring countries overrides Nepal's national interest. However, these donor countries add a burden in balancing diplomatic relations with their two neighbors and with this added burden the balancing act has seemingly been very costly for Nepal's potential for growth and prosperity. In reality, Nepal has not been able to balance its neighborhood relations and the usage of tacit 'clientism' in dealing with global powers has also persistently hindered Nepal in achieving economic ambitions (Wagle, 2022).

Today ruling parties, opinion makers, politicians and bureaucrats are divided which has led to each category using their position to propagate the agenda of neighboring countries rather than working towards their own national schema. This

will lead to a chain effect of squabbling within and we will not be able to negotiate properly and fail to safeguard our interest in development issues as well as other national interest and it might tempt other actors in the fray.

Possible opportunities

Nepal, demographically more than 50 percent populating in physically active condition, is strategically located between second and fifth largest economy of the world, has potentiality to prosper if it make conscious and constructive effort in production of goods and services. Simultaneously it needs to perform diplomatic role wisely and coherently to develop possible opportunities while saving the relational balance of supporting neighboring countries. Nepal's national and diplomatic policies need to refrain from emotional sentiments rather it should be guided by mindfulness of national interest. In the next paragraph, we discuss a few prominent opportunities for national growth and prosperity, which we could tap on.

Energy generation and energy trade

Himalayan Rivers have the most critical river basins formed by the Himalayan range. It provides irrigation, drinking water as well as energy in its basin. Technically and economically feasible hydroelectric potential in Nepal is about 42 Gigawatt (GW) (Bhatta 2017). Nepal has much higher potential with solar energy on the north-facing slope in comparison to hydroelectricity. Nepal's electricity can support Indo-Bangla industrialization and economic growth. India and Bangladesh plan to buy 15.6 GW of electricity from Nepal by 2034 (Baniya, 2020). Nepal has the potential and can further provide the required energy to Tibetan Autonomous Region for its development. However, in order to work toward these economic plans, it requires proper financial and project management skill together with diplomatic directives to achieve our national interest.

Tourism advancement

Nepal's geo-strategic position has tremendous potential to be a top destination for tourists. The nation has abundant flora and fauna, picturesque trekking routes, rich cultural diversity and great variation throughout the state in a comparatively short distance. Nepal is located between the two most populous countries, China and India each comprising 1.42 and 1.35 billion respectively and is located in less than a few hours flight from these populaces.

Nepal is also a prominent pilgrim destination for the two most prominent religions i.e. Hinduism and Buddhism, each has almost 1 billion followers around the world. If constructive efforts towards attracting and catering these potential pilgrims, it would generate ample foreign currency reserve. If properly planned, and infrastructure developed in those areas, it could create marvels in Nepalese

economy.

North south corridor linkage

In order to lift Nepal to a vibrant strategic business partner of two neighbors, it must focus on working toward making a multidimensional trans-Himalayan connectivity network of trade, energy, finance and people while implementing it in a cautious manner. However, in order to achieve this goal Nepal should not incline toward China or India. Though India and China are said to be competing with each other, the statistics show that their trade with each other has been consistently growing. The data shows that the bilateral trade volume between India and China in the 2021-2022 fiscal year is about USD 125.66 billion. This data clearly shows that the trade between these nations has increased by around 43.3% in comparison to the previous fiscal year (Krishnan, 2022,).

Nepal's north-to-south border is not more than 300 km. Nepal being a small nation, it has the capability to securely link two gigantic countries with cost-effective routes in order to benefit by being the effective link for these two countries. However, it shouldn't reckon that collecting toll tax will suffice to recoup the infrastructure investment rather diplomatic efforts should be concentrated to involve and invest by both countries in those connectivity infrastructures. However, in order to get benefit from connectivity infrastructure, Nepal needs to put its constructive efforts on production.

Infrastructure development opportunity

Nepal should work towards focusing on creating plans in order to navigate the troubled water without inclining any other nation with the goal of engaging everyone for the benefit of the nation then it has the potential to build infrastructure, which could benefit the people as well as our neighbors. Neither India nor China wants their neighbor unstable and capricious because that would possibly lead to a greater chance of spillover effect. If Nepal can streamline its diplomacy, walk in a tight rope, do proper negotiations and show genuine involvement while maintaining proper balance, there could be prospects leading to benefits for the state's developmental projects by these giants. It could be done without being sentimental and accept any nation's grant or assistance provided it should not impair the security interest of our own and neighboring countries.

Conclusion

Nepal's geo-strategic location has presented greater possibilities for Nepal-China-India cooperation by having trans-Himalayan connectivity and becoming a vibrant bridge between the world's highest growing economies. It has the potential to provide an opportunity to benefit these nations as well as expand the inter-regional trade of goods and services. If this goal is to be materialized, Nepal will have a

high potential for a high level of road connectivity. In order to achieve the highest benefit, Nepal needs to be careful in accepting fund from two neighbors to ensure the proper utilization of funds to achieve specific goals. This requires a high level of diplomacy, political consensus, political stability, good governance and human capital development.

Nepal also needs to harness its soft power in order to get the best benefit of its geo-strategic location. China-India's concerns on Nepal's foreign policy cannot be ignored; it is necessary to strike a balance politically and economically because both countries are crucial for a peaceful Nepal. Maintaining cordial ties with both neighbors is a crucial component of its dedication to the non-aligned movement and geopolitical reality. Nepal's commitment should be focused on and implemented to forbid any actions on its territory that might endanger the security of its neighbors or to allow any such activities that endanger its independence and security. When managing its relations with China and India, Nepal should implement policies that would best protect and advance its national interest as a top priority.

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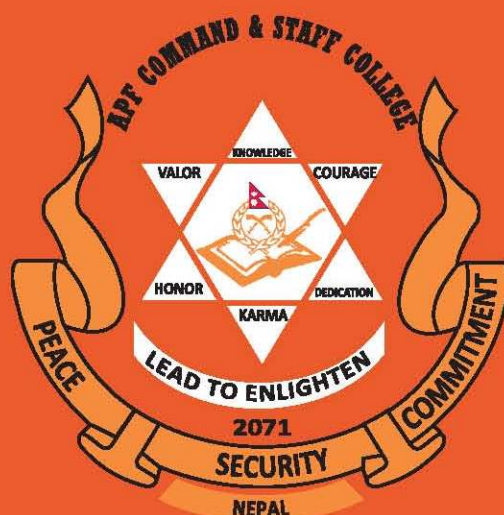
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