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Aim and Scope

Journal of APF Command and Staff College (JAPFCSC) 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 systematic, methodological, general, and 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 be 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 further 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 the copies of the issue in which their article appears. The audiences are suggested to go through www.nepjol.info or college website for reading the papers published in this journal.

It aims to identify the areas of research which are as follows: national and international 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 250 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 authors will not be charged any fee for publishing their articles. The editorial board reserves right to edit, moderate or reject the article submitted.

Editorial

The editorial board is pleased to publish the “Journal of APF Command and Staff College” Volume 7, Issue I, 2024. 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 from the articles included in this journal.

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.

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Ethics in Governance

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Abstract

The evolution of governance from ancient times to the present highlights the critical role of ethics in ensuring effective and fair administration. This study explores the necessity of ethical governance in Nepal, emphasizing the interplay between good governance and ethical leadership. The literature review traces the historical development of governance concepts, from the social contract theories of Hobbes and Rousseau to contemporary definitions that stress transparency, accountability, and participation. Ethical governance is identified as essential for addressing current shortcomings in Nepal's governance structures, despite existing legal frameworks. Ethical leadership, characterized by integrity, accountability, and fairness, is pivotal in fostering trust, transparency, and sustainable decision making. Based on the narrative review, this research underscores that while good governance focuses on systems and outcomes, ethical governance ensures these are achieved through morally sound principles. The study concludes that Nepal's path to sustainable development and genuine prosperity lies in embedding ethical governance deeply within its political and administrative frameworks, driven by committed ethical leadership.

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Introduction

The term “Governance” has been around in some form since ancient times and has evolved with the requirements of the respective periods (Mahanti, 2021). In the beginning, people lived without government and laws, facing challenges. To address this, they agreed on two things: Pactum Unionis for protection and Pactum Subjectionis for harmony. This created a society where everyone respected each other, lived in peace, and gave up some freedom to an authority (Hobbs, 1651 as cited in Elahi, 2013). This is evident that the evolution of the governance is a result of the social contract. Then, absolutism prevailed in governance, resulting in the term "might is always right" being coined out of absolutism in governance. Elahi further states that people contracted among and between the members of society. This led to the emergence of the institution of a ruler who shall be the absolute head, and others have no rights against authority. They are to be obeyed in all situations, no matter how bad or unworthy the ruler might be.

The meaning of the governance has been ascribed by many researchers and philosophers, the Kautalya in his book Arthashastra (321 – 296 BC) has defined the meaning of governance and the role of government as well. He then said the people want less government and more governance (Shamasastriy, n.d.). It shows that the essence of governance is deeply inscribed in different ways in our eastern philosophies. Kautalya in his writing of Arthashastra further described the meaning of governance as a means to achieve the goal of the government. And the goal of the government is protection of life and liberty within the state, law & justice and welfare of the people (Joshi, 2018). The concept of governance is the exercise of authority and control to ensure accountability and promote transparency. Governance means the process of decision making and the process by which decisions are implemented or not implemented. It encompasses fast changing political, social and economic milieu together with the international environment and conditions of operational governance (Mehraj, 2020). Ysa, Albareda and Forberger (2014) have spotlighted the characteristic of governance as it is the shift of power upwards, downwards and sideways. In the recent times, the governance is further defined and the scholars gave new term as good governance which demands participation, rule of law, transparency and openness, responsiveness and responsibility, consensus, equity and inclusiveness, efficiency and effectiveness and accountability while delivering the governance (Newig et al., 2019; Madhu, 2011; Mumba, 2015). The term good governance has been in use since 1980s, researchers, authors and scholars are widely using this

word since then (Prabakaran, 2011). The Good governance assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society (Mumba, 2015). Since the governance is the exercise of political, economic and administrative authority to manage a nations affair, it embraces all the modes good and bad that societies use to distribute power and administer public resources (Frey, 2008 as cited in Mehraj, 2020) having said that it cannot fulfill the requirements of the ideal society by only being good rather it needs to be ethical in nature. Different philosophers have defined the term ethics in their own way. In philosophy, ethics is the branch that deals with moral principles, values, and the concepts of right and wrong. It explores questions about what is morally right or wrong, good or bad, just or unjust, and how individuals should behave in various situations. Neo administrators are diligently following and maintaining good governance practices such as transparency and accountability. However, there is a need for increased efforts to uphold moral and ethical standards and boundaries.

Ethics in governance involves integrating moral principles into the structures of organization management and control (Wieland, 2001), Unlike rule-based approaches, it is value-centered (Ghattani, 2022), emphasizing probity, integrity, compassion, empathy, responsibility, and social justice (Dristi, 2022). Ethical governance ensures that the exercise of power and utilization of resources aligns with universally acceptable standards, promoting fairness and acceptability. Thus, this paper aims to outline the need of ethic in today's governance system in Nepal.

Literature Review

The morality of an action is determined by its overall utility or the greatest happiness for the greatest number. The emphasis is on consequences, and actions are judged based on their ability to maximize pleasure or happiness while minimizing pain or suffering (Mill, 1879). Morality was understood largely as tied to an imperative to “do good” or seek “justice” by “speaking truth to power (Mattingly & Throop, 2018).

Ethics as a discipline is concerned with what is morally good and bad, and right or wrong, while morality deals with standards and rules of good conduct in society, and law, as a cognitive process, regulates social life through the promulgated rules crafted by a legitimate authority (Xhemajli, 2021).

Aristotle (n.d.) virtue ethics emphasizes the development of virtuous character traits and the pursuit of eudaimonia (flourishing or living well) as the ultimate goal

of human life. The virtue ethics theory has mainly focused on the phronesis and role of community. Virtue ethics emphasizes practical wisdom or phronesis, which involves the ability to make sound moral judgments in specific situations. It's not just about knowing the rules but having the practical insight to apply them appropriately. Virtue ethics emphasizes practical wisdom or phronesis, which involves the ability to make sound moral judgments in specific situations. It's not just about knowing the rules but having the practical insight to apply them appropriately.

Kantian ethics is a popular philosopher in explaining the deontological ethics. It describes the relationship between duty and morality. Duty based morality in human conduct is the main prescription of Kantian ethics. It suggests us to do our duty disregards of the consequence. Some scholars have explained the Kantian ethics linking with the central philosophy of *Bhagavat Gita*. Kant developed the particular principle to determine the moral duty, which he called the categorical imperative. It suggests that imperatives of morality are not hypothetical but categorical. Categorical means without any doubt it also represents 'not hypothetical' (Kant, 2011).

Act only according to that maxim whereby you can at the same time will that it should become a universal law (Kant, 2011). In simpler terms, Kant argued that when deciding whether an action is morally right, one should consider whether the principle or rule behind that action could be applied consistently by everyone in similar situations. If an action passes this test and can be consistently universalized without contradiction, it is deemed morally permissible according to Kantian ethics.

Thomas Hobbes, John Locke, and Jean-Jacques Rousseau, explore the idea that individuals agree to abide by certain rules and norms in a social contract for mutual benefit (Shaapera, 2015; Sasan, 2021). These theories often underpin discussions on political legitimacy and the justification of authority. At the same time the Kant says the certain actions are inherently right or wrong, regardless of their consequences. It focuses on duties, rights, and moral rules. According to Kant, individuals have a moral duty to act in accordance with universalizable principles, as outlined in his concept of the categorical imperative. Here the concept of social contract theory and the Kantian ethical theory both define the need of ethics and the need of society should be merged at one point to generate fair, free and transparent governance.

The governance is the process of decision-making and the process by which decisions are implemented, an analysis of governance focuses on the formal and informal actors involved in decision-making and implementing the decisions made

and the formal and informal structures that have been set in place to arrive at and implement the decision (Mumba, 2015).

Governance is the economic and administrative authority to manage a nation's affair. It embraces all the modes good and bad that societies use to distribute power and administer public resources. Governance is the manner in which power is exercised in the management of a country's social and economic resources for development (Mattingly & Throop, 2018). Governance is concerned with how societies, governments and organisations are managed and led. Importantly, this includes how they structure and otherwise order their affairs, make decisions and exercise powers, and manage their relationships and accountabilities.

Levi-Faur (2012) has identified different forms of governance as a structure referring to the formal and informal set of institutions involved; governance as a process referring to the dynamics and leading functions that take place in the process of policy making; governance as a mechanism referring to the institutional procedures of decision-making, as well as compliance and control; and governance as a strategy referring to the manipulation of the institutional and mechanical design with the aim of influencing choices and preferences.

Good governance is a governance mechanism that promotes sovereignty, socialism, secularism, and democracy with an ethical commitment to justice, liberty, equality, and fraternity in the everyday life of citizens (Prabakaran, 2011). It specifically embodies eight major characteristics: participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and adheres to the rule of law. Similarly, the objectives of ethics are truthfulness, accuracy, fairness, impartiality, public accountability, and objectivity (Bharti, 2018), which are essential elements of good governance. Good governance, therefore, transforms into ethical governance.

The study on Nepal's civil service, particularly the 31st Basic Administration Training (BAT), explores the commitment to values initiated by the Nepal Administrative Staff College. Concluding that the government officials prioritize ethics and morality, aiming for positive change despite hesitations and perceived limitations in the socio-political landscape (Adhikari et al., 2020).

Lamichhane (2021) highlights the current governance mechanisms fall short due to the lack of ethical commitment among the individuals operating within it, hindering the effective governance delivery. "The Constitution of Nepal 2015, CIAA Act

1991, The Prevention of Corruption Act 2002, Public Procurement Act 2007 and Rules 2008, Good Governance Act 2008, Right to Information Act 2007 and Rules 2009, Local Government Operation Act 2017 etc. are the primarily statutory measures to ensure good governance in Nepal. But the legal provisions and practice is not sufficient for ensuring good governance in Nepal.” It means the structure is sufficient but the players inside the structure are not ethically binding that is why the system is not being able to deliver the governance.

Khanal et al., (2022) explain the factors affecting the integrity of civil servants in the delivery of public services, citizens perceived civil servants’ integrity in public service was positively affected by civil servants’ compliance with rules, their responsiveness in delivering service, their service on time, their hassle-free service, and their adequate salary.

Integrity is the heart and soul of civil service delivery, is affected by many internal and external factors such as compliance with rules, responsiveness, timely service delivery, hassle-free service, salary, prior network/connection with citizens and asking for a bribe. These factors, directly and indirectly, affect civil servants' integrity in delivering public service. Ensuring the higher level of integrity for civil service is complex, the finding revealed that only the concerned authorities can contribute to adopting innovative governance approaches and appropriate policies to build and maintain civil servants’ integrity in the coming days (Dhakal, 2020).

After reviewing various books and literature, it is found that the literatures have defined the terms "ethics" and "governance" differently. Many of the literatures have highlighted the elements of ethics and also pointed out that the government is lacking these components. However, they could not present a clear map of ethical governance.

Methodology

This article is based on the narrative review. The study has used qualitative research methodology, the research is exploratory and descriptive in nature. The researcher has used the desktop research method. Desktop research is the review of previous research findings to gain a broad understanding and gain more in-depth insight (Travis, 2022; in Moodly & Naidoo, 2022 as cited in Kunwar & Ulak, 2023).

Ethics in Governance

The Plato has said Like man, like State and the governments vary as the characteristics of men vary. States are made out of the human nature which are in them. Therefore,

we need not expect to have better states until we have better men. We cannot build eutopia with young people corrupted at every turn by the examples of their elders (Durant, 2006). And he further said that the totality as an invention of weak to neutralize the strength of the strong (Durant, 2006). However, the concept of ethics has been discussed earlier in the literature of the great philosophers. It says in an indirect way that the government is the sample of the characteristics of the people leaving and that signifies the demand of the society.

The preamble of the Constitution of Nepal has outlined and upholds the essence of ethics and value-based constitutionalism. It has included Justice, liberty and equality that have ethical and moral dimensions (Constitution of Nepal, 2015). It further emphasizes values such as democracy, rule of law, human rights, and social justice. These constitutional commitments lay the foundation for value-based governance in the country. Earlier when there were no any written documents like the constitution as we have it today the ethics in the governance was paved by the law of Gita, Kuran, Tripitik, Bible and other respective holy writings and texts. But later on, with the development of human and materialization of human mind only these holy writings could not work at all (Katz et al., 2020; Hegel, 1991). The specific laws were developed to with the helix of different philosophies.

Good Governance (Management and Operation) Act (2007) represents a significant step towards promoting ethical governance in Nepal. However, addressing implementation challenges, strengthening enforcement mechanisms, and expanding the scope of ethical considerations are crucial for fully realizing its potential. This act covers the core requirements of good governance like transparency and accountability, rule of law, conflict of interest, code of conduct, anti-corruption measures but it is missing the essentials of ethical governance because there are reinforcement issues and implementation challenges resulting in limited accountability for unethical behavior.

The Right to Information Act (2007) of Nepal is a significant legislative framework designed to promote transparency, accountability, and good governance in the country. Promoting transparency and accountability in the functioning of the government, empowering citizens to exercise their right to information, reducing corruption by ensuring that government activities are open to public scrutiny. Commission for the Investigation of Abuse of Authority Act (1991) makes the officials accountable, and works as a deterrence, investigate transparency and public reporting. The act restores

the trust and empowers the citizens. In spite of the such provisions, the corruption indices have portrayed the higher numbers in the corruption index.

Despite Nepal having established a comprehensive legal framework aimed at promoting good governance, challenges persist due to a lack of ethical commitment among officials. For instance, a report from (The Transparency International, 2023) on the Corruption Perceptions Index (CPI) 2023 ranked Nepal 108th out of 180 countries, with a score of 35 out of 100. The Global Corruption Barometer (GCB) 2021 revealed that 69% of Nepalese believe corruption is a significant issue, and 60% think the government is performing poorly in combating it.

Ethical governance, characterized by moral principles like integrity, fairness, and accountability, is essential for addressing these challenges. Both good governance and ethical governance are complementary, aiming for effective and efficient governance that benefits society. They emphasize principles like transparency, accountability, rule of law, and participation (World Bank, 2020; United Nations Development Program, 2020). Both seek to minimize corruption and abuse of power. This paper advocates for integrating ethical considerations into governance structures to achieve societal prosperity and sustainable development.

At the same time good governance has the broader focus on outcomes like effectiveness, efficiency, and delivery of results(World Bank, 2020) whereas the ethical governance has narrower focus on means by upholding moral principles and values in decision-making and actions (O'Donnell, 1998). Similarly, the good governance gives emphasis on the systems and processes to ensure smooth functioning of institutions and policies whereas ethical governance emphasizes on the intentions and conduct of individuals in positions of power, ensuring choices are just, fair, and responsible(Zahari et al., 2024). But in the practice, Nepal is somewhere lacking the essence of the morality and sustainability.

The relationship between good governance and ethical governance can be likened to the soul and body of a human. Good governance serves as the foundation, providing the essential framework and systems for effective administration (Gerring et al., 2012). Meanwhile, ethical governance acts as the soul, infusing this framework with moral principles, ensuring decisions are not only effective but also fair, just, and responsible (O'Donnell, 1998).

While good governance prioritizes efficiency and effectiveness in achieving desired outcomes such as streamlined processes, service delivery, and economic growth, it may

sometimes overlook ethical considerations. For instance, a policy aimed at boosting economic growth might inadvertently harm the environment or exploit vulnerable populations. In addition, ethical governance ensures decisions are based on moral principles and values like fairness, justice, and sustainability. This ethical foundation ensures that good governance outcomes are achieved responsibly and sustainably, considering the long-term well-being of all stakeholders (Glass & Newig, 2019).

Ethical governance prioritizes long-term sustainability, taking into account factors like the environment, social justice, and the needs of future generations in decision-making. This approach avoids short-sighted policies that exploit resources or create inequities, leading to a more sustainable future for all (United Nations Development Program, 2020).

Additionally, good governance may struggle with corruption if it lacks strong ethical underpinnings. Corruption can undermine even the most well-designed systems. Ethical governance addresses corruption directly by promoting high moral standards and integrity in public officials. Examples from metro cities like Kathmandu, Lalitpur, Butwal, and others demonstrate the tangible impact of ethical governance, where shifts in service delivery paradigms can be felt. This is possible when the operators, administrators, and leaders at every step of the governance system are ethical. In such conditions, ethical governance can be felt within the framework of good governance.

Figure 1

Framework of Ethical Governance



Source: Review of Literature (2024)

The Ethical Leadership

Nepal has ideal constitution and other legal mechanisms to foster good governance. However, other indicators such as corruption, development index, and trust

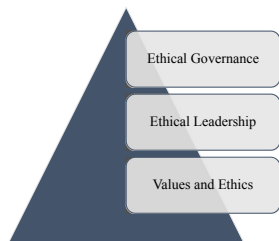
indices are not aligning with these ideals. This discrepancy indicates that while the checklists are maintained, the ethical aspect remains unfulfilled. It is evident that, as human resources are important factors in an organization, likewise the leaders are one of the most important elements in fostering ideal governance in the nation. Thus, we can say that ethical leaders are the playmakers for ethical governance. When the nation moves towards sustainable development with ethical governance, these indicators will also point towards prosperity.

To achieve prosperity, we need strong leadership in every sector. This doesn't just mean to the political leadership only. A health assistant in a hospital, a section officer in a transportation office, an Assistant Sub Inspector in a police station, and others, including the mayor of a municipality, the chief minister of a province, and ministers at the center, all serve as leaders. This requires not only strong leadership traits but also a specific trait: ethical leadership. Why ethical leadership?

Ethical leadership fosters a culture of transparency, reduces corruption, and ensures sustainable decision-making within the governance system. Ethical leadership is crucial for ensuring ethical governance, acting as a foundation for a fair and transparent national culture. Ethical leaders embody and promote values such as integrity, accountability, and fairness, which are essential for ethical governance. They lead by example, setting high standards of conduct for themselves and others. This creates a trickle-down effect throughout the nation, encouraging citizens to adhere to ethical principles in their daily activities. Studies show that ethical leadership positively influences citizen engagement and reduces instances of unethical behavior among the populace (Brown et al., 2005).

Figure 2

Hierarchical Relationship of Ethical Governance



Source: Review of Literature (2024)

Moreover, ethical leadership fosters trust, both within the government and with

external stakeholders. Trust is a cornerstone of ethical governance, as it builds confidence in the nation's operations and decisions. When leaders demonstrate ethical behavior, they earn the trust of their citizens, which enhances morale and productivity. Externally, ethical leadership helps in building a positive reputation, which is critical for maintaining strong relationships with other nations, international organizations, and global investors. Research highlights that trust in government significantly contributes to overall national effectiveness and stakeholder satisfaction (Dirks & Ferrin, 2002).

Ethical governance requires transparency, and ethical leaders play a key role in promoting open communication and accountability. They ensure that policies and procedures are not only in place but also adhered to rigorously. Ethical leaders encourage reporting of unethical behavior and protect whistleblowers, which helps in identifying and addressing issues promptly. This proactive approach to governance minimizes risks and reinforces the integrity of the nation. Transparency in governance processes is crucial for maintaining public trust and adhering to regulatory standards (Valentine & Godkin, 2019).

Ethical leadership is essential for sustainable decision-making, which is a core aspect of ethical governance. Leaders who prioritize ethical considerations are more likely to make decisions that balance short-term gains with long-term benefits for the nation and society. They consider the wider impact of their decisions on various stakeholders, including citizens, communities, and the environment. This holistic approach to decision-making is vital for achieving sustainability and social responsibility goals, which are increasingly important in today's global political environment (Waldman & Siegel, 2008).

Conclusion

Ethical governance is fundamental to establishing a fair, transparent, and sustainable society. In Nepal, the existence of an exemplary constitution and robust legal frameworks aimed at promoting good governance does not necessarily align with current indicators such as corruption levels, development indices, and trust metrics. This misalignment underscores the critical need for ethical governance, which is unattainable without ethical leadership.

Ethical leaders are pivotal as they exemplify values like integrity, accountability, and fairness, setting high standards of conduct for themselves and others. This leadership

creates a ripple effect, inspiring citizens to adhere to these ethical principles. Trust, a key element of ethical governance, is cultivated through ethical leadership. This trust enhances both internal and external confidence in the nation's operations and decisions. Internally, it bolsters citizen morale and productivity, while externally, it builds a positive national reputation, crucial for maintaining strong relationships with other countries, international organizations, and global investors. Research shows that trust in government significantly boosts overall national effectiveness and stakeholder satisfaction.

Transparency is another essential component of ethical governance, fostered by leaders who promote open communication and accountability. Ethical leaders ensure strict adherence to policies and procedures, encouraging the reporting of unethical behaviors. This proactive stance reduces risks and strengthens the integrity of governance processes, essential for maintaining public trust and complying with regulatory standards.

The ethical leadership is vital for sustainable decision-making. Leaders who prioritize ethical considerations strike a balance between short-term gains and long-term benefits for the nation and its citizens. They take into account the broader impact of their decisions on various stakeholders, including communities and the environment. This comprehensive approach is crucial for achieving sustainability and social responsibility goals, which are increasingly important in today's global political landscape.

Ethical governance is essential for genuine prosperity and sustainable development. Ethical leaders are the key players who can bridge the gap between ideal governance frameworks and their practical implementation, ensuring that governance is not only effective but also ethical, transparent, and trustworthy.

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Impacts of Climate Change on Farm Based Livelihood: A Study of Panchkhal

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Abstract

Agriculture serves as the mainstay of Nepal's economy, sustaining livelihoods for a significant portion of the population and contributing substantially to Gross Domestic Product (GDP). This study conducted in Panchkhal Municipality of Kavrepalanchok district, employed a qualitative approach of research to explore lived experience of farmers regarding the impacts of climate change on their livelihoods. Through the use of both primary and secondary data, the research finds that climate change has caused a number of problems for the farmers in Panchkhal, such as reduced water availability due to drying up of small streams and disappearance of springs affecting the rain-fed farming. Additionally, farmers grapple with rising incidences of pests and diseases in crops, health problems associated with pesticide use, lower productivity, flooding, and a move away from farming. The two biggest effects that stood out among them were the scarcity of water and the increase in diseases and pests in crops. The study also underscores farmers' heightened awareness of

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climate change impacts and extreme weather events with a particular emphasis on the perceptible decrease in rainfall frequency and volume, along with delayed monsoon onset.

Introduction

Climate change poses a significant threat to global stability and agricultural sustainability, with shifting weather patterns and rising sea levels threatening food production worldwide. Scientists agree that burning fossil fuels is the main cause of climate change, which has several negative effects including rising sea levels, abnormal weather, and higher temperatures (National Aeronautics and Space Administration [NASA], 2019). Despite broad scientific agreement on climate change mitigation, communities and ecosystems around the world are already experiencing the effects of climate change, which are affecting water supplies, agriculture yields, forests, and oceans (World Wildlife Fund [WWF], 2018). Urgent action is required to counteract climate change's far-reaching impacts on human livelihoods and security as its effects escalate (UN, 2019).

National Aeronautics and Space Administration (2019) defines climate change as: "a broad range of global phenomena created predominantly by burning fossil fuels, which add heat-trapping gases to Earth's atmosphere. These phenomena include the increased temperature trends described by global warming, but also encompass changes such as sea level rise; ice mass loss in Greenland, Antarctica, the Arctic and mountain glaciers worldwide; shifts in flower/plant blooming; and extreme weather events". Climate is the average of weather conditions over several decades. The classical period is 30 years, as defined by the World Meteorological Organization (WMO). These quantities are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system (WMO, 2019). Geoscientists monitor modern climate conditions from 1880 AD to the present in part by taking direct measurements of weather data i.e., air temperature, rainfall and snowfall, wind speed, cloudiness, and so on and averaging those over at least a 30 year period (American Geosciences Institute [AGI], 2019).

The increase in greenhouse gases (GHGs) due to human activities, notably from

burning fossil fuels, is a major driver of climate change (Maharjan & Joshi, 2013). Key findings from the WMO (2019) statement underscore the alarming trends in warming, GHG concentrations, sea-level rise, and polar ice loss. Human activities have caused approximately 1.10°C of global warming above pre-industrial levels. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate (IPCC, 2018). The National Academy of Science (NAS), the Intergovernmental Panel on Climate Change (IPCC) and WMO have all identified climate change as an urgent threat caused by humans that must be addressed (WWF, 2018). The 28th Conference of the Parties (COP28) climate summit marked a crucial milestone in accelerating global climate action, emphasizing the urgent need to transition from fossil fuels to renewables by 2030. In a display of international unity, representatives from nearly 200 Parties convened in Dubai to finalize the world's inaugural 'global stocktake.' This historic decision aims to intensify climate action before 2030, with the overarching goal of maintaining the global temperature increase below 1.5°C by 2100 (UNFCCC, 2023).

Climate change presents a myriad of challenges, with its impacts already felt by communities and ecosystems worldwide (UN, 2019). Its effects are extensive, harming livelihoods and human security. They range from falling food harvests to uncontrolled forest fires to increasing acid rains. This worldwide phenomenon is uncontrollably affecting economies, changing weather patterns, and escalating catastrophes. The most vulnerable groups will be disproportionately affected if global average surface temperature rises above 3°C this century if immediate action is not taken. Additionally, there are major economic and sociopolitical constraints brought about by climate change, with drought being a serious threat to future agricultural productivity and food security being jeopardized in many African countries (WMO, 2019).

People throughout the world who depend on agriculture for their employment are particularly vulnerable to the devastating effects of climate change. It is anticipated that the consequences of climate change on agricultural productivity and livelihoods would differ throughout nations and areas and will become more pronounced over time (FAO, 2016). Nepal, where the bulk of the populace makes their living through rain-fed farming techniques is extremely vulnerable to the effects of climate change,

despite its little contribution to greenhouse gas emissions (International Centre for Integrated Mountain Development [ICIMOD], 2019). This affects important sectors like agriculture, forestry, water resources, and energy (MoE, 2012).

With Nepal's 4th position in terms of global climate change vulnerability (Eckstein et al., 2018) it is very much an worrying situation for Nepal whose majority of population rely on rainfed farming and forest based natural resources for livelihood (Paudel, 2016; FAO, 2019). Due to the fact that impacts of climate change are being seen, Nepal should focus on adopting measure to reduce and adapt to the impacts of climate change. However, farmers have not been able to afford adaptation measures due to various causes. Since researches have shown that effects of climate change in livelihood of farmers have been manifested and adaptation is essential to cope with climate change, it is worth understanding the impact and adaptation measures taken by farmers to maintain their livelihood. Given the seriousness of the climate change impact in agriculture, this study aims to explore the impacts of climate change on farming-based livelihoods in Panchkhal Municipality of Kavrepalanchok district, Nepal.

Through the use of a qualitative research design the study will look at farmers' perceptions of the effects of climate change on various aspects of farming. By doing that, this article seeks to contribute to a deeper understanding of the complex dynamics of climate change impacts in agriculture and inform policy interventions to support vulnerable farming communities.

The study is carried out in the Panchkhal municipality, which is located in Nepal's central hills in the Kavrepalanchok district. Kavre's location between the Mahabharat and Lesser Himalaya hills results in a variety of agro-climatic changes. The selection of this area is informed by Kavrepalanchok districts' vulnerability to climate change, as indicated in the National Adaptation Programme of Action (NAPA) document (MoE, 2010), and the growing prominence of commercial agricultural practices. Given the area's reliance on agriculture and the observed water scarcity linked to climate change, farmers face a substantial challenge to farming with the focus on farming based livelihood.

Review of the Literature

Farming has always been the foundation of human civilization, forming communities and supplying food. But this way of life is seriously threatened by climate change. An increasing amount of scholarly literature explores the complex effects of climate change on livelihoods centered on agriculture. These studies examine the ways that variations in temperature, precipitation patterns, and extreme weather affect water availability, interfere with agricultural productivity, and heighten the spread of pests and diseases. This review aims to identify and synthesize the most significant challenges faced by farmers from the study of related literatures.

Food security and climate change concerns are intertwined as the effects of climate change reduce natural resources' ability to support the world's expanding population (FAO, 2019a). Recent gains in eradicating hunger and malnutrition are being undermined by increasingly severe climate extremes, contributing to a reversal of the positive trends observed earlier (FAO, 2016). Extreme weather patterns and climate variability make food insecurity worse, especially in nations where agriculture is the primary source of income. This results in serious food crises, mainly in Asia and Africa (WMO, 2019). According to Saleth et al. (2011), climate change modifies agricultural systems by causing either an excess or a shortage of rainfall, which in turn causes floods, waterlogging, droughts, and crop wilting. Changes in temperature, precipitation, fertilization with carbon dioxide, increased weather variability, and variations in surface water runoff are just a few of the ways that climate change affects agricultural output (World Bank, 2007). Agriculture accounts for about 70% of the world's freshwater use, and projections show that by 2050, the world's water needs will have increased by 50% to meet rising food demands (FAO, 2016; IAEA, 2016). Furthermore, the livelihoods of the poor and marginalized are disproportionately affected by climate change and extreme weather events impacting their rights and capabilities (Aniah et al., 2016).

Drought becomes a serious danger to future food security in the context of climate change, requiring better drought planning, monitoring, and mitigation measures (Wu et al., 2019; Hayes et al., 2011). However, there are still little attempts to lessen the effects of future droughts, which emphasizes the need for paradigm shifts in approaches to managing drought risk (Reid et al., 2006; Li et al., 2009; Mishra

and Singh, 2010 as cited in Wu et al., 2019). According to Mendelsohn (2012), crops and livestock are extremely vulnerable to climatic differences between seasons, which cause farmers all over the world to suffer significant annual losses. However, because of their labor-intensive practices and lower latitudinal locations, the effects of global warming on agriculture in underdeveloped nations are still unknown (Maharjan & Joshi, 2013). Growing precipitation extremes threaten to degrade and destroy vital agricultural soil and water resources, making rainfed and irrigated agriculture difficult to practice without creative conservation strategies (Hatfield et al., 2014).

The majority of people in many developing nations make their living primarily from agriculture, with smallholder farmers being especially sensitive to the effects of climate change (International Fund for Agricultural Development [IFAD], 2019a). The problems that rural populations face are made worse by declining agriculturally viable land and environmental degradation (Commission for Africa, 2005 as cited in Calzadilla et al., 2011). Climate change can cause an increase in diseases and pests, which can have a major impact on agricultural productivity (FAO, 2016). The dynamics of ecosystems are impacted by climate change, which may throw off crop-pollinator synchrony and favor invading species and pests (FAO, 2015) . Farmers' livelihoods are under risk due to reduced crop output and biodiversity caused by climate change, extreme weather, and pest proliferation (Müller-Kuckelberg, 2012). The overuse of agrochemicals damages soil health and water quality, aggravating environmental deterioration (Ghorbani et al., 2010). A major factor in raising agricultural output is technological advancements like better crop types and irrigation systems (Paudel, 2016a). Agriculture is threatened by rising evaporation and altered rainfall patterns, a primary conduit of climate change impacts (FAO, 2019a). Integrated methods to sustainability and climate resilience are required because agriculture directly contributes significantly to land-use changes, deforestation, and greenhouse gas emissions (IPCC, 2017).

The variable topography of Nepal results in a range of meteorological conditions, with significant orographic effects affecting the dynamics of precipitation (Dixit, 2013). Despite obstacles, Nepal's agricultural diversity presents opportunities for growth and enables the production of a variety of crops across the nation (IFAD,

2019b). Paudel (2016b) notes that despite Nepal's varied terrain, there are signs of climate change in areas ranging from the Terai to the Himalayas. Agricultural difficulties have been made worse by the increased use of inorganic fertilizers, which has resulted in a decline in soil quality, especially in the lower elevations of the Indrawati Basin (Pradhan et al., 2015). Nepal's complicated geography and low development status make it more vulnerable to climate change, which will have an effect on the country's water, energy, forestry, and agriculture sectors (Wang et al., 2009). The necessity for adaptive measures in agriculture, such as crop diversification and organic farming, is emphasized by initiatives stated in Nepal's NAPA plan (MoE, 2010).

Nepal's agriculture has a great deal of challenges due to climate variability, which are made worse by the country's predominance of rain-fed farming systems and farmers' low ability for adaptation (Gentle & Maraseni, 2012; Adhikari, 2018). Falling winter precipitation and inadequate groundwater replenishment have significantly impacted water resource management for agriculture in western regions in Nepal, increasing drought conditions and damaging hill agricultural systems (Adhikari, 2018; Paudel, 2016a). Furthermore, diseases and pests brought on by climate change pose a greater threat to the yield of food crops. Farmers' understanding of climate change is crucial for adaptation decision-making, although issues such as poverty and illiteracy hamper their adaptive potential, reflecting challenges widespread in developing countries (Budhathoki & Zander, 2019; Chalise et al., 2015).

The reviewed literatures show consensus that agriculture is an important source of livelihood in many developed and developing countries, and climate change is likely to have severe consequences on the farming-based livelihood. Literatures point at food security in the countries with agricultural systems that are highly sensitive to rainfall and temperature variability and where the livelihood of a high proportion of the population depends on agriculture. Precipitation and temperature are widely accepted as having significant influence on crop production. Many livelihoods are directly climate sensitive, such as rain fed agriculture. Along with this, there are also ample literatures on how Nepal is likely to be affected by climate variability in the context of heavy dependence of its population on agriculture that lack irrigable land.

Literatures also indicate the challenges Nepal has in ensuring effective agriculture

production across the country due to the high degree of spatial and temporal climate variability and rainfed agriculture system. And they also stress on necessity of effective adaptation measures. However, as many literatures agree that although climate change is a universal phenomenon, its indicators and manifestations are entirely local. This means the impact will differ from place to place. In view of Nepal's distinct geographies, diverse climatic conditions, and heavy dependence on rainfed agriculture, this study intends to explore location specific manifestation of climate change and its impact on the farmers' livelihood in a particular location. Given the intricate nature of climate change, more detailed information is needed on the impacts of climate change on agricultural systems so that effective adaptation options can be appropriately targeted. So, this study aims to fulfill this gap of location specific knowledge on climate change by undertaking research in the area of Panchkhal Municipality of Kavrepalanchok district in the midhill of Nepal which focuses on impacts of climate change on livelihood of farmers.

Research Methodology

The study conducted in the year 2019 uses a qualitative approach in which data were collected by the researcher from his or her interactions with the participants. The aim was to understand farmers' lived experiences with the effects of climate change on farm-based livelihoods by exploring how farming is affected by climate change. A variety of primary and secondary data sources are used. Secondary data consists of literature reviews and document analyses. To comprehend patterns of climate change, trend analysis of temperature and precipitation data from 1980 to 2023 was done by obtaining data from Department of Hydrology & Meteorology (DHM). Field observation, face-to-face interviews with farmers, focused group discussions, and key informant interviews with persons from pertinent government and non-governmental agencies are the methods employed in collecting primary data. Participants were chosen using a combination of purposeful and snowballing sampling techniques to ensure representation from a range of farming contexts within the study area. Altogether, the study engaged with 25 farmers through interviews, conducted nine Key Informant Interviews (KIIs), and facilitated four focused group discussions involving both concerned agencies and farmers in order to assess the impact of climate change on farm based livelihood.

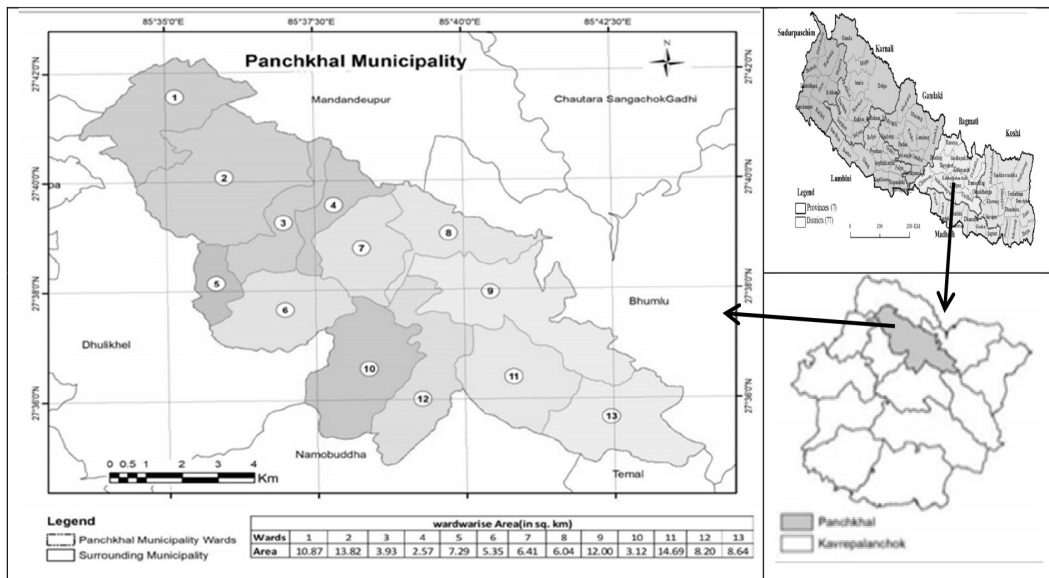
Findings and Discussion

General Description of the Study Area

The Panchkhal municipality is located in Kavrepalanchok district of Bagmati Province, Nepal (figure 1), It is made up of 13 wards and has a total area of 102.95 km². Elevation in the study area ranges from 594m at Koshidakha to 1612m at Anaikot View Tower (Panchkhal Municipality, 2019). The Arniko Highway, which passes through the center of the municipality, serves as a crucial link between Kathmandu and the China border in Kodari of Sindhupalchok, facilitating trade and providing access to broader markets in Dhulikhel, Banepa, Bhaktpur, and Kathmandu for agricultural products from Panchkhal.

Figure 1

Location Map of Panchkhal Municipality



Source: This map demonstrates the location of Panchkhal Municipality which is adopted from Panchkhal Municipality (2019)

Located 45 km east of Kathmandu and 15 km southeast of Dhulikhel, Panchkhal municipality encompasses the largest flat land area in the Kavrepalanchok district.

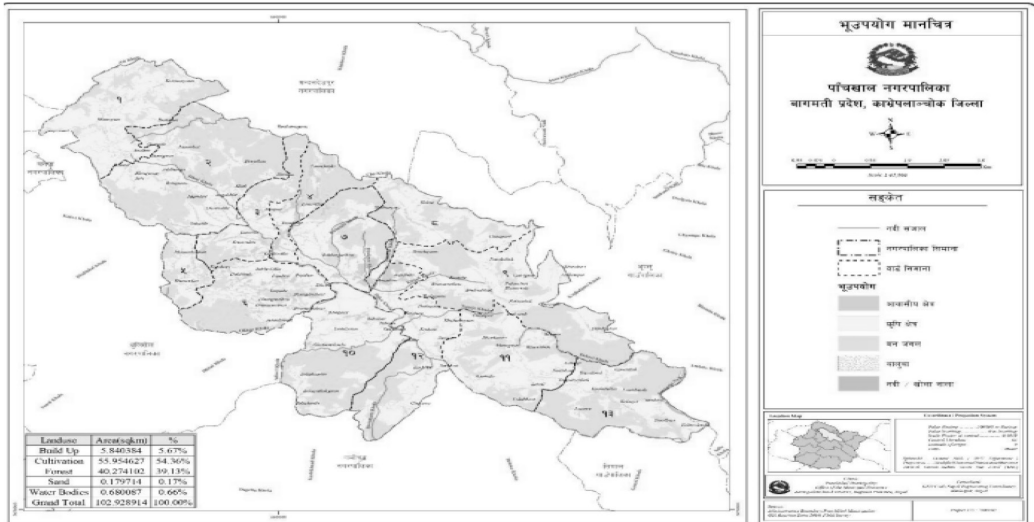
Furthermore, there are portions of sloping terrain in Sathighar Bhagawati, Anaikot, and Hoksebazaar. The Kavrepalanchok district, which is regarded as a location of considerable agricultural output, has a great deal of potential for farming and is a major supplier of the agricultural goods, mostly vegetables that are consumed in Kathmandu. With a focus on vegetable cultivation—a vital component of Nepal's Gross Domestic Product—Panchkhal hopes to become a city of agriculture (LTS International Limited, 2017).

Panchkhal Municipality experiences a diverse climatic and ecological landscape. The region is characterized by sub-tropical to temperate climate with dry winter and cool summer (Tiwari et al., 2020). The area's elevation and topography contribute to variations in climate and ecology, with higher elevations experiencing cooler temperatures and lower elevations being warmer. This area receives high rainfall due to the low pressure wind arriving from the Bagmati and Roshi watersheds of the district that fall in the rain shadow of the Mahabharat region (Panchkhal Municipality, 2019). Precipitation trends over 44 years show fluctuations in annual rainfall levels with average rainfall of 1155 mm. During the period year 1999 recorded the highest precipitation at 1676 mm, and 2015 witnessed the lowest at 699.7 mm. The average max temperature and average minimum temperature for the same 44 years period showed 28.28°C and 14.22°C respectively.

Panchkhal's commercial agriculture might be further enhanced by cooperative efforts with neighboring regions (GGGI, 2018). Over the course of four decades, traditional farming practices have changed as a result of a number of reasons, including the building of the Araniko highway, the creation of horticulture centres, and interventions by NGOs and INGOs (Adhikari, 2015). The change in Panchkhal towards the extensive cultivation of vegetable crops is indicative of this transformation. Major crops like rice, maize, and wheat occupy 75% of the land, with 61.76% of it being used for cultivation; nevertheless, vegetable agriculture has recently experienced a boom (Panchkhal Municipality, 2019).

Figure 2

Land Use Map of Panchkhal Municipality



Source: This map shows the Land use pattern of Panchkhal Municipality which is adopted from Panchkhal Municipality (2023). It shows the areas of forest, arable land, water, sand, and other topographical features of Panchkhal Municipality.

The land use pattern in the area comprises various categories, with arable land occupying the majority at 54.35%. Forested areas cover a substantial portion, accounting for 39.12% of the land, while residential areas constitute 5.67%. Rivers and streams contribute to 0.68% of the landscape, along with 0.17% of riverside sand areas (Panchkhal Municipality, 2023). Panchkhal Municipality comprises two distinct types of land - flatlands (Khet) and highlands (Bari). While flatlands benefit from easy irrigation access, highlands rely mainly on rain-fed agriculture. The cropping pattern varies based on land type and irrigation availability, with lowlands supporting three cropping patterns compared to highlands constrained to one or two crops per year (Paudel et al., 2011). Climate irregularities, particularly droughts, significantly impact crops in the highlands, necessitating fallow periods. In the low lands, agricultural practices have undergone modernization, marked by innovative farming techniques, intensive land use, and increased mechanization (Adhikari, 2015).

Water Availability in Panchkhal Municipality

There are hundreds of large and small rivers in the Kavrepalanchok district; some of the larger ones are the Sunkoshi, Indrawoti, Roshi, and Bagmati. Among these, the Sunkoshi and Indrawoti rivers, which have a combined watershed area of 742 km², border Panchkhal Municipality. The municipality's main irrigation sources include Jhiku Khola and Danfe Khola. The main supply of water comes from the Jhiku Khola, a tributary of the Sunkoshi River, however water is only available mostly during wet seasons of the year. In the summer, it almost completely dries up and experiences flash floods during rainy season. Local residents have observed a significant decline in the flow of Jhiku Khola. This decrease in flow extends to other perennial streams in the area, which have either become seasonal or completely dried up. Springs have also experienced diminished discharge, suggesting a correlation between spring discharge and stream flow (ICIMOD 2009a, as cited in Sharma & Gyawali, 2016). Consequently, inhabitants of the study area increasingly rely on traditional water sources such as Kuwa and local streams to meet their water needs.

Panchkhal Municipality's existing drinking water supply is insufficient. The Municipality intends to draw water from the Sunkoshi River in order to meet the increasing demand for drinking water (Ministry of Water Supply, 2019). People hope that after the project is completed, extra water may be used for irrigation on small family farms, increasing the area's agricultural output. The municipality relies on age-old irrigation techniques including Rajkulo, streams, and small canals due to a lack of well-managed irrigation infrastructure. Because water sources dry up over time, there are severe water shortages in some locations, especially in Upper and Middle Hokse. Many water springs have vanished in places like Salghari, Hokse, and Ojetar, leaving locals to handle their own or the community's water needs. These places are prime examples of this trend.

Status of Temperature and Precipitation in Panchkhal

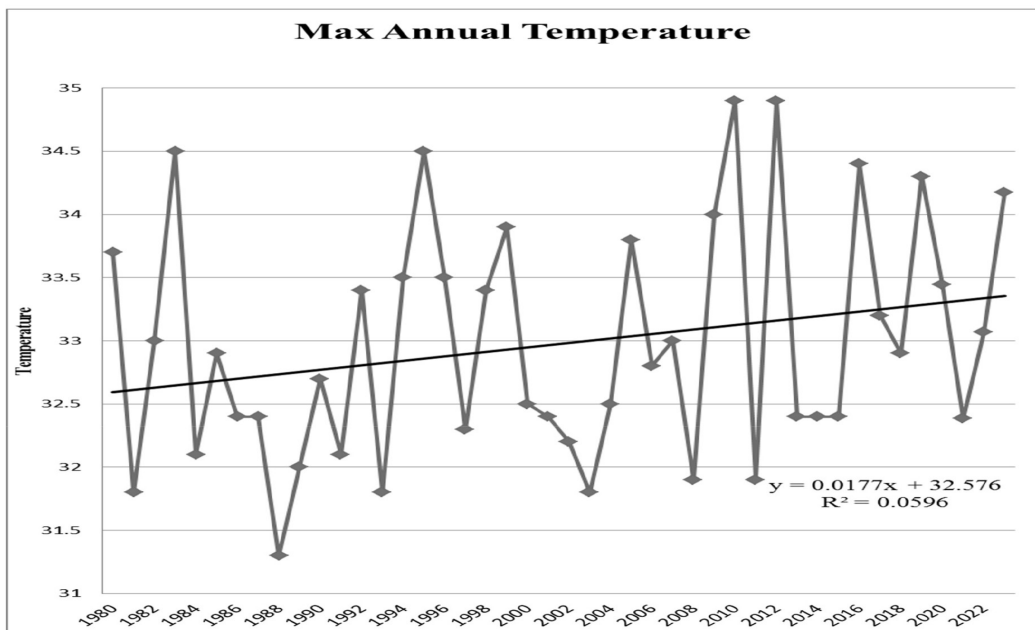
The most pertinent climatic characteristics are annual temperature and precipitation. Temperature and rainfall are the most essential climatic variables often used for characterization of climate change and variability (Hayes et al., 2011). Therefore, to understand the climate change trend of Panchkhal, the study has analyzed the

trend of temperature and rainfall data from 1980 to 2023 recorded at Panchkhal station which was received from Department of Hydrology & Meteorology. In some months in certain year, both maximum and minimum temperature data was not available. For the calculation purpose in this study, these data are entered in average of 44 years for that month. Similarly, the data for precipitation for some months were not available, for which average rainfall for that month from 44 years is calculated. For the whole year 2008, the data has been filled on average as the data was not available for the entire year.

DHM has analyzed the data from 93 weather measurement stations from 1971 to 2014 which and found that the temperature increment is 0.056°C per year. Changes have also been observed in the frequency, amount and intensity of rainfall (JVS/GWP Nepal, 2017). Observed data shows steady warming and rise in the maximum temperature at an annual rate of 0.04 – 0.06°C. Studies also indicate that the observed warming trend is not uniform across the country. Warming is more pronounced in high altitude regions compared to the Terai and Siwalik hills (MoE, 2010).

Figure 3

Annual Maximum temperature 1980-2023 at Panchkhal valley during 1980-2023

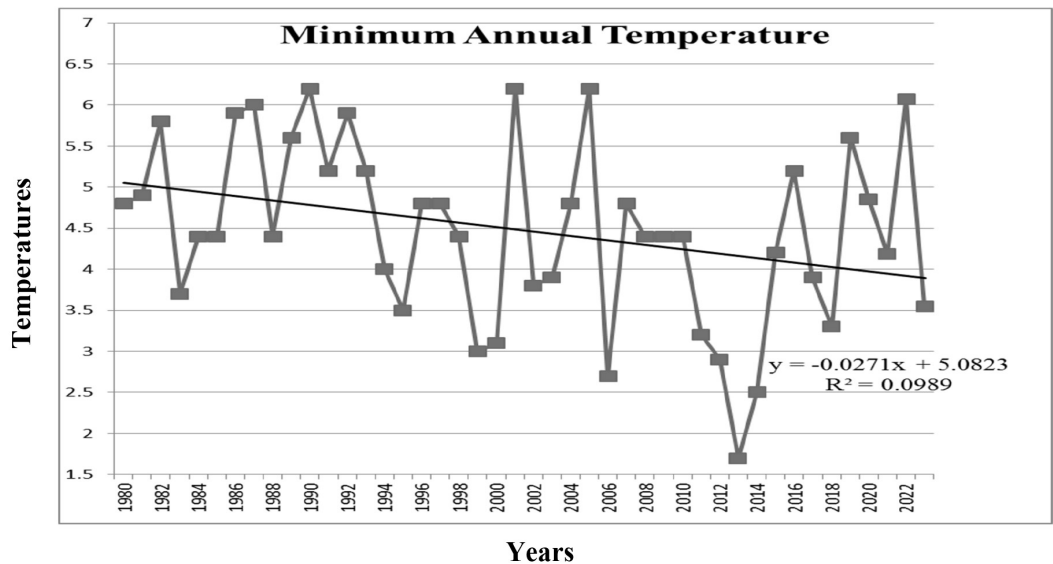


Source: This figure examines the linear trends and patterns over 44 years from 1980 to 2023 for maximum temperature. R^2 is a statistical measure that shows proportion of the variance in the temperature y over the independent variable years (x). Data adopted from Department of Hydrology and Meteorology (DHM).

Temperature data of four months April, May, June and July that experiences higher temperatures observed fluctuation in the maximum temperature between 27.9°C in April in 1981 and 34.9°C in June in 2010 and 2012, with few variations from year to year (Fig.3). There is a general trend of variability in maximum temperatures over the years, with random rises and drops. Figure 3 shows the maximum temperature has increased by 0.0177°C per year over 1980-2023. The linear regression analysis ($R^2 = 0.0596$) indicates that the maximum temperature rise with time is statistically insignificant.

Figure 4

Annual Minimum Temperature at Panchkhal valley during 1980-2023

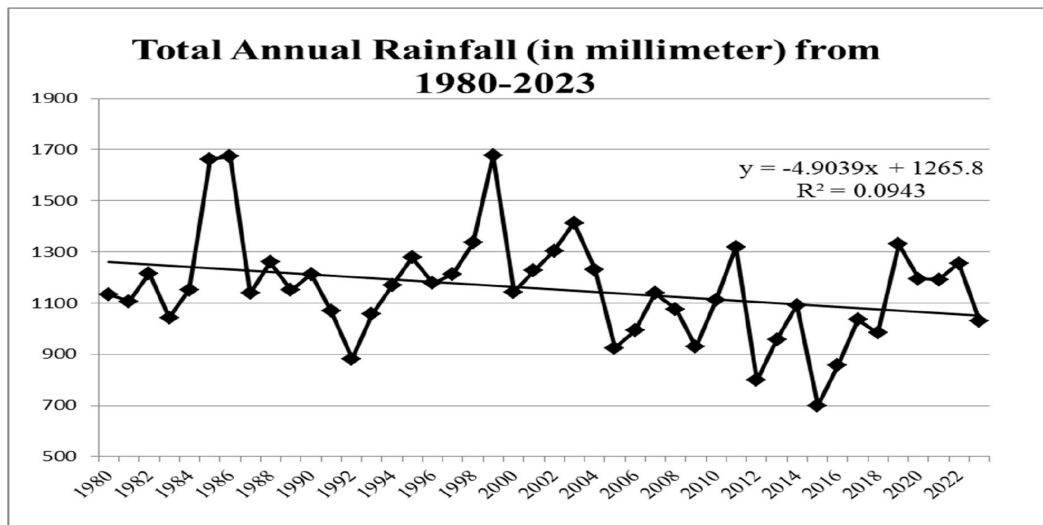


Source: This figure examines the linear trends over 44 years from 1980 to 2023 for minimum temperature. This linear regression analyzes the trend of minimum annual temperatures (y -axis) over the years (x -axis). Data adopted from Department of Hydrology and Meteorology (DHM).

During 1980 to 2023, the minimum annual temperature ranges from 1.7°C in 2013 to 6.2°C in 2001 and 2005; all in the month of January, indicating considerable variability. Similar to maximum temperature, there is no clear upward or downward trend in minimum temperatures over the years. While there are fluctuations, this doesn't appear to be a consistent trend in minimum temperatures over the entire period. Figure 4 shows the minimum temperature has dropped by 0.0271°C per year over 1980-2023. The linear regression analysis ($R^2=0.0989$) indicates that the minimum temperature drop with time is statistically insignificant.

Figure 5

Total Annual Rainfall at Panchkhal valley during 1980-2023



Source: The data depicted in this figure presents the annual rainfall patterns observed over a span of 44 years from the year 1980 to 2023 as recorded at the Panchkhal station which lies in the research area. It displays the linear relationship between annual rainfall (y-axis) and time (x-axis) using linear regression. Data adopted from Department of Hydrology and Meteorology (DHM).

Precipitation trend of 44 years indicates fluctuations in annual rainfall levels, with 1999 recording the highest precipitation at 1676 mm, while 2015 witnessed the lowest at 699.7 mm. When closely observed, the noticeable decline can be seen after 2004 until 2018. The annual rainfall didn't go above the year 2004 except for

2011. If the separation is made at 2004, the average rainfall until 2004 is 1236.98 mm and after 2004, from 2005 to 2018 the average rainfall is 994.5 mm which shows a remarkable drop in precipitation. MoE (2010) confirms that a general decline in pre-monsoon precipitation in far and mid-western Nepal, with a few pocket of declining rainfall in western, central and eastern regions have occurred. Conversely, the analysis of data from 166 stations across Nepal from 1976 to 2005 revealed an increasing trend in annual rainfall in eastern, central, western and far-western Nepal (MoE, 2010). In Panchkhal, in the period from 2019 to 2023, there is a visible escalation in rainfall quantities compared to the preceding period from 2005 to 2018. Specifically, 2019 emerges as the year with the substantial rainfall accumulation, reaching 1330.4 mm. These findings align with global climate scenario modeling which suggest that the impacts of climate change may be intense at high elevations and in regions with complex topography, as is the case in Nepal's mid-hills (Dixit, 2013).

According to the linear regression of rainfall data, there is a negative relationship of precipitation with time. In particular, it is expected that the precipitation will fall by roughly 4.9039mm for every increase in time. With a coefficient of determination (R^2) of 0.0943, the linear relationship with time can account for about 9.43% of the variability in precipitation. This implies that the model only partially explains the variation in precipitation, suggesting that precipitation variability may also be influenced by other factors not included in the model.

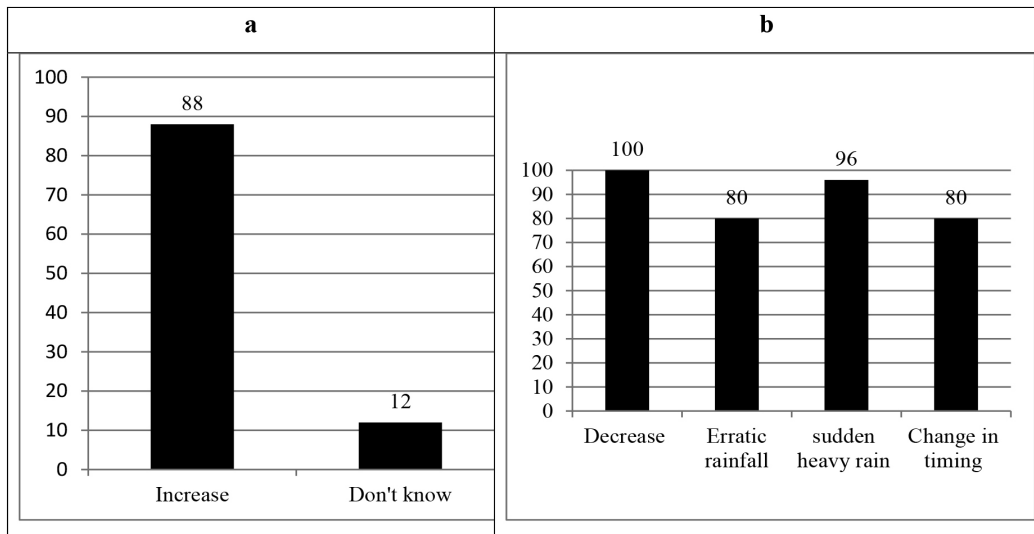
Changes in rainfall and other precipitation forms are critical factors in determining the overall impact of climate change. Rainfall is much more difficult to project than temperature. However, the total volume of precipitation is likely to increase by 1-2% per degree of warming (Clark, 2011). Although the data points to some annual variability, its applicability is too narrow to make a firm determination about the effects of climate change. Robust comprehension necessitates the combination of analysis of numerous climate variables with long-term, multi-regional information. There's evidence to show that regions that are already wet are likely to get wetter and the dry regions of the subtropics are likely to get drier. It is likely that in a warmer climate heavy rainfall will increase and be produced by fewer more intense events. This could lead to longer dry spells and a higher risk of floods (NASA, 2019).

Farmer’s Perception of Climate Change

Understanding farmer’s perception on climate change is important because their adaptation to climate change largely depends on their perception that climate is changing and likely to have impact in their farm. Timely and accurate perception is an important determinant of farmers’ intentions and the choice of adaptation methods (Deressa et al. 2011, as cited in Abid et al., 2019). Comprehending climatic variability and extreme events are part of climate change is important in assessing the adaptation measures. This is particularly so for agriculture, which is vulnerable to irregular or extreme conditions such as more frequent droughts and deviations from ‘normal’ growing season (Smit & Skinner, 2002). This understanding is also important for authorities to establish effective adaptation policies (Abid et al., 2019).

Figure 6

Farmers’ Perception on Rise in Temperature (a) and Changes in Rainfall Pattern (b) in Panchkhal (in %)



Source: These figures show the farmers’ perception of rise in temperature and changes in rainfall pattern in Panchkhal. This is based on the data collected through field survey.

Farmers’ perceptions of climate change and variability coincide with the actual

data that demonstrate fluctuation in annual rainfall and slight upward trend of temperatures as mentioned above. Over the past fifteen years, majority of farmers have noted shifts in local weather patterns, with 88 percent experiencing heightened temperatures during summer days. To cope with the scorching sun, many farmers have adapted their working hours, preferring to toil in the fields during cooler morning and evening hours. Some have even experienced discomfort from rising nighttime temperatures, resulting in increased sweating.

The precipitation is more realized than temperature by the farmers. All farmers, key informants and focused group discussion respondents agreed on decrease in rainfall amount and frequency. This might be due to the fact that farmers are more concerned about rain than temperature. Notably, 80 percent of farmers have cited concerns about sudden, heavy downpours disrupting cultivation and harvest seasons. Farmers have also realized that the rainfall timing has changed. Onset of monsoon is delayed by almost two months which deferred the plantation of crops contingent upon monsoon rain. Regmi & Bhandari (2013) also states that over the past few years, the delay in monsoon season experienced in Nepal has changed the cropping pattern and crop maturity period. Overall, farmers perceive a diminishing support from annual rainfall for crop production during both the rainy and winter seasons. Such perceptions of farmers' on changes in climate-related parameters like rainfall, temperature and wind may influence the choice of adaptation measures in different ways (Waibel et al., 2018). Current discussions centered on the connection between climate change drivers and agricultural adaptation acknowledge that climate change encompasses not only long-term average condition changes but also variations in growing season conditions from year to year and the frequency and intensity of extreme weather events (Smit & Skinner, 2002).

Impact of Climate Change in Farming

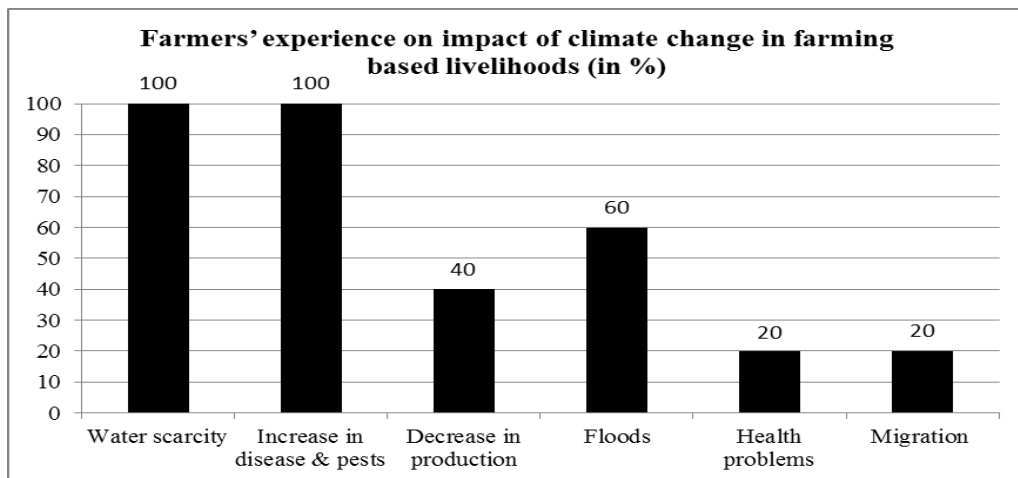
In recent years, climate change has shown unprecedented consequences in Nepalese agriculture, posing greater risks especially to small and marginal farmers practicing subsistence agriculture. There are increase of mean temperature; changes in rainfall patterns; increased variability both in temperature and rain patterns; changes in water availability; the frequency and intensity of 'extreme events'. The extent of these impacts will depend not only on the intensity and timing of the changes but

also on their combination, which are more uncertain, and also depends on local conditions (FAO, 2013). The most immediate impacts of climate change will be the increased variability of rainfall, higher temperatures, and extreme weather events, such as droughts and floods (FAO, 2017). Climate and climatic variability, therefore, plays a major role in defining agricultural production around the world (Hayes, Wilhite, Svoboda, & Trnka, 2011).

In the Panchkhal area, the farmers have experienced multiple impacts of climate change in the farming. The impacts include scarcity of water, increase in incidence of disease and pests, use of pesticides and health impacts, decrease in production, floods and shift towards off-farm activities. While all respondents acknowledged the growing water scarcity and prevalence of diseases and pests, only 40 percent reported a noticeable decrease in crop production (Fig.7). Additionally, 20 percent cited health issues, and another 20 percent noted an increase in migration from drought-affected regions. The local community has attributed declining crop yields largely to reduced rainfall. Decline in rainfall from November to April adversely affects the winter and spring crops (MoE, 2010) Both Rainfed and irrigated farms are found to be sensitive to climate, although they have different climatic responses (Fleischer & Kurukulasuriya, 2011).

Figure 7

Farmers’ Experience on Impact of Climate Change on Farming-based Livelihoods in Panchkhal Municipality



Source: This figure shows Farmers' experience about impacts of climate change in related to farming and livelihoods based on the data collected through field survey

Water Scarcity

When considering the impact of climate change on agriculture, water assumes a central role. Climate induced water stresses directly affects agricultural productivity (MoE, 2010). There are also reports of decrease in water used for irrigation, recharging of natural ponds, reservoirs and lakes. Even in those areas where the total annual rainfall is high, water scarcity is a problem. For example, Cherrapunji in the northeastern Indian Himalayas is one of the world's highest rainfall areas, but is called a 'wet desert' because it still suffers from water scarcity. This is similar to the case in Godavari, a typical mid hill area of Nepal where 80% of the total annual rainfall falls during the monsoon period, the remaining eight months are more-or-less dry (ICIMOD, 2019).

In urban areas, piped water serves as the key source of drinking water, while rural households in terai mainly depend on tube wells or boreholes (IIDS, 2012). Similarly, in Panchkhal, most farmers utilize deep tube wells or wells for both drinking water and irrigation. However, in Hokse, the shortage of water for irrigation has led to the abandoning previously cultivable lands. According to a farmer's account -

The village used to have 10-12 ponds. These ponds were used for wallowing buffalos. Springs were abundant, particularly in the lower areas. Now, no ponds exist. They are either disappeared or encroached by road expansion, disrupting the recharge of lower springs. Consequently, the once-flowing streams from forested areas and the people walking under rain with wet bodies have become rare sight. In the last 12 -15 years, things have changed. Agricultural activities now heavily rely on rainfall.

Farmers across upper Hokse, middle Hokse, and Salghari unanimously express the acute water shortage gripping their communities, indicating a significant reduction in water sources attributed to climate change. This observation aligns with a similar trend noted by the National Planning Commission, highlighting the gradual shortage of water sources in Kavrepalanchok and nearby districts over the past decade. It is notable that the government has designated 11 villages in Kavrepalanchok as

drought-affected areas, further underscoring the severity of the situation (NPC, 2013).

Even the flat lands of lower Hokse which are close to Jhiku Khola suffer from insufficient irrigation water. Difficulties are exacerbated by the younger generation's declining interest in agriculture. Due to problem of water shortage, farmers have abandoned their farms to brick kilns, making these sites unusable for farming. While Nepal has an abundance of water resources, efficient use of them is still a problem. Adopting techniques like as pivot and drip irrigation, as recommended by Kaini, (2019), may improve water-use efficiency and lessen the effects of water scarcity. Furthermore, People in the area experienced that the issue was made worse by the 2015 earthquake. Many of the area's springs and water supplies dried up after the earthquake, which had a negative impact on farming and livelihoods in the area.

Increase in Diseases and Pests in Crops

Every farmer interviewed stressed a visible growth in disease and pest issues, encompassing the emergence of new species. Among these, aphids and *Tuta absoluta* were frequently cited as inflicting maximum damage to their crops. Aphids, notorious for infesting vegetable crops (AUSVEG, 2019), possess remarkable reproductive capabilities, with a single aphid capable of producing hundreds to thousands of offspring within weeks (Townsend, 2019). In the absence of timely response, the whole field of crops can be quickly damaged.

Another pest reported by farmers is '*Tuta absoluta*' in tomato crops. This pest was first time reported in commercial tomato farm in Kathmandu in 2016. It is originated from Latin America. In Nepal, it is suspected to have transferred from India (Shah et al., 2017 as cited in Adhikari et al., 2019). In the first incidence in Kavrepalanchok district in 2016, it damaged approximately 57.51 percent of tomato crops (Adhikari et al., 2019). A study in UK by Cuthbertson et al. (2013) found the optimum temperature for *Tuta* development ranged from 19–23 °C. Development time appeared to decrease with the rise in temperature above 23°C. A study carried out in Laboratory of entomology, Khumaltar, Nepal in 2016-17 revealed compatible result that the increase of temperature and relative humidity lessened the development period by three times (Simkhada & Thapa, 2019). Concurrently,

studies show new alien species are emerging and their habitat is spreading rapidly. Increased temperature and rainfall variability have caused protracted dry spell and higher incidences of pests and diseases (MoE, 2010). Additionally, a shift in climate could bring in new diseases but also shift the optimal conditions for existing pathogens. Thus, the observed temperature rise not only fosters the proliferation of invasive species but also poses a significant threat to crop health and productivity.

The Fall Armyworm (FAW) pest infestation is another alarming concern, with reports indicating diverse awareness among farmers in the affected regions. While some respondents acknowledged its presence in specific areas of Panchkhal, others appeared unaware about it. However, technicians confirmed it's extensive across multiple crops and locations. FAW, known for its damaging impact on various crops, including maize, poses a substantial threat to agricultural productivity (GC, 2019). Studies showed yield losses ranging from 39% to over 70%, underlining the severity of its impact (Bhusal & Bhattarai, 2019). The voracious nature of FAW larvae, coupled with their ability to swarm in large numbers, worsens the damage on crops. Additionally, their resistance to many chemical pesticides further complicates its control. Its first incidence in Nepal was recorded in Gaidakot, Nawalparasi district in 2019, marking the beginning of its destructive presence in numerous districts across the country (GC, 2019).

Farmers in Ojetar, ward No. 8 of Panchkhal Municipality, have reported a prevalent rice fungal disease locally known as 'kalipoke'. This disease has become widespread in the area, causing significant damage to rice crops. Tiny black balls replace the affected rice grains, leading to decreased yields. During harvesting, these black balls turn into powders, covering farmers' bodies and potentially causing health issues upon inhalation. Such rice fungal disease is currently known as one of the most damaging rice fungal diseases worldwide, attributed to the extensive farming of hybrid rice varieties and the impacts of climate change. In China, it has affected approximately 2.4 million hectares per year between 2015 and 2017, and its occurrence is reported in rice-growing regions globally. The disease grows in areas with high relative humidity and temperatures ranging from 25–35 °C (Jiehua et al., 2019).

Furthermore, the spread of diseases and pests is closely related to water management practices. Sufficient water provision to plant roots is essential for ensuring reliable

crop yields. However, both excess water application and water deficiency can contribute to the spread of fungal and bacterial plant diseases (Café-Filho et al., 2019). This highlights the significance of improving water use behaviors to mitigate the spread of diseases and pests in agricultural settings.

Use of Pesticides and Effect on Health

With the increase in pests and diseases, the use of pesticides has also increased. Fungicide and insecticides were common pesticides used by vegetable farmers in Nepal (Aryal et al., 2016). Pesticide use is intensive in commercial farming of vegetables (Sharma, 2015). In consistent with this, farmers in Panchkhal appears to have used intensive pesticides in the past. At one time, agricultural product from Kavrepalanchok was banned from Kathmandu's largest vegetable market because of the use of heavy chemicals by the district's farmers (ICIMOD, 2015). However, farmers now seem to have acknowledged the drawbacks of excessive pesticide use and are gradually transitioning towards bio-pesticides as an alternative solution, recognizing their environmental and economic benefits. During a conversation with a farmer, he said:

Village was once filled with the strong odor of chemical pesticides sprayed in the fields. One of my elder used to express concern remarking 'I think I am going to die of this smell'. However, the village environment has since changed, with the absence of the pungent odor.

This shows that people have become cautious in pesticide use. A local vendor of seed and pesticide in Panchkhal agreed that hard pesticides are less used but said pesticide sale have not decreased.

The environmental effects of applying pesticides to crop fields can be widespread because these substances can be absorbed, spread by wind, and water. A lot of widely used pesticides damage non-target organisms as well as the environment and cause pollution in addition to their intended targets (Nyaupane, 2022). Human health concerns from exposure to these pesticides include immunological suppression, neurological disorders, anomalies of the reproductive system, hormonal imbalances, and possibly cancer (Kaur et al., 2024). Additionally, farmers who are exposed to these chemicals may feel tired, irritated on their skin, have headaches, and have

respiratory discomfort. Furthermore, the delicate balance of ecosystems is troubled when synthetic pesticides are used in agricultural regions, endangering natural enemies and pollinators (Samanta et al., 2023). Beneficial species and natural predators exist in agricultural ecosystems to aid in the management of dangerous pests. Pest management and crop pollination are greatly aided by these "natural enemies," which include earwigs, damsel bug, earthworms, ladybird beetles, ground beetles, ants, birds, and bats. Indeed, they constitute as much as 33 percent of pest management in agricultural contexts, and they play a major role in natural pest control (FAO, 2018; Karp et al., 2018).

Impact on Crop Production

The impacts of climate change will have major effects on agricultural production, with a decrease of production in certain areas and increased variability of production (FAO, 2013). While 92 percent of farmers interviewed observed a significant surge in production, only 4 percent reported a drop, with another 4 percent noting no change. However, this apparent growth is largely attributed to the use of hybrid seeds, acknowledged unanimously by farmers. This shift has proven beneficial even in arid regions like Hokse, where certain maize hybrids have nearly doubled yields, compensating for declines in local seed production and allowing for diversification of crops where conditions permit. In conformity with Müller-Kuckelberg (2012), perennial droughts, erratic and delayed rainfall pattern has led to declining crop production in Panchkhal as well. Farmer's in Panchkhal experienced the decrease in production as they were compelled to plant late because of late onset of monsoon. Absence of rainfall hindered the sowing process of maize crops which adversely affected the yield potential of early-planted crops. Besides, as mentioned earlier, the Rice *false smut* disease reported by farmers in Ojetar caused yield loss. It reduces grain quality as the *false smut* balls replaces the grain which is the typical symptom of this disease (Jiehua et al., 2019)

Araus et al. (2008, as cited in Gollin, 2011) point out that water availability is one of the main limits to crop yield. Cereal harvests in Asia in 2018 declined to below-average levels in the Near East (WMO, 2019). In Nepal also the untimely start of monsoon rainfall resulted in rain deficit in the eastern Terai lowlands in 2005/06. This reduced crop production by 12.5 percent nationwide and about 10 percent of

agricultural land was left fallow due to rain deficit. On the other hand, heavy rain with floods in the midwestern Terai reduced crop production by 30 percent (Regmi, 2007, as cited in Poudel, 2016). Due to the centrality of agriculture to the subsistence of farmers and the national economy of Nepal, such decrease in production also will have detrimental effect in rural households and overall economy. In some parts of Sub-Saharan Africa, increase in crop failures is already incurring high economic damages and threatening food security and they are projected to be severe as global warming continues (World Bank, 2007).

Floods and Landslides

Floods during the monsoon are a natural phenomenon in Nepal (Dixit, 2013) and incessant rainfall in August 2017 resulted in widespread floods across 35 of the country's 77 districts. In the study area, 60 percent farmers (fig. 7) reported that in 2019 monsoon, flash flood in Jhiku Khola River damaged crops in its lower watershed area. But it is not a prominent problem for their farming. Historical trends show that floods are the result of combination of the natural factors in Nepal such as continuous rainfall and cloudbursts, snowmelt and rainfall, glacial lake outburst floods and bishyari (NPC, 2017). A bishyari is a flood that occurs when a landslide breaches dams by the reservoir of water in the river which forms upstream of it (Dixit, 2013). During monsoon cloudbursts, landslides and flash floods occur in the mountains (NPC, 2017). The landslide situation in Panchkhal is in contrary to other places in the mid-hills as no major landslides have occurred as stated by farmers.

Out Migration and Expansion of Forests in Cultivable Lands

The heavy dependence on rain for irrigation and nonexistence of alternate source of water for the irrigation purpose in Hokse has forced the new generation to seek alternatives for livelihood. This response of farmers is consistent with NPC (2013) which mentions that in Kavrepalanchok, people with homes in the highlands have moved to lower elevations where more water is available. The lands that used to yield three crops a year have turned barren. As a result, the forest species started invading this fallow land and now can be seen expanding its size in the area. FAO & IPCC (2017) agrees that the outmigration from agriculture, together with a structural change in the economy over the past 10–15 years have opened agricultural lands for reforestation.

Off-farm Activities

In Hokse area, residents of Ward No. 8 in Panchkhal Municipality have noted a significant trend of newer generations migrating away from farming. This phenomenon is prevalent across resource-poor villages in Nepal, where migration serves as a crucial livelihood strategy (NPC, 2013). In Hokse, this migration pattern primarily due to the lack of irrigation water and inadequate resources to sustain agricultural livelihoods. As one senior citizen in Hokse stated -

The village once had number of water sources. But over the past decade or so, these sources gradually disappeared and the farming has become difficult. There is no other source except this newly built deep boring. Young members in the family started moving away from agriculture. Many houses now have only elder members who are unable to tend to the farms. This trend resulted in the growth of uncultivated land.

This was particularly pronounced in the Hokse area. In the low lands of Hokse and some parts of Baluwa (ward No. 12), lack of water accessibility has led to the conversion of land for brick kilns. Numbers of brick kilns have increased in the area as people started seeking alternative income from the sale of soil. This trend mirrors that observed in Namobuddha Municipality within the same district where increasing urbanization and loss of farmlands has seen many people transition to non-farm occupations such as working in brick kilns (Global Green Growth Institute [GGGI], 2018).

On the one hand, the current trend of abandoning farming and converting lands into brick kiln sites will bring environmental harm despite economic gains. Farmers have observed that crops in nearby areas of brick kilns often suffer discoloration due to emissions from chimneys, leading to frequent protests from affected farmers. On the other hand, the sustainability of income from brick kilns is questionable in the long term. As urbanization increases, there will be more local demand and stronger local markets for agro-products (GGGI, 2018) which cannot be met if this trend keeps growing.

Conclusion

Climate change has become a critical issue in agriculture sector of Nepal. Panchkhal

Municipality in the mid hills of Nepal, due to diverse climate, has tremendous potential for agriculture, particularly the vegetable products. Increased temperature and rainfall variability have posed a great risk to livelihoods of farmers heavily depended on rain-fed farming in the Panchkhal. The linear regression of temperature data shows the maximum temperature has increased by 0.0177°C per year and the minimum temperature has dropped by 0.0271°C per year over 1980-2023. The regression value for both maximum temperature rise and minimum temperature drop with time is statistically insignificant. Similarly, the 44-year precipitation trend shows variations in yearly rainfall totals. The majority of the farmers in Panchkhal area perceive fluctuation in temperature and precipitation and extreme weather events in their locality in the last fifteen or so years. The precipitation is more realized than temperature by the farmers. They agree on decrease in rainfall amount and frequency and late onset of monsoon. This has led to decrease in production although hybridized seeds seem to have relieved to some extent.

The Panchkhal Municipality significantly depends on streams like Jhiku Khola and Danfe Khola for irrigation but locals have seen a notable decrease in these streams' flow. This also holds true to other perennial streams in the vicinity as the streams dried up partially or completely especially in upper and middle Hokse. The disappearance of water springs in areas like Salghari, Hokse, and Ojetar has worsened the situation, exacerbating water shortages. As the temperature and precipitation trend and farmers perception on climate change show, farmers are already feeling the adverse impact of climate change in their farming which is primarily felt in the form of scarcity of water and increase in diseases and pests in crops. The farmers have experienced multiple impacts of climate change in the farming, including scarcity of water, increase in disease and pests, use of pesticides and health, decrease in production, floods and shift towards off-farm activities. Drying up of small streams and disappearance of springs resulted in acute shortage of water in many places which have affected the rain-fed farming. The heavy dependence on rain for irrigation and nonexistence of alternate source of water for the irrigation purpose in Hokse has forced the new generation to seek alternatives for livelihood.

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Patterns of Electoral Violence and Security Concerns in Nepal

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Abstract

Electoral violence, as direct and indirect acts of violence intended to affect power structures and election outcomes, is a major threat to the integrity of the voting process. Nepal in the past few electoral exercise has been experiencing increasing number and forms of electoral violence that have known to derail democratic practice and disrupt the social cohesion. The study attempts to unravel these phenomena in Nepal through a qualitative research method employing focus group discussion, interviews, and an extensive review of secondary sources to show that conflicting political ideology, social and ethnic tensions, poverty, economic inequality, and convoluted frustration with socio-political structures are the leading causes of electoral violence. This paper argues that electoral violence undermines the participation of people in the electoral process, thus hindering the progress of democracy in Nepal. The state must ensure a comprehensive security mechanism throughout the electoral process that includes but is not limited to efficient use of technology, promotion of voter education, strengthening the impartiality of state agencies and law enforcement, and enacting legislation prohibiting political party manipulation to ensure free and fair elections.

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Introduction

A local attempted to take a ballot box from a polling station after voting ended at Tribeni Municipality's Nateshwari Basic School in Bajura District during Nepal's federal and provincial elections in 2022. Because of this clash, Sanjeev Aidi, a 24-year-old local youngster, was shot and killed on the spot, while Chetan Aid, another local youth, and one police constable were critically injured and subsequently died while undergoing treatment in hospitals (Outlook, 2022). During a telephonic interview on March 20, 2024, a local journalist PD from Bajura district stated that the two people who died were relatives, an uncle and a nephew. However, even the close familial ties could not restrain the political enmity, which led to the horrific incident. Police report was filed against twenty-five residents of Kotyari village, Tribeni Municipality-7, due to political rivalry. The remaining of them escaped to foreign countries, including India, while the six others were detained pending trial. The village's political and social climate continues to be extremely challenging and unstable following the election. Even among close relatives and kin, locals with differing political beliefs often leads to conflict. There are cases of alleged witchcrafts, longstanding psychological trauma, communication cut off or what Nepalese call *Paani Baaraabarko Abastha* even within close families and kins because of election related disputes. On March 29, 2024, informal conversations with security personnel stationed during the Bajura elections revealed that, as a result of the deadly and violent incident, leaders of the Nepali Congress and the Communist Party (Unified Marxist-Leninist) blamed each other for seizing booths and conspiring to commit the fatal violence. The Nepali Congress representatives insisted on vote counting, while leaders of the Nepal Communist Party (Unified Marxist-Leninist) urged re-elections. The Nepalese Election Commission and the Ministry of Home Affairs formed separate inquiry committees to examine the violent and fraudulent cases. Political party cadres became more enraged in district headquarters and town areas, calling for strikes, while party leaders on both sides divided about the district's electoral procedure. The voting station located in Budhinand Municipality-5 was re-pollled after being postponed due to fraud. It took the Election Commission almost twenty days, after inquiry committee reports, to decide to start counting the votes for federal and provincial legislators in the Bajura district.

The aforementioned case of electoral violence is one among numerous violent election related incidents that weakens democratic practices and people's belief in it, in addition to causing property losses, psychological distress, and societal division in Nepal. Election-related violence is therefore on the rise in Nepal, an indication that the electoral system in Nepal is not efficient in protecting the very foundation upon which democratic systems are based. Carter Center stated that heightened security following Jana Andolan II and the peace process contributed to an increase in voter intimidation during the 2008 election campaign. The United Nations Office of the High Commissioner for Human Rights reported that 21 election-related deaths occurred. The Maoist cadres and others were accountable for the majority of physical attacks and deadly violence (The Carter Center, 2008, p. 30). The 2013 Constituent Assembly Election caused 1,286 injuries, 116 kidnappings, and 50 fatalities, as reported by the Carter Center (2013, pp. 43–44). These incidents included brawls between competing party supporters and 12-armed protestors opposed to the election boycott.

In this context, several developing countries around the world, notably those in South Asia emerging democratic country like Nepal, witness violation of their electoral integrity by the violence during the elections. The primary focus of this research is to identify underlying causes and patterns of violence and the potential effect of election violence in Nepal on democratic practice and social cohesion. For this purpose, the qualitative methods including the focus group discussions, interviews, observation, and retrospective case analysis and in-depth study of secondary literature have been conducted.

Background

Political talks are favourite teatime or past time activity for most Nepalese adults who constantly debate the existing political structure and ruins it has supposedly caused to the beautiful country of Nepal. However, during the periodic elections that take place in their towns, villages, and cities, many of these citizens are known to exercise their right to vote depending on emotional fervour, presumable favours or conflicting interests rather on capability of the candidates. Further, in Nepal, lawmakers and legislators are known to act self-servingly and seem to care less about maintaining strong institutions, social cohesion, or the rule of law (Bhandari, 2014). This derails the purpose of election as the very ground upon which democracy

stands on. Likewise, to further their own agendas, political party leaders also known to manipulate gullible youth into performing acts of violent nature during elections (Collective Campaign for Peace [COCAP], 2022). Alarmingly there seems no repercussion to these acts. For instance, there were plenty of reported cases where the candidates faced intimidation, physical attacks, and more explosions prior to the 2017 provincial and federal elections in an attempt to sway the results during the 2017 local election (COCAP, 2017). Khatiwada (2017) reported that two members of the Communist Party Nepal (Maoist Centre) destroyed ninety ballot papers in front of vote-counting officials, party representatives, and security personnel during the vote-counting process for the mayor of Bharatpur Metropolitan City's Ward No. 19. The police detained them, and later a case was filed in court. The vote-counting process was stopped and restarted after a few days of consent among political parties. In addition, as very few of these forms of violence face legal ramifications, despite election codes of conduct and security measures, Manandhar (2017) stated that violent incidents during Nepal's previous elections cast doubt on the idea of a free and fair election.

The Nepalese Constitution (2015) guarantees the people's right to freedom of speech, including the ability to form political parties, unions, and associations, as well as peaceful assimilation without the use of force. However, Political parties in emerging democracy like Nepal often are known to forcefully seize power, and one of their common tactics is to misuse resources and processes of the state. Political parties in Nepal have different and often conflicting ideologies and practices, so their active involvement in the election process influences the results. Accordingly, political party sister wings frequently resort to violence as a means of pressuring voters to endorse their political agendas. Election-related violence are further intensified by a protracted dispute, the politicization of democratic institutions, and the dishonesty of public servants (Basnyat, 2017) resulting in weak electoral process. Moreover, when the quality of the electoral process is poor, the expectation of elections simply has a negative impact on the structural effects (Chauvet & Collier, 2009).

More than 64 countries (the US, the Russian Federation, Iran, Mexico, the UK, India, Bangladesh, Pakistan, and the EU) are set to hold national elections, and the outcomes will have a long-term impact on the lives of many these vast population. Simply holding an election does not guarantee a fair and impartial

process. Elections can prevent conflicts and act as a safety valve for representative democracy, but they are not a cause of insecurity or conflict, as Kumar (2015) noted. For instance, Bangladesh's prime minister, Sheikh Hasina, was re-elected for a fourth term in January despite the main opposition party's boycott of the vote in protest of a months-long crackdown on political dissent. In another breach of democratic practice, former Pakistani prime minister Imran Khan was jailed, his party repressed, his supporters imprisoned, and election results manipulated (Ewe, 2023). Similarly, post-colonial Africa saw ongoing struggles, historical legacies, and violence during its transition; in this context, gaining power through elections became essential (Taylor, 2018).

Similar to most of the south Asian countries in general, Nepal specifically is experiencing violence during the election process. The election violence in Nepal is known to target individuals, infrastructure, data, and materials throughout campaigns, the general the integrity of the voting process and has the potential to worsen social cohesion, weaken the rule of law, and escalate problems in the country. Here, it is important to note that while there can be an election without democracy, it is generally accepted that there is no democracy without elections. This therefore underscores the importance of an election to a democracy (Luqman, 2009). Thus, if Nepal is to grow as a federal democratic republic, it must focus on strengthening the election process, which is the foundation of democracy and fosters stability, peace, and prosperity.

With the brief background, the purpose of this article is to identify the factors that have contributed to the violence during the elections in Nepal as well as how that violence has affected democratic practice and social cohesion beyond the time of election. A number of recommendations have also been produced for mitigating electoral violence.

Research Methodology

The study employed a qualitative research design owing to the complexity, variation, and context of the socio-political phenomenon. For this purpose, the researcher conducted an in-depth review of secondary literature and expert opinions, Key Informant Interviews (KII), focus group discussion, field studies, and case studies using purposive sampling methods. Through the contextual lens of participant

voices, this method allows researchers to explore the ways in which historical events, power structures, and local dynamics influence the voting process. The study area was selected based on earlier reports of more violent incidents taking place during the electoral process and consists of a few polling places as well as the surrounding wards of the districts of Banke (Raptisonari Urban Municipality), Dang (Lamahi Urban Municipality), East-Nawalparasi (Devchuli Municipality), and Chitwan (Bharatpur Metropolitancity, Ratannagar Urban Municipality).

The study comprised approximately 30 respondents from the Banke, East-Nawalparasi, Dang, and Chitwan areas, including election officials, law enforcement personnel, voters, local political party leaders, victims of cases, and media representatives. In order to conduct an in-depth understanding of the issue, the researcher examined the various ideas and viewpoints of the respondents using direct ways, secondary sources, and the researcher's own experiences. The researcher interviewed witnesses and victims of past election-related cases both in-person and remotely through electronic media consultations. The participants consented to the use of their information for the research purpose. A care has been taken to ensure anonymity of the participants on ethical grounds. The researcher has maintained that there is no conflict of interest between the study and their professional background.

Understand Election and Electoral Violence

The constant political upheavals in Nepal have made preserving peace and stability more difficult, prompting a deeper understanding and mitigation of electoral violence for a thriving democratic practice. As stated by Akwei (2018), free and fair elections are necessary for a thriving democracy. However, it is clear that elections and violence can coexist and undermine the integrity of the electoral process in transitional democratic countries and, on occasion, in established democracies. Election violence is not a new phenomenon in many countries throughout the world, and many types of electoral violence, such as fatalities on election day and property destruction before, during, and after the election, are common.

Elections serve as the recognized process for selecting candidates for positions of authority, allowing for the orderly transition of power between administrations, and encouraging popular participation in public affairs, according to Okolo (1980).

Elections, then, are a formal process that are essential to democratic systems around the world, where citizens can cast their votes for various candidates. Though elections are not a means of resolving conflicts, they encourage them to be expressed through peaceful and regulated processes. Elections form the foundation of a genuine democratic system. The electoral process is supposed to contribute towards democratic consolidation. Thus, voters select their candidates through the electoral process who represent their diverse interests (Olowojolu et al., 2019, p. 1).

The electoral violence refers to several types of organized psychological, physical, and structural threats/acts with the primary goal of intimidating, harming, or blackmailing political stakeholder(s) prior to, during, or after an election in order to delay or influence the electoral process (Abdulai, 2023). Fischer (2002), defined electoral conflict or violence as any deliberate, planned, or random act or threat to intimidate, hurt, coerce, or harass an electoral stakeholder with the intention of controlling, influencing, or directing the outcome of an election (p.3). Electoral violence is a particular phenomenon that can influence a nation's perception of democratization. Although electoral violence may be insignificant in relation to national levels of violence, studies show, if neglected, it can result in "diminished support for democracy, reduced legitimacy of leaders, and, possibly, the seeds of civil war" (Robinson, 2015, p. 1).

Fischer (2002) stated that the electoral process as a means of achieving governance is an alternative to violence. If the electoral process is perceived as unfair, unresponsive, or corrupt, its political legitimacy is compromised, and stakeholders are motivated to go beyond established standards and achieve their objectives. Thus, political parties have turned conflicts and violence during elections into strategies. Reilly and Reynolds (2000) have likewise argued that a culturally plural society's election system might have an impact on the risk of violent conflict in the future.

Pramod Kantha identified four distinct periods of Nepal's democratization process: the first transition (1950–1959) led to King Tribhuvan's exile to India. While King Birendra initiated a centralized system during the second transition (1979–1981), from the Third Transition (1990–1991) to the Fourth Transition (post-2005) and onward, the King violated the constitution during the third transition and faced tension with parliamentary parties during the fourth, resulting in reform through conflict (Kantha, 2010, pp. 62–66). In this regard, Dahal, D. R. noted that Nepal

experienced a democratic revolution in 1950, led by middle-class politicians who established multiparty democracy and a constitutional state. However, in 1960, King Mahendra toppled the elected government and established the Panchayat system, a centralized, strictly regulated form of governance, thereby bringing the democratic era to an end. This shift has had long-term implications on Nepal's political atmosphere, paving the path for future events and issues (Dahal, 2010, p. 3). Furthermore, Hachhethu (2014) stated that Nepal's political landscape is a contest for dominance, with frequent government changes and immoral strategies like bribery, coercion, blackmail, and legal ambiguities used to establish and destroy governments. Conflicts within the government, judicial actions, parliamentary skepticism among lawmakers, and internal divisions among political parties are all significant issues affecting governance. The ruling class's moral decay due to power abuse and personal gain has led to political and constitutional crises.

Nepal held national parliamentary elections for the first time in 1959; this marked the end of multiparty democracy in 1960. The Nepalese people realized the value of peace and democratic stability for development after living through unresolved peace during royal rule (1960–1990). The various political movements and the Maoist insurgency had brought about significant structural changes, but the same elites frequently undermined these changes. However, the Maoist insurgency (1996–2005) and the government's response brought about a great deal of death, as well as social unrest, economic devastation, and displacement, which in turn caused anxiety, fear, and unemployment (Baral, 2012, p. 473). In addition, Baral (2012) stated that the political parties in Nepal have struggled for democracy in opposition, however they have failed to build institutions and systems while in power. The Comprehensive Peace Agreement of 2006 resulted in Nepal's interim constitution, which was adopted in 2007. The 2008 Constituent Assembly-I attempted to establish a democratic constitution, however conflicts led to the CA-I's expiration in 2012. However, it preserves democratic values and protects all people's rights, particularly those of marginalized and vulnerable communities. The second election was held in 2013, and the constitution was finally accepted in 2015 (International IDEA Nepal, 2015).

Pokharel et al. (2012) noted that some historical vulnerabilities still exist among the political parties, their cadres, youth wings, and non-state actors in Nepal. There

is a low level of inter- and intra-party democratic cultures, and transparency in the decision-making process has deteriorated public trust. These types of factors affect the quality of political entities; division and polarization create a violent environment. Elections are a method for implementing some of the core values of democracy, particularly citizen involvement, which supports effective governance and elected representatives' responsibility. Therefore, the effectiveness of elections serves as an indicator of how well governance has been established (Etannibi, 2007).

Observers and independent experts note that political parties in Nepal form alliances and split seats among themselves during elections, forgetting one another's political goals and ideologies in order to pursue their individual ambitions for power (Karki, 2022). Previous Nepalese elections showed how the behaviour of the ruling and opposition political parties weakened the credibility of the electoral procedures. For instance, the political party's sister wings confronted law enforcement and election authorities while violating the election code of conduct. Furthermore, the parties frequently focused on the intra-and inter party political disagreement by sharing and dividing the seats to manage their interests, which polarized the situation and increased the frustration of the systems. Likewise, the Nepal Transition to Peace Institute carried out a number of activities with the support of UNDP Nepal's Electoral Support Project to draw attention to challenges with the current electoral process and system, which include financial transparency issues, regionalism, communalism, and misuse of public funds, all of which were undermining public trust in elections. However, election-related physical violence has significantly decreased in recent years due to better security, voter ID cards with photos, and the use modern tools (UNDP Nepal, 2020).

A political process that uses elections to decide who has the right to exercise the primary legitimacy of power acts as a peaceful competition. Elections are an effective tool for lowering tension and setting up systems for reaching amiable agreements. Elections are stressful events due to numerous others; such peaceful methods seek to resolve social, political, ethnic, religious, and economic disparities (ACE Newsletter, n.d.). However, in the Nepal's election system, no party could secure a majority in the house without forging an inter-party coalition, stated Sher Bahadur Deuba, the chairperson of the Nepali Congress Party, during his party conference. For this reason, power is necessary for everyone; nonetheless, gaining

power requires winning elections, and even power struggles occur across the world (Hamrakura.com, 2024). The majority of the political incidents are intended to affect voters in favor of one of the candidates. Because of their alliances, Nepal's sister political party wings are more likely to engage in violent disputes.

Besaw (2021) studied the threat to elections around the world and found that every country with a national vote scheduled for 2021 had a risk of violence in elections. In eight countries, including Nepal, Chile, and Haiti, there was a 76% to 90% probability of election violence. In addition, there was a more than 90% chance of violence in Ethiopia. This data revealed that, despite the fact that the types of violence and its root causes vary, election-related violence is rising globally at comparable rates in both democracies and non-democracies.

The Tony Blair Institute reported that in five consecutive election cycles, at least 1,525 Nigerians have lost their lives due to election-related violence, major disputes between the parties backing the outgoing and incumbent presidents, and terrorist attacks across the country. The Institute noted that violence, mostly from terrorist organizations like Boko Haram, the Indigenous Peoples of Biafra (IPOB), and bandits, had caused significant disruptions to the 2023 elections (Mac-Leva, 2022).

Kirby (2024) reported that Putin won the presidency with an overwhelming victory, claiming Russia's democracy was more open than in the West. However, 80 Russians were detained, including Alexei Navalny; Mr. Putin's rival was killed in detention. Germany described the election as a "pseudo-election" using violence, repression, and censorship. Thus, Birch et al. (2020) distinguishes between the micro- and macro-level effects of electoral violence. The previous focus was on the influence of electoral violence on individuals, namely their political attitude, participation, and knowledge. A macro-level study shows how electoral violence affects overall outcomes, participation in elections, and the exercise of rights and freedoms.

Venkatesan (2024) reported that the Supreme Court of India declared electoral bonds unconstitutional, citing the 2018 Electoral Bond Scheme (EBS) as a breach of the fundamental right to free and fair elections. The court expressed concerns about how unrestricted corporate contributions to political parties jeopardize democratic processes and potentially lead to the misuse of resources intended for public policy. It also raised concerns about how this could violate voters' right to information.

Thus, election-related violence in India has been linked to a number of factors, including political rivalry, fraud, the Maoist insurgency, the criminalization of politics, a lack of accountability, and socioeconomic inequality (Kumar, 2015, pp. 43–44). "Communalizing stakeholders and criminalizing electoral processes are the two main challenges that democracy faces today," he continued. Criminalization requires money and muscle, while communalization is more subtle and polarizing. Sivagnanaselvam (2021) asserts that money affects democracy not just in India but also all over the world. Due to the creation of electoral bonds, India has the least amount of regulation over election funding when compared to other democracies of a similar level. There is a greater chance that the super-rich will control public policy and disregard the interests of the majority, especially the weak and impoverished, due to differences in political funding. However, Bekkouche and Cage (2018) concluded a direct relationship between electoral success and electoral spending based on in-depth research on electoral financing. In France's parliamentary and municipal elections, the study found that the cost of one vote was six euros and thirty-six euros, respectively. In 1995, France banned all forms of corporate financing and imposed a limit on individual donations of EUR 6, 000.

Like elsewhere in the world, electoral violence and security are major challenges for democratic consolidation and peace building in Nepal. The instances of attacks on candidates and party employees in the run-up to the by-elections in 2017 and 2022 indicate that Nepal still faces a risk of electoral violence in the future. In this context, Birch et al. (2020) discussed that electoral violence can have negative impacts on the electoral process, such as reducing voter turnout, influencing voter choice, disrupting vote counting, and challenging election results.

In this regard, this study has attempted to acquire knowledge on electoral violence's pattern, its underlying causes and the consequences in a bid to get to the crux of electoral process as it affects democracy and social cohesion. Elections can have a wide range of implications on a nation's political climate and economic prosperity. This article explores the consequences of electoral violence on Nepal's political institutions, democratic processes, and social divisions.

Findings and Discussions

This section compares and discusses the primary election issues, causes, and outcomes in Nepal primarily based on field visits and corroboration with secondary

resources to illuminate the various forms of violence that occur during elections and how they affect electoral processes, democracy and social cohesion.

Patterns of Electoral Violence in Nepal

Electoral violence encompasses intimidation or harassment directly related to the electoral process. It may take place before the election, on the day of the election, or immediately after the election has taken place, often because of the announcement of the outcome. The definition of electoral violence encompasses a number of behaviours, such as the distribution of hate speech leaflets, the forced displacement of certain groups of voters, political assassinations, and targeted violence. In addition, it includes protests and riots that take place as a direct result of elections (Burchard, 2015, p. 12). Compared to other countries in the region, Nepal's elections were noticeably less violent, particularly in terms of the quantity of violent deaths that occurred. Voting in the 1981 election was allegedly discouraged after police detained 30 people and used force to put an end to unrest. There were two police deaths and at least seven injuries reported during a riot. There was a minor spike in election-related violence in 1991, which led to the deaths of twelve individuals because of political violence in Nepal, 1994 and 1999 elections resulted in five deaths in separate incidents. There were a few violent incidents on Election Day, along with a relatively low turnout (Homolková & MA, 2019).

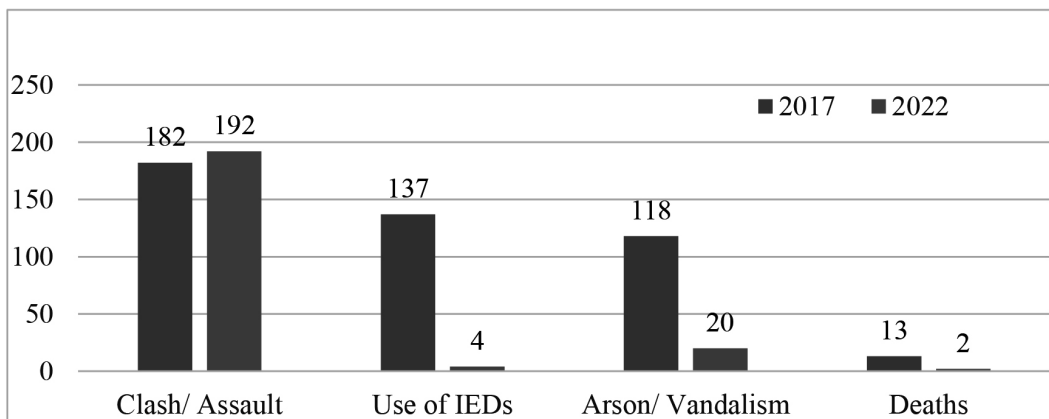
During the 2008 Constituent Assembly election in Nepal, violent conflicts, threats, intimidation, and kidnappings escalated, resulting in 21 deaths: 12 CPN-M cadres, two candidates, eleven of whom were shot by police, and 40 abductions involving CPN-M and four other party members in election-related violence (OHCHR-Nepal, 2008, p. 3). In this regard, Tamang (2012) noted that without disclosing the document, the first Constituent Assembly election, which was scheduled to produce a new constitution by May 2012, was dissolved. Because of the 2006 Comprehensive Peace Agreement and the goodwill of political parties, the 2008 CA elections were held after it. Despite being declared free and fair, the 2008 Nepalese elections are still prone to violence. However, Plachta (2014) reported a significant decrease in violence during Nepal's 2013 Constituent Assembly election compared to the 2008 election. Boycotting groups utilized violent and intimidation tactics, such as firebombing vehicles, to enforce a 10-day transport strike, leading to injuries and deaths. Migrant citizens returned to vote, causing fear and reducing voter turnout through incidents in their home districts. The intensive deployment of

security forces to counter boycotting parties had significantly reduced their ability to disrupt elections. Although there were vulnerable violent events and acts of intimidation during the election, the process was far more peaceful than the 2008 election. The changing patterns of violence in past CA elections had an impact on the democratic process; rather, the 2008 and 2013 elections in Nepal's Constituent Assembly reinforced democratic processes, setting the groundwork for the adoption of the 2015 constitution. The changes show the evolution of democratic institutions, ending the political transition since 2007 BS (1950–51) and establishing the Federal Democratic Republic (The Carter Center, 2014). In Nepal's politically volatile context, it is crucial to tackle the underlying causes of electoral violence to ensure lasting peace and democracy. These show that there has been no cessation of violence in Nepal; rather, the patterns of violence have changed, endangering Nepal's democratic institutions.

Likewise, since Nepal's local elections in 2017 and 2022, more events have occurred, according to the analysis. During the 2022 election, Nepal Monitor recorded 459 injuries, 192 attacks and disputes, 20 cases of vandalism and arson, and 4 Improvised Explosive Device (IED) incidents. In the 2017 local election, there were 182 violent incidents and attacks, 118 cases of vandalism or arson, 137 cases of IEDs planted to terrorize candidates, polling places, or campaign locations, and 13 violent incidents that resulted in fatalities (COCAP, 2022).

Figure 1

A Comparison of Violent Election-related Incidents in 2017 and 2022



Source: Adopted & modified the chart from the COCAP

When compared to the local election in 2017, the data above indicates a slight increase in conflicts and assaults related to elections. There was a significant drop in violent incidents, such as the use of IEDs, arson, and vandalism, despite initial threats of obstruction and disruption by the Madhes-based regional parties and the Communist Party of Nepal (CPN), led by Netra Bikram Chand. In Nepal, the local elections of 2022 were marred by electoral violence primarily due to rivalry between competing candidates or political parties (COCAP, 2022).

During the 2017 election campaigns, there were only a few reports of voters' voter IDs being misplaced or not matching their serial numbers. Nonetheless, there were 70 attacks on polling places, independent candidates, and political parties in different districts because of violence. One police officer was killed, and the attacks targeted terrified but hurt candidates and supporters (The Carter Centre, 2017, p. 10).

Chief Election Commissioner Dinesh Kumar Thapaliya stated a few minor incidents in the 2022 federal and provincial elections, leading to temporary voting rescheduling at 15 polling stations across four districts, and the nationwide voter turnout stood at around 61 percent. However, the voter turnout is significantly lower as compared to the past two elections: 77 percent in 2013 and 78 percent in 2017 (PTI, 2022). As stated by Kapil Shrestha, the chairperson of the National Election Observation Committee, political parties and their leaders must be held accountable for the violence that resulted from their careless statements during the election campaign. Additionally, he emphasized that the breakdown in law and order was a consequence of the inadequate number of police personnel assigned to ensure a single-phase election (Ghimire, 2022). However, almost 300,000 personnel, including the Nepali Army (71000), Nepali Police (71,693) with 115 thousand temporary police, the Armed Police Force (35000), and the National Investigation Department (over 200), were assigned to security duties in the 2022 House of Representatives and Province Assembly elections (The Rising Nepal, 2022).

In the research areas, electoral violence ranged from psychological threats and intimidation, voter's fraud, bribing, misuse of authority, disruption, destruction and vandalization of property to physical harm and even murder.

A former Dang district delegate, who witnessed the incident with Khum Bahadur

Khadka, shared his story (interviewed in February 2024) while remaining anonymous. According to him prior to the election, on April 9, 2008, in Lamahi Bazar, Dang district, a tragedy occurred while prominent politician and candidate Khadka was returning from his Constituency Assembly campaign. The incident happened soon after Maoist supporters attacked the senior politician's car. In response, the leader's security forces immediately shot five Maoist cadres and gravely injured two more. Similarly, in a violent incident that happened shortly before the 2022 local elections, Sagar Pariyar of Bharatpur Metropolitan City, 6 Krishnapur, (interviewed on February 20, 2024) stated that a criminal gang using a sharp object fatally stabbed his brother Anil Pariyar, a member of the Nepali Congress. His brother passed away at Chitwan Medical College after being attacked with a sharp object. Sagar asserted that his family, particularly his elderly parents, are traumatized and in constant tears as a result of the circumstances surrounding his death.

Vandalization of property and disruption were also another pattern of electoral violence costing the state not only economic losses but more alarmingly loss of citizen's trust in democratic process. And in the course of the field research, HN Poudel (dated February 20, 2024), the local representative for Ward 3 in Devchuli municipality, reported on the destruction of the ballot box at the Shanti Shrijana lower secondary school polling place in Daldale, Nawalparasi-West, during the 2022 federal and provincial elections. A voter named Narayan in the area infiltrated and poured chemicals into the voting box. Shortly after it was ignited, the entire poll box was destroyed. The security situation at the polling station was disrupted and frightful that voters rushed away, and the polling was postponed. The accused was immediately taken into custody, and the polling resumed on the second day. The accused had been held in police custody for a month for an investigation. A local police officer who was deployed there said that the accused was a criminal-minded person, and member of anti-election criminals used him to disrupt elections. The local chairperson and some locals claimed that the accused, Narayan, was a member of the Janata Socialist Party, and the police later freed him and handed him over to the party. What this case shows is the vulnerability of Nepalese electoral process and the lack of repercussions to the perpetrators that inevitably encourages such violence and strengthens impunity.

Furthermore, in an effort to tamper with the elections, the ward chairperson and the

local security officer disclosed that anti-election criminals had detonated homemade explosive devices close to the polling location at Diva Jyoti Adharbhut School in the ward 12 of Devchuli municipality. Later on, the police discovered a criminal organization opposed to the election that intimidated voters with explosives.

Criminal or terrorist gangs and their use in the election were also a common feature of some electoral booths in recent elections. NDS, a local security officer, stated (interviewed on February 20, 2024) that he had been sent to the Rapti-Sonari rural municipality for the Banke district local elections. The primary security threats to the Rapti-Sonari rural municipality, according to his report on the 2022 elections, were the threats of election boycotting groups-known as *Terai Bhumigat Samuha*. During their individual election campaigns, parties clashed over the issue of the same venue and route. Further voter luring and manipulation was also a scene for the particular municipality. He disclosed that he had observed political parties luring voters with food, alcohol, cash, different types of lodging, or other gifts to the less fortunate voters during the silent period during the last election while he was working in the rural municipality of Rapti-Sonari. He witnessed the stronger party agents mistreating the weaker party's agents and casting additional votes illegally.

Moreover, electoral violence can have broader consequences for the society, such as undermining trust in democratic institutions, exacerbating social divisions, and triggering or escalating conflicts (Guelke, 2000) as the section below explores.

Underlying Causes and Consequences of Electoral Violence

Unhealthy political rivalry, misuse of authority and power, and unequal socio-economic positions begets electoral violence.

Although some instances of the above-mentioned disputes occur in Nepal's electoral system, political power struggles are typically the main driver of election-related violence. Political parties in Nepal organize their sister wings, resources, and other materials to influence those who can be influenced forcibly or easily. Further, election-related violence is influenced by a multitude of factors that determine its intensity, scope, and nature. These include the political parties' stance on democracy, the National Electoral Commission's function, the protocols followed by poll workers, and the distribution of voting materials, to name a few. Many factors contribute to violence in election areas, such as insufficient electoral laws,

unemployment, poverty, and hate speech disseminated through social media and other media, and a lack of coordination among inter-security agencies.

On February 6, 2024, during a group discussion on post-election security challenges, the Banke District's Chief District Officer (CDO) and his security team emphasized that political party pressure to win at all costs, along with anti-election elements like Terai Bhumigat Samuha and other criminal gangs, were the main causes of violence during the elections in the area.

Unemployment, demotivation, socio-political frustration and thus formed gullibility are also associated with the electoral violence of Nepal. On February 9, 2024, Indrajeet, a 70-year-old resident of Ward 3 in the Devchuli municipality, asserted that the main causes of the election violence were people's discontent with prominent politicians, the use of criminal groups, unemployment, poverty, and a lack of understanding among political parties. He pointed out that the use of a local boy to set fire to a ballot box mentioned in earlier section and papers resulted from frustration and unemployment, which could be easily manipulated by the anti-element group to incite violence at the polls.

Following a discussion and analysis of the varied experiences and perspectives of participants, numerous reasons contribute to electoral violence in Nepalese electoral system. The following can be concluded as key concerns regarding the violence during the elections:

- ❖ Election violence stems from unresolved social and ethnic tensions such as marginalization and discrimination, unemployment, widespread poverty, a coalition of opposing political ideologies, political rivalry, internal party disputes, political frustration, an elusive political assurance, and a lack of economic opportunities.
- ❖ The effects of anti-election or armed groups, the abuse of public power and resources, insufficient law enforcement, impunity, and incitement by prominent party figures are additional factors that contribute to election violence.
- ❖ Additional factors that contribute to election violence include the delivery of voter identity cards, inaccuracies on voter rolls and cards, exclusion from polls, voter privacy, ballot registration, issues of adhering to a code of conduct, and the Swastik insignia stamp.

Electoral Violence Derails Democratic Process and Disrupts Social Cohesion

The most prominent consequence of electoral violence is the disruption of democratic exercise and adverse effect on social cohesion. After the violent incident in the Dang district, Lamahi area of the Constituency Assembly involving Khum Bahadur Khadka as mentioned above, Nepali Congress party members, supporters, and family members were forced to flee to the Satbariya villages and were unable to vote for the leaders. As a result, a large number of voters were absent in Dang District due to opposition pressures and inadequate security at polling stations. The eyewitness mentioned above who was also a close associate of the leader, said he left his residence for six months to ensure the safety of the family members. After the final vote counting result, the Maoist candidate Indrajit Tharu won with approximately 18 thousand votes, while the Nepali Congress candidate Khum Bahadur Khadka received approximately 10 thousand votes in this panic situation. The respondent shared he was in a state of psychological terror after the incident, as he could not recall any violent events in Nepal or the electoral process. Further, he stated that another political party had used innocent workers as puppets in their election campaign, resulting in several fatalities. It was a huge loss for the families of those personnel. Socially and psychologically distressed and traumatized inhabitants in Satbariya village, Dang district, are still reluctant to talk openly about previous election violence even as 16 years have passed since the incident.

The eyewitness was of the opinion as addition to Maoists' threats intra and inter-party conflicts (such as the internal party ego in the Nepali Congress), could have played a role in inciting violence in the Dang area during the period. In any case, electoral candidate and many of his possible voters were unable to cast vote given poor security and impending violence. As locals stated, Khum Bahadur Khadka was a strong candidate for electoral win who had repeatedly won previous election, there is a strong argument to state that the elections results were affected by the terrorising event.

Electoral violence affects the whole democratic process. However, people with intersectional identities bear the brunt of violence differently. Impunity and denial of justice additionally, prolongs the suffering of the victims. As mentioned above, a local named A. Sharma claimed that Anil Pariyar, an active member of the Nepali Congress party, was murdered in Chitwan before the local election day in 2022

as a result of the criminalization of politics through intra- and inter-party rivalry. Sagar, the deceased's eldest brother, expressed his ongoing pain and resentment at the Nepali Congress for failing to support his family's requests for governmental support, justice, or reparations. Furthermore, he expressed his deep sadness that his family a Dalit family descended from a lower caste does not access to governmental procedures and that the leaders of the Nepali Congress party are still indifferent to his family's problem. Further, even though the murderers have been taken into custody, the case remains unsolved, adding to the pain for the victim's family. He added, "The only people who are the target and victims of the elections are the weaker and poorer citizens."

Electoral violence has a long-term consequence to democracy, which often encourages nepotism and favouritism as the aftermath of the electoral process. A few women from Bharatpur Metropolitan City, Ward 7, brought up the point during the discussion shared that the winning party allocates its resources to areas where a sizable portion of its supporters live. It was also mentioned that the ward does not even advertise about trainings and other opportunities and that it offers entrepreneurial and vocational training only to anyone outside of its supporters. They suggested that state institutions be more proactive in opposing the misuse of resources and power by political party leaders to influence voters. Examples of such actions include making it illegal for political leaders to act unethically during elections, giving the public misleading information, and putting an end to political parties abusing young people by using violence. To prevent fraud during Nepal's election season, they emphasized the use of voting machines and the digitization of existing voting cards.

In the Ward 4 local sites of the Rapti-Sonari rural municipality where electoral violence was reported in the past, the study held conversations with a group of residents regarding the current local-level government services provided in their communities following the elections. The ward is primarily home to Tharu, with smaller Muslim populations, and migrated Magars from the districts of Saylan, Rolpa, and Rukum. Locals from ward number 4, B.B.Dang, J.B. Tharu, and H.Magar, stated that the local government is riddled with nepotism and favouritism. According to them, the local government routinely provides opportunities to their close friends, family members, and party cadres ignoring their qualification or basis of necessity.

They just mobilize their supporters to form the ward development committee and favour their supporters' development in the neighbouring communities. A few residents of Ward 3, Devchuli municipality, shared their perception on how to reduce election-related violence. These included educating voters and emphasizing the value of voting, using voting machines, providing employment to youth, ensuring that law enforcement and electoral officials act fairly, strengthening security, fostering mutual respect among parties, holding political party leaders accountable and transparent, enhancing voter cards, and maintaining the election commission's impartial role.

Conclusion

The pattern of electoral violence in Nepal, particularly throughout the country's transition from monarchy to democracy and the recent elections in 2022, indicates how prevalent this issue has become. Repeated election-related violence may obstruct the development of a healthy and stable democracy, lowering possibilities for peaceful political transitions as well as stable government. Violence can leave longer-term wounds on communities, triggering breaks down and hostility that could remain for the generations, disrupting societal unity and progress. Thus, electoral violence challenges the legitimacy and credibility of the democratic process, discourages participation, and escalates issues, in addition to directly interfering with elections. Further, election-related violence undermines state democratic institutions and delegitimizes the electoral process, which weakens democracy overall. Nepal has pledged to uphold multiparty democracy norms; however, more work is needed to ensure a free and fair election atmosphere and prevent violence during elections. Add how it also affects social cohesion, increases distress. Therefore, ensuring free and fair elections and fostering peace and security in Nepal necessitates an in-depth knowledge of the causes, trends, and consequences.

The government must educate the public about the importance of peaceful elections and the detrimental impacts of violence. All stakeholders, including political parties, should promote a peaceful political atmosphere in order to allow citizens to exercise their right to vote. Election commissions, electoral officials, and law enforcement agencies must exercise the utmost caution to ensure that their actions do not demonstrate bias or preference toward any candidate or party in order to preserve public confidence in the electoral process. In order to avoid unhealthy political

rivalry and violence, political parties and candidates must exhibit a democratic political culture. A robust system of technology is required to monitor, avoid, reduce, and manage election violence. To prevent any type of electoral manipulation, the government needs to review existing security measures. The government provides state institutions with the resources, tools, and legal frameworks they need to improve their professionalism, manage logistics, and hire employees. For the long-term survival of democracy in Nepal and around the world, it must correct legal systems, uphold moral standards, address public issues like employment, poverty reduction, equitable resource allocation, public awareness, transparency, fairness, use of technology, and a democratic political culture. In addition, researchers and state legislators collaborate to prevent and reduce election-related violence in order to maintain electoral integrity.

Dealing with electoral violence is a long-term process that requires ongoing commitment and engagement from political parties, other stakeholders, and international cooperation. Nepal can achieve peaceful and credible elections, improve its democracy, and promote stability by adopting these policies in a comprehensive and coordinated manner.

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Nepalese Borderland Community as State's Partner in Border Protection

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Abstract

Nepal in the current domestic and foreign state of affairs, finds itself at a peculiar threshold concerning national security, particularly with the recent events surrounding border disputes with India. In this regard, the article based on qualitative approaches such as interviews, extensive literature review and the researcher's long-standing experience as a security personnel highlights the strategic importance of the borderland population and argues that these communities are unique in their political position as citizens, particularly in relation to the state's sovereignty. The article in doing so puts the spotlight on the borderland communities who are often overlooked in majority of the literature dealing with the Nepal-India border issues. As global and national experience indicate, the borderland community as allies of the state can be important partners in national security and border protection. Alternatively, the state's dereliction of duty over these strategically important populations will prove detrimental to the state's security, territorial integrity and sovereignty.

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The Nepalese state should, therefore, urgently focus on the borderland community through programs and policies that can help reduce their grievances and build trust with the state.

Introduction

On a mid-summer afternoon in March 2017, the borderland residents of Kargildada-Punarbasa, Kanchanpur were on their way to construct a culvert at Anandabazar. No sooner had they begun the day's work, the security personnel from the other side of the border with substantial strength interrupted the construction and threatened the Nepalese community to immediately stop as they claimed the land where the culvert was being constructed belonged to the Indian side. According to a resident, the land has always belonged to the Nepalese side and these acts were nothing but a blatant attack on Nepal's territorial integrity. The Nepalese community tired of the repetitive interference and towering threats from across the border retaliated with vigour on the fateful day. The retaliation was met with excessive use of force from the other side which, rather than complying with the security force's norm of gradual use of force, immediately opened fire (Informal Interview with MS, 22nd March 2024). Unfettered by the massive demonstration of force, some Nepalese people continued their protest during which a Nepalese resident named Govinda Gautam was killed by Sasasthra Seema Bal (SSB) according to an eye witness (Informal Interview with MS, 22nd March 2024). The incident garnered much attention in Nepal and India prompting a high-level engagement of both countries. The Nepalese side commemorated Govinda Gautam's sacrifice by declaring him a Martyr. The Punarbasa community which daily stands to protect Nepal's territory has ironically experienced only little facets of development in the area. This far-off community has been struggling to avail facilities like water, a decent educational system, an accessible market, primary healthcare and even proper roadways.

The Nepalese border communities along the southern plain remain one of the most unique cases of the bordering process in South Asia. The complexities arising from perpetual socio-cultural amalgamation within and across the border and unique politico-economic developments have made the region a ceaseless space of power contestation and negotiation. The borderland communities of Nepal have been the vanguards of the border since the conception of Nepal as a nation (Warner, 2014).

Ironically, they have been questioned for their loyalty fueled by their social-cultural, political and economic proximity towards the people across the border rather than to the centre, and as a result, are often subjected to arbitrary policies and practices that hinder their rights as citizens. The paper based on key informant interviews, the researcher's long-standing personal experience as a security personnel, and an extensive review of secondary literature, builds that these forms of discrimination and negligence could alter the borderland communities' conception of belongingness which might have significant security and territorial implications for the nation. As such, the paper highlights the strategic importance of the borderland population and argues that these populations are unique in their political position as citizens and exercise distinct power concerning the state's sovereignty. The importance of the borderland population as strategic partners in national security is further highlighted given the increasing territorial disputes and distrust with Nepal's powerful southern neighbour. It is thus pertinent that the state urgently design and implement interventions to foster trust and belongingness among the borderland population.

Context

Nepal shares its political borders with India on three sides and China on the North. Nepal shares its longest border in the south with India, which measures 1880 km (Nayak, 2020) of the total 3294 Km of the border area (Shrestha, 2003). Despite the solidification of state boundaries two centuries ago, interconnectedness, interdependence and easy mobility have been a long-standing feature of the Nepal-India border. The open and porous nature of the border has thus allowed "physical boundaries to be ignored as people perceive them as irrelevant in their daily lives and cross them at ease with little, or no, restrictions to transboundary movement" (Newman 2003). Wilson and Donna in Chan & Womack, (2016) argue that borderlands are where state-defined power, history and identity are "continuously negotiated and reinterpreted through the dialectics of everyday life among all people who live at them". Accordingly, the Nepal-India border has been a transitional or fluid space where the rigidity of state boundaries is reconceptualised through the everyday exchange of culture, ideology, kinship, and economic interdependence. The lack of geographic distinctness between the two sides of the border has also

contributed to the blurring of separateness. The mutual dependence of communities on either side of the border was formally acknowledged by the Friendship Treaty of 1950 which permits privileges of residence, ownership of property, participation in trade and commerce, and easy movement for the population on either side of the open border (Treaty of Peace and Friendship 1950). As much as the treaty recognises the intricated lives of the people on either side of the border, it was also a strategic security move by the Indian government which thought of the open border as an imperial-style frontier to buffer communism from China. Nepal's Rana Prime Minister on the other hand saw the move as a way to get into the good books of the Indian state to continue his grip over the Nepalese state (Thapaliyal, 2022).

The open border has had many implications for both the countries' national policies and practices as well as on the lives of the borderland population living along it. Despite the amiability between the two neighbours, there are many border-related disputes which are significantly featured in the political landscape and the respective security and foreign policies of the two countries in recent years. Reports claim that India has encroached on over 60,000 hectares of land (Diplomat, January 4, 2020) among which Kalapani, Limpiyahura, and Susta stand prominent. The border, despite its porosity and permeability, has periodically seen closures that have questioned the 'intimate relationship' between Nepal and India, significant being the 2015 trade embargo and COVID-19 lockdowns. Added to this are the increasing criminal activities along the border including terrorist activities, illicit trade and smuggling, human trafficking, homicides, cartel networks and other activities that pose a major threat to the national security of both countries. Additionally, porous nature of Nepal- India border and distinct provision it accords to citizens on either side of the border including "privileges in the matter of residence, ownership of property, participation in trade and commerce, movement and other privileges of a similar nature' (Article 7, Peace and Friendship Treaty, 1950) have been increasingly demanded to be revised (Warner, 2014) . There is also great concern regarding the Indian population's demographic and its possibility of infiltration into the Nepalese territory and its implication to Nepalese security precisely in relation to Nepalese citizenship.

Nepal given its poor resources has been struggling to maintain order at the border.

While there are periodic discussions of increasing security at the border, it is unlikely that merely increased conventional securitization will achieve lasting protection and peace at the vast and porous border, complicating threats to national security and sovereignty.

National security as a concept, whose extensive use has been credited to the particular security concerns nations found themselves following the aftermath of World War II (Grizold, 1994) continues to be of much debate. As early as 1973, Vojin Dimitrijevic identified five core elements of national security which included ensuring the existence of the state as a political community, existence of the nation, and the physical survival of its population; protecting territorial integrity as the basic right of the state; maintaining political independence as an attribute of internationally recognized national status of the state; ensuring quality of life; embedding of the vital interests of the state in the national security policy. The concept has since expanded to include in addition to sovereignty, territorial integrity, and the physical survival of its population, and political independence- the possibilities for a balanced and rapid social development on an equal footing (Nobilio, 1988), defence, adaptation to global changes (Hewedy, 1981), national interest, strategic national priorities, measures aimed to counter threats (Pynnöniemi, 2018) and capacity of basic functioning of society. As globalization reaches new heights, national security is also inevitably interlinked with international security (Doty 1999; Krause & Williams 1997; Adamson, 2006). As such national security encompasses a diverse array of elements necessary to ensure survival of a modern nation and its sovereignty. In previous works on sovereignty, most definitions refer not to a political community as such, but to the territory over which that community/population exercises control with emphasis on states as territorial configurations (Greenwood, 1991) autonomy and recognition (Biersteker & Cynthia, 1996) the concept also includes legal authority, political power, over the territory Loughlin (2003) As such, the very idea of national security, territorial integrity and sovereignty remain inseparable from border security (Salter, 2012; Chambers, 2015; Chan & Womack, 2016).

Although borders represent the state's sovereignty and power– an important part of state identity– it is here that violation of state control often appears, and local, contingent identities emerge (Chan & Womack, 2016). The borderland community

in Nepal along the southern side are widely overlooked or looked at with suspicion mostly as the population with divided loyalty towards India and is often viewed as ‘un-Nepali’ by actors at the centre (Goodhand & Walton, 2017) owing to their socio-cultural, economic and political ties to Indian communities. The Nepali state in the past has employed discriminatory policies like the requirement of passes and fees for plains dwellers to travel into the hills (Warner, 2014). Madheshis in the Terai have had difficulty accessing citizenship cards in Nepal because they were often pejoratively declared Indians and, thus, disloyal to Nepal (Goodhand & Walton, 2017). Such policies and practices have resulted in discontent and a feeling of exclusion among the marginal population. Consequently, during the Madheshi Andolan of 2007, the Madhesi community articulated an anti-hill sentiment against Nepali-speaking people in Terai who had migrated to the plains in high numbers since the 1950s. The ‘lack of mental demarcation’ with people from the other side of the border together with strained relationships or ‘mental boundary’ (Tripathy, 2019) with the centre places borderland communities in a distinct and vital political position. The strategic political position of the borderland community is critical as their loyalty and sense of belongingness are instrumental to ensuring national security and territorial integrity precisely at sensitive political times as global events and practices have demonstrated.

In her important study, Gricius (2018) discusses how the Russian state justified annexing Crimea by politicizing the identity of the Russian-speaking population of Crimea at a rather sensitive political time in Ukraine. The Russian state gave grounds for its controversial military actions on the pretext of the Right to Protect (R2P) of the Russian-speaking population in Ukraine which the Russian state claimed were under threats of genocide and ethnic cleansing under the Ukrainian government. And since no international community or Ukraine was taking measures for the Crimean population’s safety, Russia claimed it had no other alternative but to annex Crimea. The case of Crimea is a reminder that the state’s negligence of its peripheral population specifically in instrumental terms may entangle with other aspects of the population’s identity like ethnicity, language, religion etc. and work as an advantage for other states looking to expand their territory or national interest. A comprehensive understanding of the border and borderland community is pertinent in this regard.

The border study has been dominated by the US-Mexico border and the European borders. Border studies have largely neglected Asia (Chan & Womack, 2016), lesser still South Asia. While in the last two decades, South Asian borderlands have also garnered attention Nepalese borderland study is still in its infancy with a primary focus on a top-down approach to borderlands i.e. view from the state with disputes between Nepal- India border taking centre stage. People/Actor-centric approach to border studies in Nepal has been overtly overlooked. With this background, the study employing a people-centric approach attempts to illuminate the indispensable political position of the borderland community along the Nepal-India border and the urgent need to integrate their instrumental need within the national planning to enable citizens as allies of the state in protecting and strengthening national security and territorial integrity. The paper attempts to understand the strategic political positioning of the borderland community and how it is related to the national security and territorial integrity of Nepal.

Research Methodology

The paper is based on 26 Key Informant Interviews (KII), two Focused Group Discussions (FGD), retrospective reflection of the researcher's long-standing personal experience as a security personnel, and a descriptive review of secondary literature, and attempts to unravel the unique socio-political position of the people at the periphery and its implication to national security. Following recent studies on borderlands that highlight the flexibility and supremacy of qualitative methods to understand the nuances of the bordering process (Wemyss, 2016), the study is qualitative research based on primary and secondary data collected mostly on the border and borderland populations of the south like Dang, Nawalparasi, Sunsari, Kanchanpur, Banke although instances from other borderland are also utilized to complement findings. The cases of Dang, Nawalparasi, Sunsari, Saptari, and Banke are highlighted as the researcher has served as a security officer and Kanchanpur is researcher's home town where he has resided for over two decades which has helped the study garner first-hand experience of the border. KIIs were conducted in all 6 districts whereas FGD was conducted in Dang and Banke as critical issues of national security like citizenship, religious tensions, cross border tensions were more distinct in these areas. Therefore, in addition to KII and FGDs and literature

review, a retrospective reflection has been employed as one of the core data collection methods. In addition to first-hand data, the research has also employed informal interviews to corroborate the reporting of media that have garnered widespread attention. This is anticipated to enhance the quality of the data.

As much as the research has employed data collection and analysis, it focuses on a minuscule aspect of a grand process affecting the state and its citizens on either side of the border. This limits the generalizability of the study in that borderland communities across Nepal do not share the same characteristic features as the borderland communities of the research sites.. However, the study has employed extensive secondary resources on issues related to the core area of concern for the research ranging from local, national and global borders and borderlands. The research deals with sensitive issues concerning law and order.

The remainder of the article is arranged in two sections. The first section presents the major findings of the research with three subsections. The first subsection sheds light on the unique position of the borderland community. It discusses the many challenges and threats they encounter as residents alongside the porous border, and also the distinct interconnectedness and interdependence they share with the population from the other side of the border. The next subsection discusses their role in border protection and the final subsection calls for the state's urgent focus on the borderland population. The subsection also recommends ways in which the Nepalese state can partner with the borderland community to alleviate the grievances of the population and build a more robust security mechanism. The final section concludes the paper.

Finding & Discussion

Borderland Communities Grapple with a Unique set of Challenges, Opportunities and Identities

Border experiences challenges that are unique to the region, prominent of which is the constant fear of external intrusion. There have been countless cases of violation by the public and more alarmingly by their security forces from across the border. Burglary of vehicles, cattle and other household items are common scene for many borderland communities. In Sunsari during the researcher's tenure, cattle,

poultry and vehicle theft were a common occurrence that threatened the livelihood of the mostly impoverished borderland community. People lived with such fear of being robbed that even the rural municipality's website asked people to stay alert (Onlinekhabar, August 25, 2021). Illicit trade smuggling is also a constant feature of the borderland, and unsurprisingly, the easy flow of these illicit items is making the borderland population, especially the Nepalese youth, a constant prey for drug and alcohol addiction (Informal Interview with a media person, Banke, 24th March 2024). A growing number of rehabilitation centres at borderland places like Banke, Kapilvastu, Rautahat, and Saptari are an indication of how the problem of drug and alcohol is taking hold of the Nepalese borderlands. Further, as and when the Indian state bans alcohol, the Indian community enters Nepalese territory to drink which has been known to disturb social cohesion on the Nepalese side (OnlineKhabar, August 25, 2021). There have additionally been countless cases of threats, harassment, and abuse by the Indian population and sometimes security forces (OnlineKhabar, August 25, 2021) mostly concerning land disputes amongst the cross-border populations which have been going on for decades if not centuries.

In a country like Nepal where the state continues to struggle to defend the rights of its people, borderland regions frequently experience higher rates of homicide and human rights abuses than the centre (Goodhand, Myer & Walton, 2019). In Khangra Dang, during an FGD, the locals emotionally recounted cases of brutality from across the border spanning decades. Even to this day and age, Khangra has no provision of electricity, drinking water, functional roads, or proper facilities for education or healthcare. The nearest route to the district headquarters or the nearest market is at least 50-55 Km away and can be reached only by entering 7 Km of the dense Indian forest. In 2022 two Nepali women were raped by Indians while they were trying to cross the forest to reach another Nepali market in Lamahi. The Khangra population depends on the Indian market for even the basics of household supplies where they are often harassed and abused. Taking advantage of the state's poor presence in the borderland community, the Indian population and even the security forces have unleashed several instances of violence against the Nepali border community. The FGD participants shared a particular invasion of the Indian population in Khangra where they entered with machetes, rods and other arms, and physically abused Nepalese men and women. They were allegedly attempting

to scare the borderland community in a bid to displace them from the borderland. Many of the participants were traumatized by the events as a now elderly woman participant recalled in horror with streams of tears running down her cheeks,

“We were chased across those fields, many girls and women were sexually assaulted, men were injured, we had no protection- none at all! We were in no position to protect ourselves. I pray God never makes anyone go through something as terrible as that day”

In Susta where land disputes among the nationals of either side are common, confrontations are frequent and often violent. In a massive display of power over 1,000 Indian villagers backed by the SSB forcibly entered Nepali territory in 2021 and trashed and destroyed sugarcane crops in about 10 hectares of land and also manhandled men and women alike (OnlineKhabar, August 25, 2021). In Kanchanpur, West Nawalparasi, and Darchula, such confrontations relating to land disputes are also regularly reported.

The marginal spaces are also zones of extreme and chronic poverty and are amongst the most neglected areas in terms of government intervention (Goodhand, Myer & Walton, 2019). Quite inadequate efforts have been made by the centre to develop infrastructural facilities such as roads, telecommunications, education, health and other facilities in Nepal-India bordering regions (Jha, 2013). As social analyst Narendra Jung Peter, Banke revealed in an informal interview (March 23, 2024), several borderland populations do not feel the presence of the state other than at the times when they acquire citizenship. For instance in Koilabas, Dang a resident shared that if they have to call a relative in Khabari even 5 Km away from Koilabas, they have to expend Rs 5.50 per minute as Khabari residents are forced to rely on Indian telecommunication whereas calling anywhere else in Nepal is only Rs 0.70 per minute. Electricity, basic healthcare education and even local government offices in these areas are at least 20 km away. Meanwhile, a unique type of cooperation can be observed in a few border areas in the Dang district where some Armed Police Force (APF) Nepal BOPs provide electricity to the Indian security counterpart whereas the Nepali side accesses water from across the border.

The border population is also often a victim of the state’s poor planning and diplomatic

failures. For instance, more than 70% of Rautahat was submerged in the flood of 12-15 August, 2016 threatening the lives and properties of 800000 people when the levees collapsed in places, letting flood waters into the villages and farmlands. The 10m embankment (allegedly hastily increased in height just some days prior by the Indian side) immediately adjacent to the no-man's-land (Dasgaja) on the Indian side acted as a dam and prevented the water outlet. Had the embankment not broken due to water force, the result could have been catastrophic. Despite being informed about the flood, the Nepalese administration, according to the locals, could not be bothered (Nepali Times, 1-7 September 2016). Similar cases were reported in Tilathi, Saptari where an embankment on the Indian side submerged a border village on the Nepalese side. Disasters and crises that the nation as a whole suffers are also experienced differently by the borderland population. For instance, the embargo of 2015 was a major source of anxiety for the borderland population who lived with the constant fear of collision between the dissatisfied parties impeding the flow of vehicles and state security mechanisms trying to open the blockage. Likewise, the COVID-19 pandemic that halted the lives of the entire nation added unique dimensions to the population at the border who were regularly exposed to commotion of people trying to enter the country but were held by the security and administrative regulations (Shakya, 2020).

Inter-community conflicts are also becoming an increasing feature of the borderland which are often (allegedly) exacerbated and fueled by disturbing elements from the other side of the national border. Places like Banke, Birgunj, and Kapilvastu are increasingly witness to religious conflict which in recent times are allegedly exacerbated if not orchestrated from across the border according to the residents of Banke (Interviews, March 2024). An elderly Muslim politician/activist in Banke shared that recent (2023) Hindu-Muslim conflicts in Nepalgunj saw the involvement of extremist elements from the other side of the border. According to another social observer Prakash Upadhyaya, as borders are always hotspots for migration and easy mobility; political development, ideology and practices from the other side of the border are easily transported into the borderlands which are increasingly reflected in intra-community conflicts in the Nepalese side.

The southern borderland populations have strongly objected to revised citizenship

laws, which they felt were discriminatory (Goodhand and Walton, 2017). There is on the other hand a great concern regarding the the Indian population's demographic and its possibility of infiltration into the Nepalese territory and its implication to Nepalese security precisely in relation to Nepalese citizenship. State's border blindness is further intensified by myopic government policies like the Customs Act (2064). Taxation on these basic goods threatened their livelihood security. This they claim is especially impractical as the Nepalese state has failed to guarantee cheaper prices and better goods inside the border or the means to earn a decent living (Bhatta, 2024). Due to the lack of economic opportunities, many borderland people depend upon informal, or illicit economies (Goodhand, Myer & Walton, 2019). Borderland communities inversely then are looked on as goons, thugs, smugglers and traitors owing to these informal trades. As Amaresh Kumar Singh, Member of Parliament in his speech in Parliament on 19th March 2024 shared

“Borderland communities who are the actual guards of the state are treated harshly in the assumption of theft and illegal import (Chori Paithari). They are routinely harassed and levied heavy taxes even when it is not necessary as in the case of fertilizer which is non-taxable and which ironically the government cannot provide on time.”

The population entering Nepal through customs checkpoints is often also subjected to routine harassment and repeated security checks at atleast 5 points- 2 on the Indian side and 3 on the Nepalese side to ensure taxation and security checks. The repeated checks as the locals complain are impractical and even an unnecessary hassle.

Another important feature of the southern borderland community in Nepal is the overarching regional and linguistic discrimination against them by the people at the centre and hills. Given their socio-cultural and economic similarities and dependence on the community across the border in India, there is a massive ‘othering’ of the southern borderland communities. As much as mounting threats are connected to these places, there are far many cases of interconnectedness between the communities along the southern border. These communities consistently exchange culture, ideologies, political and economic interests, and are not easily distinguishable from each other. The lack of geographical distinctness also adds to the narrowing sense

of separateness of the borderland communities on either side of the border. The border pillars that separate these interdependent communities function more as landmarks to tie their cattle or dry clothes or resting areas rather than a physical mark of separation. Many people have properties and families on both sides of the border and hence are much more concerned and affected by social and political development on either side. This intermixing gives the borderland population a rather fluid or hybrid identity where there is often a lack of psychological boundary with the people from the other side (Chan & Womack, 2016).

On the contrary, there are cultural, linguistic and, to some extent, social distances between the Hill region of Nepal and Madhesh (Tripathy, 2019). The marked similarity and interconnectedness with border communities on the other side of the border have been an excuse for the hilly community and even the state in the past to look at the southern border dwellers with suspicion and distrust. The distance between the state and these borderland people came into full display during the constitution-making process (2007-2015). The trust between the long-neglected borderland and the state was on the verge of collapse resulting in frequent clashes between political rivals and an increase in communal tension between hill-origin people and Madhesis (Reliefweb, July 9, 2007). Despite these movements, the call for widening political representation of the borderlands is yet to see fruition. And yet, the often overlooked population has served as the guards of the border for centuries.

Borderland Communities are Vanguards of the Border

“Yaha basti basauna parcha natra pari ka le (bhuhag) lai jan cha.” (We must establish a community here or else people across the border might encroach)- Border resident from Punarbas, Kanchanpur on why his community resettled from hill to the Terai belt.

The protection of Nepal's border falls under the jurisdiction of the Armed Police Force (APF) Nepal. Throughout the border, there are 253 APF Nepal Border Out Posts (BOP) with 244 along the Indian border. By any measure, the number of BOPs is inadequate to conduct surveillance and maintain peace and security at the vast and often inhospitable borderline. Additionally, the APF was given the

responsibility to secure the borders of Nepal only about 20 years ago. In such a case, the borderland population have been the unofficial guards of the border for centuries. Such vigilance of the border in the absence of an efficient state mechanism has continued to this day. These protections range from surveillance of the border pillar; chasing away land encroachers, poachers, smugglers and criminals; standing up to the harassment of external population and security forces; and disrupting Indian development activities along the border that might have long-term consequences for Nepal, to simply continuing to inhabit the borderland despite adversaries, to keep the foreign intruders at bay.

There is no natural demarcation along the Nepal-India state lines except those separated by rivers like the Mahakali, Mechi, and Narayani rivers. 595 Km of the borderline is a riverine boundary and 1,213 km consists of a land border which is marked by 8553 pillars (Shrestha, 2019). Many of these pillars are at the mercy of seasonal floods and landslides and often go missing or are destroyed by these disasters. As such, the borderland population has been vital in the protection and identification of the pillars although APF Nepal has recently developed GPS for pillar marking.

The Nepalese border community standing up to border encroachment has been one of the major factors in the protection of the Nepalese territory. The borderland community as noted by Warner (2014) were guards since the early days of Nepal as a nation. Realising their strategic importance, the rulers in the past relocated communities along the border side to keep surveillance of the border and tackle any foreign intrusion. As respondents in Banke stated in many of the places like Sainik Gaun, Sanoshree, Jamuni/Danfe, and Futaha in Banke and Bardiya, the then state mechanism resettled retired army officers and common citizens in a bid to ward encroachers from the other side of borders. Even places like Khangra in Dang were established by the Shah rulers to guard against border intrusion. Most of these communities have continued to inhabit these prescribed locations even though most remain immune to the development the central areas enjoy.

In Khangra, Dang the population for much of history has been completely untouched by development but has been silently guarding Nepal's territory. The population along the border has not been able to access even the basics of necessities like

roads, water, electricity, communication, education and healthcare. The population hence heavily relies on the market and opportunities across the border where they are not very welcomed. However, despite the violence and atrocities the Nepalese borderland community continues to inhabit the remote and inaccessible place which offers little to enhance their lives. As an FGD participant suggested, *“will lose no time in claiming that this belongs to them“ We could have left and started our lives elsewhere, but we didn't. This is our land and we must protect it otherwise the neighbours.”*

In Kargildada, Kanchanpur people from upper hills like Mugu, Jumla, Humla, Bajura, and Jajarkot came down to the Terai in search of better lives almost half a century ago. They resettled in the dense jungle area and made it inhabitable. As the community started growing, so did the abuse and threats from the other side. As per the residents in informal conversations, the community across the border wanted to intimidate the Nepalese community enough so they would leave the area making it easier for the Indian communities to utilise the land or even gradually claim it as theirs. Further, as in the case of Khangra, Dang the borderland for much of its history had to depend on the Indian side for basic goods, water and income-generating opportunities and was subjected to routine harassment and abuses. The community people also saw periodic episodes of violent confrontation with the security forces and common citizens from the other side. However, they chose to stay in the hostile area as they believed that if they left the Nepalese land would be occupied and possibly lost to intruders.

In Susta where the land disputes have been going on for decades due to a change in the route of the Narayani river following heavy floods almost 40 years ago, the community is trying hard to reclaim the disputed but rightfully Nepalese land. According to the testimony from the people, the Sugauli treaty stated that the Nepalese territory belonged inwards of the Narayani river however, during the massive flood of July 1954 and 1980 Narayani river changed its course and Susta was left outwards of the river (Shrestha, December 7 2006). The government of Nepal resettled the community inside the Narayani river in Tribeni but people continued to farm their land in Susta. The Indian side however, citing the Sugauli treaty states that the land belongs to India which the Nepalese border community

vehemently deny. In the many confrontations that the borderland communities have had, many have lost lives and left injured. One such inhabitant of the community (Interviewed January 2024) fought against the intruders backed up by the security forces from the other side, resulting in the death of more than half a dozen people on both sides including the Indian security personnel. The respondent who was shot 4 times in the incident and his family continue to live in the area despite continued threats and have no intention of leaving. His act of border protection was made part of a popular movie. The Susta inhabitants have been running a campaign called *Susta Bachau Abhiyan* (Campaign to Save Susta) for over 30 years in hopes of reclaiming Susta.

In 2019, the borderland community along Illam in collaboration with a youth group removed the board kept by the Indian side at an encroached area in Ilam. The territory claimed to be of India as per their current political map is where Nepalese people have lived for ages. Further after the removal the community raised the Nepalese flag asserting that the land truly belonged to Nepal (Tyro News, November 17, 2019). As the dispute over Limpiadhura, Lipulekh, Kalapani and Susta has been a staple of political debate in recent times, the borderland population has been a vital state ally in exerting pressure on the Indian side. Nepalese citizens planted saplings and barricaded the area near the border pillar in Tanakpur as a symbolic act resembling the Indian encroachment of the aforementioned areas (GoNewsIndia, 2021). Rather than an actual act of encroachment, this was a symbolic form of resisting and standing up to Indian encroachment albeit within their limited capacity.

The borderland community has also stood up like a barrier against the bullying of the external security forces. There have been cases of SSB breaching international laws by carrying weapons or entering Nepal without official coordination. On November 29, 2015, 13 SSB personnel came into Nepal, bearing guns under the pretext of looking for criminals. The locals of Kechana in Jhapa who were aware that this was against the security directives and international laws, confronted them and held them accountable. The SSB officers were safely led away from the angry mob by the APF (Online Khabar, August 25, 2021; My Republica, March 15, 2017).

The Indian side adjoining the border has been known to initiate development projects like dams, embankments, high-rise roads etc. without prior consultation with the

Nepalese side which at times are prone to adversely affect Nepalese lives. These dams, embankments and high-rise roads have and will have grave consequences for the Nepalese population. As such the borderland population has routinely stood up to these contraventions. In 2016, the border adjoining Saptari was witness to a Nepali-Indian clash at no man's land after the Nepalese borderland youth damaged a dam constructed illegally by the Indian side which could inundate 12 VDC on the Nepalese side (My Republica, July 28, 2016).

Borderland Communities and their Strategic Political Position

Satthi barsa bhaisakyo lalpurja dinchau ki hamilai Indian Banau [It has been sixty years (that we have inhabited the land) give us land ownership or let us have Indian nationality]- A Demonstration slogan of the borderland community in Dang.

As the border security dynamics worldwide are constantly changing, India as an emerging global economic power has actively reconceptualised its border management strategy. India since its democratic practice has hailed the security of its country integral to its shared border with the Nepalese side. In his speech, the first prime minister of India Jawaharlal Nehru stated 'Broadly speaking, our relations depend not really on any person's goodwill, on Nepal's goodwill; on that government or this government...They depend on geography and history, which cannot easily be done away with' (Kumar, 2016). Such interconnectedness and the porous and fragile nature of the border situates the Nepal-India border as a high-security priority for both countries. Nepal and India are additionally entangled in several border disputes which indicate no gentlemen's compromise in the foreseeable future. Nepal has limited diplomatic strategy and inadequate resources to curb disputes and threats at the border. In such a case, one of the most vital resources the government has in border protection is its population along the vast and complicated border along its territory. However, the Nepalese state must first acknowledge and address the grievances and longstanding mistrust of its bordering citizens.

A careful, much-needed and much-anticipated investment in the often overlooked borderland population has been known to shift the borderland populations' perception, trust and loyalty towards the state as the case of Kuril Island studied by

Richardson (2016) suggests. The study shows that Kuril islanders began to assert their belongingness towards Japan following Japan's generous support to the island in times of desperate economic needs when the Russian state did little to alleviate the suffering of the islanders. However, as the Russian government reverted its interest in the island by introducing multimillion-dollar projects targeted at developing the island as an economically stable site, the islanders also reverted their loyalty and belongingness to Russia. The similarity could be identified in the case of the Russian annexation of Crimea. Gricis (2018) notes that as the economy of Crimea was fleeting, many residents became nostalgic for the 'good old soviet union.' What these studies indicate is what (Sahlins 1989) suggested by stating that the ties of loyalty and identity are strengthened instrumentally by fulfilling the material needs of its citizens. The case of Nepal and its borderland population along the Southern demarcations is eerily similar. Many borderlands as explored earlier have been subjected to little or no intervention from the center for decades. As these areas remain impoverished riddled with underdevelopment, uneven economic opportunities and policies overrun with borderland blindness; the state must promptly address the discontent and grievances of the population at the periphery.

There could be three levels of strategies to address the grievances of the borderland- long-term, mid-term and immediate. A long-term strategy should include interventions of economic growth supported by infrastructure such as roads, electricity, telecommunication, and the provision of healthcare and education programmes which will bridge the gap between the state and its citizens at the margins. These forms of development programs are crucial to curb the growing dissatisfaction of the borderland population who are constantly mocked by the rapid economic and infrastructural development on the other side of the border. Likewise, in the absence of services, borderland populations often fall for illegal and illicit trade. To fight criminal activities and collect taxes, the state must include borderland populations in its welfare and service delivery mechanisms and make them part of the legal trade structures. This could be strategic move to reduce dissatisfaction of borderland communities and incorporate diverse borderland population within the national security system; even the communities who have not yet been exposed to the harsh bordering environment till date which could have prompted their role in border protection within their region.

The mid-term strategy should include partnering with the borderland community on the issues that concern them and the nation as a whole. Border populations as a source of knowledge and trade potential should be assets from a regional as well as national perspective (Weber, 2012). Recognising the strategic location of borderland and exploring the possibility of vibrant cross-border economic opportunities in which borderland communities are integral will provide a substantial sense of belongingness among the borderland population. Borderlines are unique hybrid fluid spaces with their own distinct identity. This important understanding seems lacking in the state's programs and policies and even the mainstream citizens. As a result, many interventions executed exacerbate the centre-periphery tensions- the problems facing state margins are often rooted in policies designed at the centre. Thus, policies such as the Citizenship Act need urgent implementation. This will be a significant step towards building trust among the southern borderland community. Further, the Customs Act which is seen as arbitrary by the borderland community also needs serious deliberation (Bhatta, 2024).

The state should partner with the strategically important borderland population in border protection and cross-border security through initiatives like citizen oversight and cooperation by localizing border management and calling for vigilance by the border population. A soft border approach (Weber, 2012) based on consultation and cooperation between the state and borderland population (Herbert 2020) is key to achieving sustainable security of the border. The partnership between the state and the peripheral community should begin by empowering local communities with vital information about their rights and responsibilities and greater access to security sectors (Ramsbotham & Zartman, 2011). Programs like *Seemabasi Sanga Sasatra Prahari Bal* (The Armed Police Force together with the Borderland Community) are vital in this regard. This important program should be designed to partner with the local community in border protection and other security-related aspects. It must also include routine community outreach programs to raise awareness about the borderland community's rights and responsibilities, and grievance handling mechanisms. The program could also be utilised in contributing to the state's service delivery mechanism in far-off, inhospitable, and inaccessible places by acting as make-shift service outlets for Agro-goods, health care, veterinary, and administrative services within the BOP premises. Apart from making vital services

available to remote and inaccessible areas and making efficient use of the state's scarce resources, this will also help strengthen trust between state mechanisms and the border population.

Another Mid-term strategy could include developing and implementing a Binational cobordering approach which will entail partnering with the security forces, local governments, and civil society of either side, in border protection and management. Despite disputes, India is Nepal's vital ally in the promotion of peace, prosperity and democratic practices. As a former Indian Prime Minister stated

"We can change history but not geography. We can change our friends but not our neighbours."—Indian Prime Minister Atal Behari Vajpayee (Chicago Tribune, February 28 1999).

Nepal must therefore strengthen its diplomatic ties with India to settle long-standing border disputes and ensure a collaborative border protection mechanism. A Binational co-bordering approach should include a cross-border council through which local issues such as cross-border trade, schooling, environment, drugs, smuggling, human trafficking, encroachment and waste management, and other general border protection issues could be resolved jointly by the communities themselves in partnership with security forces from both sides. Further as Nepal's security is increasingly tied up to international security well beyond India, an integrated security approach will further strengthened Nepal's national security.

An immediate strategy should include quick-impact projects that prevent disturbances in lives at the border. For instance, taking immediate steps to reduce the hassle and harassment of citizens entering or crossing the border will be of great relief for residents of borderlands who constantly cross the border as part of their daily lives. In place of three security checkpoints, one checkpoint with APF, and a customs representative will reduce the duplication of work for security personnel and discontent for common people from having to stand in queue and constantly open and close belongings and bags brought from the other side. Further in far-off borderlands where there are no checkpoints, a small unit of APF BOP and Customs representatives could ensure easy tax collection and ensure security at the border.

Improving the state's presence at the border and addressing their long-standing

grievances have been known to build citizen trust and a sense of belonging (Richardson, 2016). In the Nepalese case, the borderland communities like Khangra where the state is increasingly investing in developmental projects (albeit painfully slow), the citizens are finally beginning to feel like the citizens of Nepal (FGD participants in Dang). The border protection work of APF in this regard is also greatly appreciated by the borderland communities as the research participants from Sunsari, Dang, and Kanchhanpur suggested. According to them, cross-border crime, border disputes, and intrusions have substantially died down since APF's presence in the region which has made the borderland population feel much safer. Increasing such interventions that have a direct impact on borderland communities' daily lives will further smoothen the relationship with the centre.

Nepal at this crucial juncture in history with shifting security concerns at and within the border needs to act promptly and strategically. The continued waves of neglect of the borderland give way to exploitation and manipulation by separatist and even armed groups as the recent cases in Khangra, Dang and the case of Terai during the insurgency indicate. One of the border villages of Khangra, which has remained cut off from the services of the centre, critically depends on India for basic livelihood necessities. The Indian side, noting the village's heavy reliance on their side and the gross neglect from the Nepalese state towards the borderland community, distributed *Indian Adhar Cards* (Indian Welfare Cards) to the villagers (FGD participants, Dang). This many inhabitants believe is the first step towards 'Indianising' the village population and subsequently could 'Indianise' the village territory.

The Madhesi population's discontent with the state was manipulated by the Maoists during the active insurgency. The Maoists' focus on exclusion and their deployment of identity in politics resonated with Madhesi groups even though the former's anti-Indian rhetoric had little appeal (Goodhand & Walton, 2017). The constitution-making era of the 2000s and the 2010s drew discontent among minority groups, precisely the Madheshi borderland population who felt excluded from the state's governing policies and practices. The discontent culminated in violent mobilization in the form of the 2007 Madhesh Andolan which killed, injured and displaced thousands of people in the Terai belt. Further, the movement is also widely believed

to have been supported by external factors and forces (Goodhand & Walton, 2017).

Global practices and events in Nepal have shown that creating biased and discriminatory citizenship amongst its diverse citizens precisely those at the centre and the periphery inevitably compromises territorial integrity, national security and sovereignty. As more and more communities are drawing attention to the desperate conditions at the border through campaigns such as ‘*Seema Basi Bachau Abhiyan*’ (Campaign to Save the Borderland Communities), the Nepalese state should direct its urgent focus on the borderland community along the borderlines. An inability to do so will invite increasing voices like those of the borderland communities from Khangra during their 3 months long campaign in Lamahi, Dang- “*Nakawasi lai ki Nikas Chaiyo ki Bikash*” (the Borderland should either be annexed (from Nepal) or provided with developmental opportunities).

Conclusion

The Nepalese border along its southern territory has been a fascinating space with the amalgamation of culture, diverse actors, political interests, and unordinary economic activities spanning centuries from both sides. The borderland thus, inhabits communities with fluid and hybrid identities which challenge the rigidity of the state’s demarcation of territories. The shared socio-cultural and politico-economic interests of the borderland communities have been much celebrated and acknowledged by both Indian and Nepalese states. However, the similarity and commonality among the people of the vast borderland has often been the cause for much distrust and misconception for the state and the people away from the periphery. Such suspicion and distrust have resulted in overlooking the borderland in terms of development interventions which continue to mar peripheral populations with underdevelopment and poverty, and are additionally subjected to arbitrary policies that undermine their position as citizens of Nepal. Despite the grave negligence, the borderland community has been instrumental in ensuring national security and territorial integrity for centuries. In the absence of a state security mechanism, these communities have at countless times stayed vigilant to land encroachment activities, risen against detrimental development projects from the other side and stood up to the brutalities of the public and security people from across the border. These demonstrated acts of border protection remain vital to national security and must

be channeled and utilized further especially as security challenges at the border continue to mount.

Nepal is grappling with ever-increasing security challenges, particularly at the porous open border it shares with India. The Nepalese state is contemplating tightening the security measures at the borders and increasing the number of BOPs and APF personnel which could alleviate some security tensions at the vital border. However, the conventional securitization of borders alone cannot achieve lasting peace at the border. As such, it is pertinent that the state partners with the borderland population to ensure a robust and sustainable security mechanism. Empowering the border population with knowledge of security issues, their rights and responsibilities and developing citizen oversight and cooperation mechanisms could be key to maintaining law and order at the border. Strengthening diplomatic ties and developing a binational co-bordering approach could also resolve common problems and disputes at the border. However, the state must first begin by acknowledging and addressing the grievances of these strategically important populations. Developing border-specific programs, increasing and improving border area-specific economic activities, and amending controversial bills and policies will help alleviate the grievances of the borderland communities and incorporate diverse borderland population within the national security system, even the communities who have not yet demonstrated border protection within their region.

The non-recognition of the borderland population's strategic political position will increase Nepal's security and territorial woes. On the other hand, addressing the grievances of the bordering community, prioritizing their instrumental needs and interests, and partnering with them in areas of national concern could prove a game changer for the country's national interests.

Border studies are gradually expanding from their initial focus on the descriptive analysis of the location of the lines separating states in the international system to "the study of the dynamics of the bordering process as it impacts society and space" (Newman, 2012). Future studies on the border and borderland community of Nepal should focus on how borders are not merely the state's territory but a 'living space' which are impacted by the state's policies on either side but are nevertheless contested and negotiated by its inhabitants. Border studies on Nepal should also

recognise the “paradoxical character” of borderlands (Baud & Schendel 1997) which in the Nepalese case would help generate a better understanding of the often misunderstood borderland communities.

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Enhancing Institutional Meals in Armed Police Force, Nepal

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Abstract

This study explores the historical evolution and contemporary implementation of institutional meals within the Armed Police Force (APF), Nepal, tracing back to the early 1900s, when British mess provided food for soldiers and civil servants. It investigates the linkages between the Armed Police Force, Nepal, and nutrition, emphasizing the importance of providing officers with adequate sustenance for their well-being and operational efficiency. Through the introduction of a cash ration allowance system, the APF aims to empower its personnel to procure ration items in accordance with established guidelines. This qualitative inquiry conducted as part of Masters Thesis in 2023, engages various APF personnel and stakeholders to examine the feasibility and challenges associated with institutional meal implementation. Employing both primary and secondary data collection methods, including semi-structured face-to-face interviews, key informant interviews, and focus group discussions, the study identifies key challenges

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and proposes strategies to address them. Notably, it suggests diversifying ration items based on factors such as altitude, training needs, and dietary preferences.

Introduction

Scholars across various disciplines, including sociology, anthropology, philosophy, and psychology, have made significant contributions to the understanding of the concept of practice. Sociologists have played a significant role in the concept and development of practice. Bourdieu (1977) argued that practices are the collective activities that make up social life, guided by implicit rules and norms. Wittgenstein (1945), as cited by Schmidt (2014), maintained that practices are guided by sets of rules and principles. In addition, practices are both repetitive and creative, reproducing and transforming social structures (Giddens, 1984). The concept of practice is a complex one, but it is a powerful tool for understanding social life.

According to (World Health Organization [WHO], 2020), a meal is a regular occasion for having food as breakfast, lunch or dinner. A meal is a combination of foods that is eaten at a particular time of day. Meals can vary in size, composition, and purpose. It can be a social occasion or simply a way to refuel the body (Davidson, 2014). Military meals are nutritionally balanced meals provided to military personnel for health, energy, and duty performance (Department of Defence [DOD], 2015). Armed Police Force (APF), Nepal is providing 19 ration items to APF personnel based on nutritional requirements as allocated to the budget of the government (Government of Nepal [GoN], 2015).

The term "institutional meal" refers to large quantities of food prepared and served in cafeteria style settings, catering to nutritional and dietary needs in military facilities, hospitals, schools, and prisons (Payne-Palacio & Theis, 2005). Institutional meals can be categorized into two broad segments: the commercial or profit sector and the public sector, (Foskett et al, 2003). Davis et al. (1998) mentioned that these institutions serve a vital role in providing essential nutrition to a large population, significantly influencing the health and well-being of the individuals.

Food is a basic human need for survival, growth, development, and good health (United Nations Children's Fund, 2018). Food can also have distinct social and

cultural values (WHO, 2003) as can as any substance that can be ingested and digested by an organism (Davidson, 2014). Malinswoki (1994) argued that food fulfils the biological need for nourishment, is influenced by culture, and is crucial for social organization. Sheringham & Daruwalla (2007; in Kunwar, 2017) interpreted that food serves as a powerful language for communication, connecting individuals to culture and religion and symbolizing boundaries, enabling symbolic exchange and connection. This is because military personnel need to be able to rely on their food to be safe and nutritious, even in difficult conditions (DoD, 2015).

In order to know about diet, WHO (2021) defined it as the habitual intake of food and beverages by an individual. It includes the types of food consumed, the frequency of consumption, and the portion size of each food item (Food and Agriculture Organization, 2020). In this regard, Pollan (2013), Nestle (2015), and Bittman (2012) emphasized the importance of eating a diet that is based on whole, unprocessed foods. Furthermore, the Department of Food Technology and Quality Control (DFTQC, 2016) recommended a healthy diet that emphasizes whole grains, fruits, and vegetables. On the other hand, it has also been advised to avoid red meat, fizzy drinks, and processed meals.

So far as the concept of nutrition is concerned, Shrestha (2004) defines it as the process of utilizing food for growth, metabolism, and the repair of tissues. Similarly, nutrition is classified scientifically into five categories: protein, fats, carbohydrates, vitamins and minerals (Ministry of Health and Population [MOHP], 2016). Indeed, nutrition is one of the specific needs of each individual, which may vary depending on their age, sex, activity level, and health status (WHO, 2020). Besides that, a balanced diet is especially important for soldiers, as they need to be healthy and stressed soldiers (Carwelo, 2007; in Babusha et al. 2008).

Institutional meals have a long history dating back to ancient times. In the Roman Empire, public baths often had attached canteens that served food to patrons. The concept spread to monasteries, convents, and hospitals during the Middle Ages. The Industrial Revolution expanded institutional meal services, enabling large scale food preparation and service operations (National Restaurant Association, 2022). In terms of Nepal's history, institutional meals in Nepal date back to the early 1900s,

when British mess halls provided food for soldiers and civil servants (Nepal Health Research Council, 2018). According to Gurung (2014), the ration card of the Nepali Army, introduced in 1904, provides soldiers with a regular supply of nutritious food, regardless of their rank or location. The Nepali Army was the first organizations to use meals in 1904.

In today's globalized world, the tasks of the armed forces are increasingly challenging. Soldiers must be in excellent physical condition to perform their duties effectively, and they must be prepared for any unforeseen events. As a result, providing soldiers with a regular supply of nutritious food and water is essential. Dolan (2010) noted that soldiers must always be in a state of physical readiness, and that regular access to food and water is essential for achieving this goal. Gurung (2014) emphasized that a nutritive and balanced diet can help to increase their energy and feel healthier.

The Nepali Army is one of the oldest security agency, having a glorious and pioneering history. The Nepali Army has a pivotal role in safeguarding sovereignty and territorial integrity and protecting the nation from various external attacks while fulfilling the core national interests of the country (Pandey, 2019). After the establishment of democracy, the government provided ration facilities to the Nepal Army in 1951 (Karki, 2019). In 1955, the police personnel of the armed guard and training center were arranged to receive ration facilities as an allowance of Rs. 25 per month. Later, the government provided rations to police personnel in 1973. Ration facilities have been arranged for the armed police personnel as per (GoN, 2015). Armed police personnel need a varied diet according to geographical conditions and vigorous physical activity to keep their morale high and perform effectively (Singh, 2020).

APF, Nepal was established in 2001. APF, Nepal, is serving the country and its nationality, sovereignty, and integrity by maintaining peace and safeguarding the nation and its citizens. Institutional meals play an important role in the APF. It provides the nutrition that soldiers need to stay healthy and perform at their best in the operational field. Moreover, it also helps to boost morale and improve unit cohesion. APF, Nepal, is constantly working to improve its institutional meal system, and it is committed to providing its personnel with the best possible meals

(APF, Nepal, 2020). The purpose of these individual rations is to make soldiers independent in their ability to work, fight, and survive on their own or in small groups but, at the same time, ensure that individuals receive adequate food and nutritional requirements (Darsch & Faso, 2006).

The provision of ration is in the regulations of all security forces. Provisions have been made to manage rations for security bodies. In accordance with Chapter 8 and Rule 88 (Public Procurement Regulation, 2007) each public entity is required to go through quotation forms or tender documents for procuring ration. While the Nepal Army still follows the same procedure, the APF, Nepal, and Nepal Police are no longer required to follow the tender document procedure after the Government of Nepal (GoN), by cabinet-level meeting on January 18, 2015, decided to provide rations in the form of cash. However, the preparation and approval of the cost estimate procedure remain the same (Singh, 2020).

The highest rate of ration money is Rs. 863.65 per day in Humla district and the lowest is Rs. 181.70 per day in Sindhuli district according to the accessibility of the items and services. This rate was reviewed and increased by the decision of GoN on 25 October 2021 (APF, Nepal, 2023).

APF, Nepal had adopted the policy of ration procurement by inviting sealed quotations or bids from the interested supplier on the first day of the month of *Magh* (mid January). Since, 2015, the organization has been changed and established a major shift in its history by adopting a cash ration allowance in replace of a tender system. In this system, the Government directly provides cash to APF personnel in normal condition (Singh, 2020). The Nepali Army is involved in distributing various types of operations, training, UN missions, and disaster management operations. GoN has been continuously providing dry ration Meals Ready to Eat (MRE) to the Nepali Army since 2019 (Karki, 2019).

APF, Nepal is playing a crucial role in maintaining law and order, safeguarding the border and protecting citizens' safety (APF, Nepal, 2020). Therefore, ensuring the nutritional well-being of APF personnel is vital to maintaining their health, fitness, and operational readiness. After the government's decision, APF personnel are

receiving the cash ration on an individual basis. It has added flexibility in terms of choosing suppliers and buying quality food items on the part of units in procuring rations. The units can also buy various ration items or the same ration item from multiple suppliers. Moreover, the units no longer have to go through the lengthy process of tender documents and depend on a single supplier for procuring ration (Thapa et al., 2020).

The study provided valuable insights into the implementation of institutional meal policies and guidelines at the ground level. This information can help identify areas for improvement, potential barriers, and challenges in implementing institutional meal programs in similar organizations. The study addresses questions like the fundamental provision and practices of existing institutional meals, analyze the total calories, carbohydrate, protein and fat of APF ration scale and examines the existing practices of institutional meals in other organizations.

Review of the Literature

Devkota et al. (2021) focused that Nepal is richest country over 700 plant species that are known as herbs and species. There are frequently used in Nepali kitchen due to their potential health benefits and ability to enhance food taste. Kunwar et al. (2010) described that the herbs and species have long been customary kitchen ingredients, added food to improve flavor and provide various health advantages. In addition to their usage as food preservatives, flavorings, and colors, herbs and spices are also utilized medicinally.

Sharma (1999) studied of the Mahabharata highlights the importance of food in ancient Indian culture, including survival, religious rituals, and conflict resolution. Basnet (2016) and Aryal et al. (2017) explored the cultural and historical dimensions of food. However, contrasting views exist on the relevance of ancient texts to contemporary food practices. The historical narratives should be critically analyzed and contextualized within their historical and socio-cultural contexts (Reddy, 2016). Additionally, discussions on food as a weapon of war in ancient texts may intersect with broader debates on food security, conflict, and human rights.

Kunwar (1999) revealed that the Sherpa community's food choices are influenced

by environmental patterns, cultural beliefs, and traditions. Their staple foods include potatoes, rice, and buckwheat, with obesity being common. They consume green vegetables, fruits, milk, and cheese during the monsoon season. In the context of the global nutrition transition, as highlighted by Pokhrel et al. (2015), there is a growing concern about the impact of changing dietary patterns on the health of populations worldwide. Recognizing the need for culturally sensitive nutrition studies and interventions, as emphasized by Popkin et al. (2012), is crucial in addressing the health issues faced by communities like the Sherpas. Given the relationship between dietary choices, cultural norms, and health outcomes, tailored interventions can be developed to promote healthy eating habits while respecting the unique cultural legacy of communities.

Meiselman et al. (1974) studied the food preferences of the armed forces to maintain quality institutional meals. The menu, based on personal preferences and cost considerations, is crucial for food service systems. The military recognizes the importance of good nutrition for soldiers' physical and mental health, boosting happiness and motivation, and ensuring access to the best food even in challenging conditions. Gómez-Pinilla (2008) and Jacka et al. (2014) further reinforce this notion by highlighting the positive impact of nutritious diets on cognitive function and mood regulation, crucial factors for soldiers operating in challenging conditions. However, contrasting views, as articulated by scholars like Kahn & Wansink (2004) raised valid concerns about the practicality and efficiency of accommodating individual food preferences within large-scale military food service systems.

Wellborn et al. (1976) emphasized the importance of Meals, Medicine, and Munitions (M3) in military units for soldiers' health, effectiveness, and safety in combat. Meals provide energy and nutrients, while medicine prevents and treats illnesses. The military invests in research to improve M3 quality and availability, ensuring soldiers' survival and success. Meals are crucial for troop morale, battlefield effectiveness and timely supply of logistics items (Clausewitz, 1832). Likewise, Patton (1975) highlighted the importance of M3 in military circles, which is widely recognized for its critical role in soldiers' health, combat readiness, and mission success.

Food and Agriculture Organization (1996) expressed that food security is the availability and accessibility of quality food for all, ensuring active and healthy lives. It is crucial for public health and can be caused by factors like natural disasters, economic shocks, conflict, and inequalities. Food insecurity can lead to malnutrition, non-communicable diseases, and mental health issues (Smith et al., 2020). According to Lang et al. (2009) debated that food security often intersects with environmental sustainability, with some academics highlighting the potential for unsustainable agricultural practices to worsen environmental degradation and long-term food insecurity. The different perspectives highlighted the complex and multifaceted nature of food security as public health issue.

The Indian Brahmanical tradition categorizes food into three types: sattvic, rajasic, and tamasic. Sattvic diets are vegetarian, promoting saintliness, rajasic enhances power, and tamasic may lead to uncontrollable passions. Sattvic food is offered to deities and consumed by devotees (Lowdin, 1998). However, Douglas (1966) argued that these perspectives are not universally accepted and that contrasting views exist. Studies by Benton (2007) and Jacka et al. (2014) explore the relationship between diet and mental health, acknowledging the influence of various nutrients on brain function.

Institutional meals are crucial in military bases, hospitals, schools, and prisons, providing safe, nutritious food (Payne-Palacio and Theis, 2005). Institutional meals should be safe, nutritious, and satisfying. This can be achieved by careful planning, preparation, and execution (Foskett et al., 2003). Edwards & Hartwell (2009) explored the classification of institutional meals, their key characteristics, contracting out, and alternative production and service methods. Despite financial constraints, improving their nutritional content is vital for health and well-being (Payne-Palacio & Theis, 2005). Similarly, Souza et al. (2021) highlighted the importance of nutrition meals in school settings in promoting food security and enhancing students' dietary intake. By offering tasty and nutritious meals, schools cannot only improve students' dietary intake but also reduce food waste (Ishdorj & Higgins, 2015).

Across history, military rations have evolved significantly, from canned goods in the

19th century US (Solbergrand, 2018) to diverse ingredients in the history of Indian military food. Studies even show a positive impact on health, like the Falklands War (Crawford et al., 2007). Recent research continues this exploration, examining logistical challenges (Stephen & Jardine, 2023).

Ministry of Health and Population (2016) suggested a balanced diet for all age groups in Nepal. Department of Food technology and Quality Control (DFTQC, 2016) defines a healthy diet as one that provides vital nutrients, aids in weight control, and lowers the chance of developing chronic diseases. According to Chopra (2005), food is any substance that furnishes nutrition and energy for the body, including carbohydrates, fats, proteins, vitamins, minerals, and water. So, the critical role of food and nutrition education is important for promoting health and wellbeing.

DFTQC (2018) pointed out that the history of institutional meals in Nepal can be traced back to the early 1900s, when the British introduced the concept of mess halls, which were originally set up to provide food for British soldiers and civil servants stationed in Nepal. So far, Karki (2019) stated that the Nepali Army formulated the first ration scale on December 15, 1952, for up to the rank of Subedar (Warrant Officer Class 1). On July 14, 1969, the provision of rations was extended up to the rank of major, and on December 16, 1975, it was extended to the Chief of Army Staff.

Public Procurement Regulation (2007) clearly mentioned that each public office shall arrange ration rations by the end of the month of Bhadra (mid-August) every year. In accordance with the chapter 8, Rule 88 of Public Procurement Rules 2007, the government approved a ration quota or scale for their respective offices. However, the preparation and approval of the cost estimate procedure remain the same. The cost estimation process considers various factors, including the consumer price index of the relevant sector, as published by the Nepal Rastra Bank. Additionally, it takes into account the price index set by the governmental body overseeing agricultural product pricing, road facilities, local market rates, the previous year's procurement contract rates, and any guidelines issued by the Public Procurement Monitoring Office.

Nepal APF Hospital (2019) conducted a comprehensive investigation into the energy intake of macronutrients and essential micronutrients in the daily diet of APF soldiers during their basic training. The study's primary focus lies in providing evidence-based data on the existing ration scale and nutrient intake among these soldiers during training. By doing so, the research aims to assess the sufficiency of nutrient intake concerning the recommended dietary allowances (RDA). Moreover, the study seeks to lay the groundwork for further research in to establishing the Dietary Reference Intake (DRI) tailored to military personnel during both training and non-training periods in various terrains.

Research Methodology

This study used the autoethnography method. An autoethnographic is an ideal approach for exploring paternalism as it allows researchers to draw on their personal experiences within a particular culture to gain a deeper understanding of the dynamics of themselves or other interactions (Koot, 2019). Based on a literature review conducted by different scholars in different settings McLaurin's (2003), Butler-Kisber (2010), Nethsinghe (2012), Carano (2013), as cited by Adams, Jones & Ellis (2015), Liu & Lin (2018), this study adopted the autoethnography method.

The primary data was collected through Key Informant Interview (KII) and Focus Group Discussion (FGD). Additionally, virtual methods were used, where the researcher communicated with participants through mobile phones, WhatsApp, Facebook Messenger and E-mail. The researcher conducted remote KII with APF personnel using the online Zoom meeting platform. The researcher's existing work experience within the organization, specifically with ration management, proved to be extremely beneficial during the data collection phase of the research. The nature of this research is descriptive and analytical, as the information originates from various sources that have been synchronized and analyzed properly.

The research was based on primary data, followed by secondary data. For the primary data, the research was conceptualized during the Internal Study Tour (IST) in various units of APF, Nepal from 11-17 December 2022. The second phase field study was conducted from 19-30 May 2023 and investigated with 152 respondents in total. The researcher was visited various APF, Nepal units located in different

district. The secondary data for this study was sourced from a diverse range of published material, including books, literature, journals, and articles. The research conducted by adopting the general principles of ethics as responsibility, justice and the respect for intellectual property rights being conscious of multiple roles, the rule of consent, confidentiality and privacy.

Findings and Discussion

APF, Nepal is following the cash allowance system to manage ration since 2015. The current practices of institutional meal management system in APF, Nepal is applying one of the unique and effective method to monitor and supervise the mechanism (Singh, 2022). The policy framework and guidelines of APF, Nepal, have played a significant role in shaping and regulating the institutional meal practices within the organization. When asked about the meal management in APF, Nepal, participants expressed the following.

According to APF, Nepal Mess Operation Directives (revised version) 2079, ration items follow regulations in APF Regulation 2072, Schedule 16, with cash allowances deposited into bank accounts, subject to 1 percent government tax deduction.

APF's cash ration system is widely seen as effective, providing high-quality food. However, maintaining this standard within budget constraints poses challenges for suppliers.

Weather and poor road conditions are major hurdles in ration management, sometimes resulting in substitutes like bitten rice, noodles, and biscuits. Ration rates are Rs. 246.10 per person per day in Rasuwa and Rs. 255.30 in Nuwakot district.

Food consumption is a symbolic bridge between the inner self and the external world, embodying the essence of the exchange of culture, tradition and food taste (Kunwar, 2017). The food menu incorporates a variety of items, including cereals, pulses, vegetables, dairy products, meat, eggs, and fruits (Babusha et al., 2008). Within each unit, a comprehensive meal plan consisting of four daily meals are diligently implemented. In accordance with the unique geographical conditions

and food availability in each province, the menu varies to cater to distinct culinary preferences and regional specialties. From the mountainous regions, where hearty dishes like dal, bhat and tarkari (rice, lentils, and vegetables) with locally sourced ingredients are prevalent, to the terai plains, where aromatic rice, spicy curries, and delectable sweets dominate the palate, the menu is thoughtfully crafted to showcase the culinary heritage of each province.

Food Quality

APF, Nepal has set standards for food safety protocols. As per the rule, the authority should conduct regular audits to obtain quality certifications, conduct awareness campaigns, prioritize the quality of food by implementing regular checks and inspections by the ration management committee. The attention given to the quality of the mess and food is indeed commendable, including the cook's awareness, mess cleanliness, and the use of quality ingredients and kitchen utensils (Mess Management Directives, 2022).

Ordinary and Festival Food

The relationship between food and culture is deeply connected, as different societies have developed unique culinary traditions shaped by their ecological and environmental contexts. The cultural significance of food is evident in its classification into two categories: sacred and secular. Examining food habits, dietary patterns, and dining customs therefore, emerges as a cultural artefact that offers a lens through which we can better understand and appreciate the complexities of human society (Kunwar, 2017). APF, Nepal is celebrating various types of festivals by sharing happiness within the members of unit. One of respondents mentioned that

The security forces have a vital role in safeguarding and promoting the rich cultural heritage, traditions, and customs of Nepal. Deployed across the 77 districts, APF units embrace and celebrate a wide range of national and local festivals.

APF, Nepal is promoting the richness Nepali culture and traditions through celebration of vibrant festival. The name of festivals and foods are mentioned below.

Table 1*Ordinary and Festival Food of APF, Nepal*

S.N.	Month	Festival	Food Items
1.	Asar 15 (June)	<i>Dhaan Diwas</i> (National Paddy Day)	<i>Dahi, Chiura</i> (Yoghurt and Beaten rice)
2.	Sawan 15 (July)	<i>Kheer Khane Din</i> (Rice Pudding Day)	Rice Pudding, Potato and Pickle etc.
3.	Bhadra (August-September)	<i>Janai Purnima</i>	<i>Kwati</i> (Sprouted Lentils Soup) and meat
4.	Bhadra(August-September)	<i>Teej</i>	<i>Dar</i>
5.	Kartik (October-November)	Bada Bhoj Dashian)	Special food
6.	Kartik (October-November)	Tihar	<i>Roti</i> (Bread)
7.	Magh (January-February)	<i>Maghe Sankranti</i>	<i>Ghee, Chaku</i> (Ghee, Molasses)
8.	Magh 7	APF Day	Special food
9.	Chaitra (March-April)	<i>Chaite Dashain</i>	Special food
10.	Chaitra (March-April)	<i>Fagu Purnima</i>	Special food
11.	First week of month	Central Cook	Ordinary Food

Source: Field Study, 2023

APF units are organizing variety of foods based on availability in the local geographical setting. Special meal generally consists of dalbhat (rice and lentil) green vegetable, meat, fish pickle, papad, salad and appetizer.

Kitchen Structure and Dinning Space

The kitchen layout and dining space in APF, Nepal are carefully designed to support the efficient and smooth operation of food preparation and service. The layout is typically organized into distinct areas to facilitate optimized productivity, food safety and adherence to hygiene standards (Mess Management Directives, 2022).

Dining space is equally significant in providing a comfortable and pleasant environment for APF personnel to enjoy their meals. The dining area should be

spacious enough to accommodate all personnel and provide them with a conducive atmosphere to relax and socialize during meal times. The Central Mess is necessary to cultivate a strong sense of closeness, unity, and professionalism among officers. It serves as a hub for fostering professional relationships and strengthening bonds, ultimately enhancing the overall welfare and cohesiveness of the officers.

Nutrition and APF

Macronutrients are essential nutrients for achieving a balanced diet and maintaining good health. They emphasize the importance of consuming appropriate amounts of carbohydrates, proteins, and fats to meet the body's energy and nutritional needs (WHO, n.d.). Firstly, Carbohydrates are the body's primary source of energy, providing fuel for the brain and muscles. (American Heart Association, n.d.). Secondly, Proteins are important for building and repairing tissues, supporting immune function, and producing enzymes and hormones. The Recommended Dietary Allowance (RDA) for protein is 0.8 gram per kilogram of body weight per day for adults (National Academies of Sciences, Engineering, and Medicine, 2005). Lastly, Fats are vital for the absorption of fat-soluble vitamins, protecting organs, and providing insulation. The American Heart Association recommends limiting saturated fat intake to less than 7 percentage of total daily calories (American Heart Association, n.d.).

During the rigorous training phase, the personnel recognized the need to supplement their meals with extra food items to meet their energy requirements. In high altitude, APF personnel are feeling dehydrated and preferring hot food items to keep warm. The same food items that have been used across all geographical locations may not always be suitable due to the varying altitudes at which the force is deployed. The details of the nutritive calculation of the institutional meal of APF, Nepal is mentioned as follows:

Table 2*Caloric Value of Ration Items Per Day Per Person (APF, Nepal)*

S.N.	Items	Quantity (gram)	Protein (gram)	Fats (gram)	Carbohydrates (gram)	Total Calories
1.	Rice	720	48.96	3.6	564	2484
2.	Dal (Black gram)	113.5	28.3	0.7	267.5	387
3.	Cooking Oil	25 ml	0	25	0	225
4.	Ghee	30	0	30	0	270
5.	Sugar	30	0	0	30	120
6.	Condense Milk	15	1.5	1.5	11	63
7.	Atta	56.8	6.7	0.9	38.7	190
8.	Green Vegetable	170.3	3	0.17	8.1	45.9
9.	Beans	50	10	2	29.2	175
10.	Potato	125	2	0.1	25.8	121.25
11.	Meat (Goat)	30	5.5	4	0	60
12.	Meat (Chicken)	25	4.7	4.4	0	58
13.	High Energy Biscuit	6 pieces	8.4	22.8	64.5	497
14.	Egg (in a week)	4 pieces	6.6	6.6	0	86.5
Total			126	102	1039	4783

Source: Adopted and modified from DFTQC (2012) and Nepal APF Hospital (2023)

Table 2 indicates that ration items provided to APF personnel primarily include rice, black gram, cooking oil, ghee, meat, and beans. Based on researcher knowledge, total calories in all the security forces in Nepal are comparable. The calculated daily calorie intake per APF personnel is 4783 calories.

Perception Towards Meal

APF personnel both in plains and at high altitudes shared their happiness regarding the existing ration items and meal provisions. The research revealed that current ration scales adequately meet the nutrient requirements but the composition of ration items should vary based on the altitude of the unit. APF demonstrates its commitment to ensuring the well-being and satisfaction of its personnel while

upholding fairness and accountability within the organization (Mess Management Directives, 2022). One of the participants expressed the value of the initiative of the organization.

In all messes of the APF, a consistent standard of high-quality rice, excellent food and a wide variety of delicious dishes is prepared at the same level for all officers and other ranks. They also expressed their utmost appreciation and gratitude for the strong leadership and vision for providing the best possible dining experiences. The flavours are exquisite, with a perfect balance of spices and seasonings.

Provision and Practices of Other Organization

Nepali Army has implemented a ration tender system that has been in place for a considerable period of time. This system involves categorizing ration items into five packages: dry ration items, meat items, fresh food items, dairy products, and cooking fuel, specifically Liquefied Petroleum Gas (LPG). The contracts for supplying ration items are valid from the beginning of Magh (January/February) to the end of Poush (December/January) of the following year and the rate of ration is revised every year during the tender process. The Meals Ready to Eat (MRE) in the Nepali Army are prepared based on internal suggestions, the dietary preferences of Nepali people and the best practices of foreign forces. Typically, they are provided for three days under normal circumstances and twice a year during sensitive situations. However, MRE access is limited to a certain number of formation who deployed for special tasks. The procurement of MRE is carried out through the standard contract process. Additionally, there is a mandatory provision to use dry ration before their expiration (Nepali Army, 2019).

Nepal Police receives a cash ration allowance similar to APF, Nepal. However, the ration items provided are different from those of the APF, Nepal. In training institutions and at battalion levels, there is a ration management committee responsible for overseeing the distribution of rations. In other units, volunteer police personnel take charge of managing food for their respective staff and collect money from each person at the end of the month. The cash allowance does not undergo annual revisions, although prices may fluctuate in the market. National

Investigation Department follows a similar system as Nepal Police. The ration rates remain unchanged unless the government decides to make adjustments and increase those (Rajbhandari et al., 2022).

Prisoners or detainees in Nepal receive a daily ration for their food management. Adults are provided with 700 grams of rice and Nepali Rupee (NPR) 80 per day, while children receive a ration based on their age, with up to 600 grams of rice and NPR 50 per day. Pregnant women receive the same ration and special provisions from 30 days before childbirth until 60 days after delivery, including 700 grams of rice, 100 grams of ghee, 100 ml of cooking oil, and 50 grams of Jwano (Omum) each day (Department of Prison Management, 2023). The Division Forest Office takes charge of procuring and supplying ration to their staff, excluding the divisional officer. The District Rate Committee plays a crucial role in setting minimum prices for essential goods and services, ensuring that they are affordable for the public. This process is also followed by other agencies such as the Nepali Army. Each year, suppliers are selected through a contract system to renew the contract and maintain a smooth supply of rations.

Discussion

Institutional food services are responsible for providing meals to specific groups of people within organizations like hospitals, schools, nursing homes, the military, and industries. Among the three basic requirements for a human being, along with food, clothing and shelter, food plays a vital role, especially in militaries such as APF, Nepal where soldiers are deployed in diverse settings, including from plain field operations like Border Out Post (BOP), Kechanakawal, Jhapa (200 feet) to high mountains like Nechung, Mustang (15092 feet) (APF, Nepal, 2023).

APF, Nepal manages the ration distribution to its personnel in the barracks through a committee, following the guidelines outlined in the revised Mess Operation Directives of 2079. GoN currently considers ration money as income, subjecting it to a one percent tax on the total income. However, in India, the government has announced tax exemptions on ration money allowance and risk and hardship allowance provided to paramilitary personnel, specifically for non-gazetted ranks (Seventh Central Pay Commission, 2015). Therefore, it is recommended that the

GoN grant tax exemptions on rations and other allowances for ranks ranging from Junior Commissioned Officers (JCOs) to followers.

The cash ration allowance policy in APF, Nepal has proven to be highly beneficial for the organization, providing a comfortable and efficient means of managing ration related issues through a dedicated committee. The cash allowance system implemented in APF, Nepal has brought significant advantages to the organization, including the ability to maintain food quality, support the local market and ensure transparency.

APF units play a crucial role in preserving and promoting Nepal's rich cultural heritage. They actively participate in national and local festivals celebrated across the country's 77 districts (APF, Nepal, 2023). The celebration of festival including collective activities such as central annual day of unit, central cook system and birthday celebrations, strengthens unity within the entire APF personnel. Additional food items are procured for festive occasions. However, these additional expenses are managed using the ration allowance provided, as there are no extra allowances. Hence, the additional allowance should be provided by the government to celebrate various types of festivals in the unit.

During the rigorous training phase, the personnel recognized the need to supplement their meals with extra food items to meet their energy requirements. APF personnel often experience weakness and prefer hot meal products to maintain warmth when working at high elevations. The same food items that have been used across all geographical locations may not always be suitable due to the varying altitudes at which the force is deployed, ranging from 200 feet to over 9000 feet. It is important to consider factors such as the availability of local products, nutritional balance, and variety of choices when selecting the ration items. Most of the participants suggested categorizing the ration items based on altitude levels (below 9000 feet, above 9000 feet, above 12000 feet), training requirements, and options for both vegetarian and non-vegetarian personnel.

Good health encompasses not only the absence of disease but also complete physical, mental, and social well-being. Food plays a crucial role in supporting overall well-being as it provides our bodies with essential nutrients. To maintain

optimal health, our bodies require more than 45 different nutrients, and a deficiency in any of these can lead to health issues and a weakened immune system (WHO, 2021). Recognizing the importance of food, it is listed as one of the six fundamental rights of human beings, alongside access to water, air, clothes, shelter, and security. It is vital for everyone to have access to sufficient, balanced, and safe food that caters to their nutritional needs and cultural preferences (DFTQC, 2012).

Conclusion

The study illustrates that the provision of institutional meals demands careful consideration of various factors such as quality, nutrition, planning, and execution. The significance of these aspects is expressed by numerous researchers across different studies. Efforts to enhance institutional meal provision should include promoting self-management and local agriculture, implementing nutrition education programs and conducting regular audits. Accommodating cultural dietary needs and maintaining high standards in kitchen and dining facilities are essential for ensuring the well-being of personnel. Furthermore, the inclusion of balanced and nutritious meal options, particularly in challenging environments, can contribute to the physical fitness and performance of individuals. Exploring opportunities to introduce herbal-based products and collaborating with relevant organizations for quality certification can further improve food management practices and nutrition standards. In addressing these considerations comprehensively can lead to the development of effective strategies for enhancing institutional meal provision, thereby benefiting the overall health and performance of personnel within the organization.

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Small Arms Influx and its Implication in Kathmandu

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Abstract

This paper examines the status of proliferation of small arms in Nepal and its influx in Kathmandu before insurgency, during insurgency and post-conflict scenario. Exploring the existing law on small arms proliferation and how is it coping with this matter? This study discusses the major crimes that occurred by using small arms in Kathmandu. Methodologically, secondary source of data is used from previous relevant research studies on small arms and light weapons in Nepal during insurgency and post-conflict period. Kathmandu valley and taken as the focus of study because of two reasons: firstly, to map the numerous urban security threats that occurred in Kathmandu emanating from the influx of small arms and secondly, because of the availability of data. Numerous reports published on small arms proliferation, news reports, media analysis, books and articles have been reviewed and examined to underline how the use of small arms was massive used during the time in insurgency and even in the transitional period. This paper contends that despite

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the end of the transitional period and the promulgation of the new constitution, instances of crimes attributable to small arms proliferation have not decreased. It underscores the inadequacy of the existing legislation regarding small arms in addressing contemporary challenges, emphasizing the imperative need for the enactment of comprehensive laws and the implementation of robust measures concerning small arms.

Introduction

The proliferation of small arms presents significant challenges. In the current global landscape, crime rates are on the rise through various means and methods, with the utilization of small arms emerging as an especially effective and accessible method (Rapoport, et al., 2019). Nepal is not immune to this phenomenon. Frequent occurrences of daily incidents, attributed to the ready availability of small arms, during and after the insurgency have exposed vulnerabilities in security within the Kathmandu Valley. Consequently, there is a pressing demand for a collaborative security mechanism to address these pressing issues. However, before going into specific cases and their analyses, it is important to discuss the concepts and approaches pertinent to small arms proliferation. Nepal's Arms and Ammunition Act-1962 defines "Arms" as the rifle gun, pistol, revolver, mining, and grenade, their parts, and the machinery that manufactures such arms. "Machine Gun" includes Bringing, Luis gun, station machine carbine, Tomson machine carbine, and the automatic weapons of similar categories and their parts, the vehicles to be used for transporting and mounting such machine guns, and the machinery that manufactures such machine guns. "Ammunition" is identified as fug signal fuse (Dhumika Sanket), gunpowder, cap, the ball of a gun, shells, detonator, cartus, similar types of explosives and other ammunition. Be it self-loading pistols, rifles, sub-machine guns or light machine guns, small arms are generally understood as weapons used for individual purpose. They can be easily carried and can be hidden if required.

In the same context, Garcia considers the spread and use of small arms as perennial problem. Further he argues that small arms and light weapons - the assault rifles, machine guns, hand grenades, rockets and other weapons are generally considered as the "instrument of death" in the wars of the contemporary world. Whenever the

conflict between the countries increases, the influx of small arms becomes a perennial problem. Their easy availability in an international environment has spawned the extent of human suffering and death. About 15 million innocent civilians have lost their lives in the intrastate mayhem of the world since 1991. Millions have been maimed, about 12 million have lost their homes and become refugee or internally displaced persons (Garcia, 2006).

Small and light weapons (SALWs) constitute a form of trade that originates and proliferates during periods of crisis, offering opportunities and prosperity to individuals seeking to instigate disorder. The global landscape has shifted from traditional symmetric confrontations that span centuries to asymmetric warfare, wherein SALWs have proven instrumental in causing devastation to both lives and assets (Awaru et al., 2022).

According to Bogati (2019) globally, 300,000 to half a million people are killed by small arms each year, which means every single minute, someone is killed by a gun. Further, he explains that the growing availability of small arms has been deemed as a key obstruction to human security and human development. Hence, illicit small arms not only fuel insecurity but also undermine peace initiatives and hamper development activities. Proliferation of small arms is also a significant factor in fostering a culture of violence.

Gul (2010) argued that the common use, accessibility and unprecedented proliferation of small arms endanger the security of states, where the primary risk factor emanates from the possession and use of small arms by non-state actors. South Asia stands out as a region characterized by a propensity for conflict, wherein the proliferation of small arms presents a formidable challenge to security dynamics. Coupled with political and socio-economic instability across the region, the small arms proliferation indeed is endangering the security of the region. Upreti (2009) argued that the proliferation of small arms increased after the start of the armed conflict in Nepal. He further believed that the widespread use of Small Arms Light Weapons (SALW) by warring parties and distribution of arms to civilian militias and Village Defense Committees (VDC) by security forces in Nepal during the time of the armed conflict had encouraged arms traders and smugglers.

According to the Nepal Police records in the years from 2018-2019 and 2020-2021, 326 people, including 32 foreigners, were arrested for firearm possession. The number of arrests rose to 361 in the following fiscal year. In the fiscal year 2020-21, police arrested 373 people with illegal firearms. The Nepal Police also confiscated 944 firearms from various parts of the country in the last three fiscal years (Dhungana, 2021).

With a cognizance of this reality, this study seeks to conduct an analysis of the proliferation of small arms and its implications in Kathmandu across three distinct phases: pre-insurgency (before 1996), during the insurgency (1996-2006), and in the post-conflict period (2006-2014). Concurrently, it aims to critically assess the impact of Nepalese government laws and policies on the proliferation of small arms and light weapons.

This study uses secondary source of data from previous relevant research on of Small Arms and Light Weapons (SALW) in Nepal, before insurgency, during insurgency and post conflict period. Report of Telegraph Nepal (2011), sates that several reports on the confiscated small arms from Armed Police Force (APF) Nepal, and Nepal Police are examined. Although the study has used the old data, the lack of surveys in the contemporary times should also be understood. Hence, this study doesn't generalize the old data. Instead, only classify them, categorize them and analyze them. Also, it is understandable that the absence of conflict and dearth of studies in small arms has already lessened the availability of data. In the same context, this paper reviews the documents on small arms and light weapons from the above stated reports as well as article published in daily national newspapers .

Small Arms Proliferations: Causes and Concerns

Gorea (2006) revealed that the proliferation of SALW is a global concern. In the global context, small arms are widely used in the Middle East (Arab uprising), African countries, East Asian countries, and even in the country like the United States of America. Thus, the arms-related violence has surged up. In the regional context of South Asia, there are conflicts in almost all countries. Political violence pervades the South Asian region, spanning across countries such as Afghanistan, Pakistan, India, Nepal, Bhutan, Maldives, Sri Lanka, and Bangladesh (Gerharz &

Pfaff-Czarnecka, 2017). This phenomenon encompasses a spectrum of conflicts, ranging from interstate war and sectarian strife to guerrilla warfare and organized criminal activities. Kanwal and Chansoria (2010) stated the Indian subcontinent's susceptibility to small arms proliferation can be attributed to the fact that these are the most readily available weapons for non-state actors engaged in intra-state conflicts and state-sponsored proxy wars. They also stated that Nepal, which was a conduit for small arms proliferation in South Asia, has now become an end-user itself, as the Maoists' People's Liberation Army (PLA) was a big buyer of SALW.

A research report of Hazen (2011) states that Since 2007, the Terai region of Nepal has witnessed a notable increase in violent activities and the rise of armed factions subsequent to the conclusion of the civil conflict. This timeframe has been characterized by a diverse range of occurrences such as explosions, gunfire, kidnappings, financial extortions, armed transgressions, and even incidents of domestic abuse. This pattern of disquietude has firmly established the Terai as the focal point of turmoil and uncertainty within Nepal, presenting substantial obstacles to the promotion of peace and stability in the area.

Highlighting about porous border Forbes interprets the border with India has both positive and negative consequences for the inhabitants of the Terai. On the one hand, the ease with which the border can be crossed enhances trade and access to goods, improves work opportunities, and allows people to visit relatives. On the other hand, the porous border is widely believed to have aggravated the security challenges by enabling the illegal flow of firearms into Nepal, providing a haven for criminals from either side and providing criminal opportunities for armed groups, notably through goods trafficking, cross-border crime, and smuggling false currency into India (Forbes et al. 2011).

Nepal's strong laws and regulations are against the purchase and ownership of small arms and strict procedures for licensing and renewal. Nepal is still facing difficulties in mitigating the illicit trafficking of small firearms as a result of its porous frontiers with India and the geographically arduous yet logistically viable northern boundary with China (Shrestha, 2023). However, the main question is how to prevent the illegal trade of small arms through the long open border with India in the east, west and south, and the possibility of such trade from the geographically

difficult but technically feasible northern border with China. Even before of the Maoist insurgency, the use of illegal small arms in the Nepal-India border had been common, particularly for ordinary crimes.

Caldwell and Williams Jr (2016) highlighted recent security agenda includes the first and second generation of human rights, global warming, and oil shortages; transnational organized criminal groups, SALW proliferation, and global networks of terrorists (p. 248). Karp (2013) reported that in 2013, the Small Arms Survey estimated that there are around 440,000 civilian firearms in circulation in Nepal, only 55,000 of which are legally registered (p. 1). Although this study hasn't deal with the contemporary data, the case of gun license of Durga Prasain is interesting to mention here as it raised numerous debates in Kathmandu, be it in press or politics or parliament.

The availability of firearms in the country is moderate by international standards, but the concentration of small arms in the hands of criminal groups poses a threat to law and order that has yet to be fully assessed and addressed. Srikanth (2014) conceptualized SALW not as a traditional threat but as a nontraditional security threat in the 21st caused by terrorism, poverty, money laundering, and the effects of unequal distribution of resources. The increasing circulation of small arms in Nepal is worrying. As per the study conducted on armed terror in mid-Madhesh by the Democratic Freedom and Human Rights Institute and Terai Human Rights Defenders Alliance, the rate for a *Katuwa*—a local pistol—was Rs 2000, while a Sixer cost Rs 5000, and about 90 percent of those involved in the small arms business belonged to the age group of 15-35 years (Rauniyar, 2011).

The Himalayan Times (2016) in its article "Small arms posing a grave threat to security" mentions the illicit proliferation and misuse of small arms and light weapons as the grave threats to the environment of security in the Kathmandu Valley. Kamwesiga (2016) stated that there is debate among scholars about the relationship between SALW and insecurity; some writers argue that SALW directly leads to insecurity, while others consider SALW as mere triggers or catalyzing factors (p. 4).

Proliferations of small arms, criminalization of politics, politicization of crimes,

militarization of youths and emergence of armed groups and criminal gangs are positively correlated. Arm-based abduction is the major problem in Kathmandu. On 5th June 2009, Mahesh Sarada was kidnapped from his house. Anti-kidnapping Cell of Crime Investigation Department of Metropolitan Police searched but failed to find him. Later, on 14th June, he returned home by paying 1.4 million. There are numbers of such kidnapping cases widely reported in Nepalese media and all of the accused criminal gangs are using illegal small arms (Upreti et al., 2010).

Small Arms Influx: From Politics to Terror

Shrestha (2006) argued that small arms and light weapons are found to have been used for political cause, be it by Prachanda Gorkha or any other political parties during the anti-Rana revolution; in the 'hit and run' armed campaign conducted by the Nepali Congress after the Royal takeover in 1960; in the armed struggle that started in Jhapa district by the then CPN-Coordination Committee in the 1970s, and in the bomb attacks organized by the Janabadi Morcha (Peoples' Front) in Katmandu Valley in 1985 (p. 55-100). But the monopoly of the privileged individuals and groups having access to private weapons and firearms ended since the CPN-M started armed insurgency since 1996 (Paudel, 2014). The royal palace massacre of 2001 has been also interpreted as the climax and unanticipated implications of the misuse of small arms and light weapons in Nepal.

Kraemer (2001) stated that the Mukti Sena, the liberation army of the Nepali Congress, attacked from nine points, but it was defeated near Amlekhganj and Biratnagar. Another armed group belonging to the Nepali Congress was unsuccessful, which captured Birganj. Nepali folks in the city areas were politically informed and socialized by dropping leaflets out of a plane over the Kathmandu Valley – an action that was only possible with Indian help. The fight of the Mukti Sena lasted for about two months.

Levi (1956) stated that during the revolt by the Nepali Congress, arms and ammunitions fell into the hands of non-state elements, which misused the small arms for outright criminals' purposes, although political agendas occasionally got infused with the banditry and racial, communal or sectional rivalries which eventually added fuel to the flames (pp.39-46).

According to the report of United States Agency for International Development (2001), in 1971, a section of the Nepal Communist Party began a series of assassinations of "class enemies", in the southeast of the country, which coincided with political assassinations across the border in India, carried out by radical Indian communists, known as Naxalites. The assassinations in Nepal resulted in arrests and extra-judicial killings of party activists by government security forces.

Upsurge of Small Arms During Maoist Insurgency

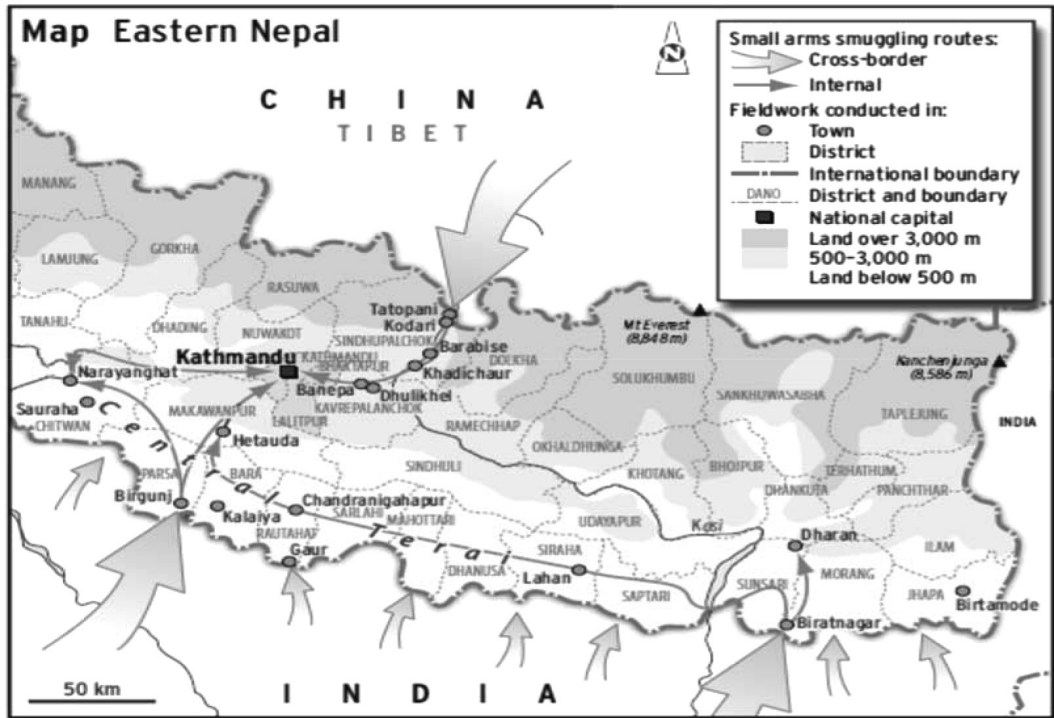
During the Maoist insurgency in Nepal (1996-2006), numerous incidences of violence, killing, intimidation, kidnapping, extortion occurred, resulting in casualties and significant political uncertainty and unrest. The insurgency was led by the Communist Party of Nepal (Maoist), also known as the Maoists, who sought to overthrow the monarchy and establish a communist state.

The Communist Party of Nepal (Maoist) employed small arms such as rifles, pistols, and homemade explosives extensively throughout the insurgency. These weapons were used for ambushes, attacks on security forces, intimidation of civilians, and establishing control over territory. Maoist fighters often relied on guerrilla tactics, moving swiftly and striking at government forces before retreating to the rugged terrain. While Maoists were spreading terror and violence in rural Nepal, the country also witnessed the Royal Massacre in 2001, the year when the Crown Prince reportedly shot dead 13 members of the royal family, before committing suicide. This particular tragedy is often described as a culmination of the 'misuse of small arms and light weapons in Nepal (Shrestha, 2006, p. 60).

Paudel (2014) contended that, in the midst of the insurgency, the Maoists engaged in the illicit transportation of arms and ammunition through trucks camouflaged with hay, alongside the utilization of bribes to expedite their movement. The exploit of security vulnerabilities was equally exploited by the smugglers. Notably, law enforcement authorities rarely conducted inspections on vehicles displaying flags and banners related to political gatherings. This loophole was perceived as a means by individuals associated with the youth factions of political organizations to ferry illegal firearms from Biratnagar to Kathmandu (p. 3).

Figure 1

Map of the Major Routes of Illegal Firearms into Nepal



Source: Nepal Armed Violence Assessment, 2013

Adhikari (2023) reported that the IC-814 hijacking raised numerous questions concerning the vulnerability to Nepal's national security caused by the influx of small arms. Some questions are still unanswered. Queries persisted regarding the source of weapons smuggled aboard the aircraft, the existence of pre-information within Indian intelligence, and the lapses in Nepal's airport security that allowed lethal weapons to go unchecked (Paudel, 2014).

Status of Small Arms in Post-insurgency Period

Firstly, Nepal has a history of a decade-long Maoist conflict. Secondly, the Royal Massacre of 2001 left many questions related with the entry and influx of small arms unanswered. Thirdly, Terai region witnessed numerous episodes of violence and conflict after 2008. Fourthly, Tikapur incident of 2015 divulged the brutality and

tragedy imposed by the use of small arms. Above all, Nepal has seen rapid political changes that have caused to severe challenges, contradictions and conflict at the socio-cultural and political fronts. The transformation of erstwhile Hindu monarchy into a secular county or the shift from a unitary country into a federal set up has multiplied challenges at the social and political fronts. Besides, ethnic diversity, the gap between the hill community and the Terai community, and the people's big hopes and aspirations in the post-conflict Nepal has fueled new emerging threats in new Nepal. If it is attempted to analyze the new emerging threats in Nepal, incidents associated with the use of the small arms can may tell us more.

The Himalayan Times (2015) reported that the smuggling and illegal trade of small arms continues unabated in the Kathmandu Valley despite the law enforcement agency's efforts to curb crimes. The rise in the smuggling of small arms into the valley has resulted in a surge of crimes like murder, extortion, death threats, abduction and robbery. In 2015, a team from the APF arrested three suspects, including two women, with a USA-made automatic pistol, nine bullets, and two magazines from Boudhha. Security agencies have had already confronted the threats triggered by the small arms in the Terai region during the elections.

Bogati (2019) informed that the conflict concluded with a disarmament and reintegration program for Maoist combatants where total of 1,462 combatants were selected for integration into the Nepal Army and surrendered 3,475 weapons to the United Nations in 2007.

Fujikura (2023) stated that during a Tharuhat/ Tharuwan demonstration on August 24, 2015, eight police officers were killed including an infant son of a police officer. The Nepali army was mobilized after the in position of curfew. Nevertheless, despite the curfew, many Tharu houses were attacked by mobs, looted, and burned (pp. 172-221).

Global Initiatives Against Transnational Organized Crime (2023) states that arms trafficking and illegal firearm possession are notable issues in Nepal. The illegal firearms used in Nepal are usually cheaper improvised firearms, and there has been an increase in the use of these weapons in violent crimes such as murder, robbery, and extortion. Criminals and political groups are proliferating and reportedly offer

protection to each other.

In 2024, delegations from over 25 countries in Asia-Pacific countries gathered in Kathmandu to collectively tackle the spectra of illicit arms' trade. The three-day regional preparatory meeting for the fourth review conference of the United Nations Program for Action (UN PoA) to prevent, combat and eradicate the illicit trade in SALW in all its aspects and international tracing instrument (Silwal, 2024). Amidst a multitude of global crises and escalating of armed conflicts SALW remain a silent killer, having claimed over 260,000 lives during 2021, amounting to 45 per cent of all violent deaths (Diemar, 2023).

In 2022, a garment businessman Mohammad Darji, 55, also known as Lal Mahommad, was shot dead afternoon at Gothatar, in Kageshwori Municipality of Kathmandu. Darji, a permanent resident of Ward 8 of Godaita Municipality, Sarlahi, was shot outside his factory-cum-house as soon as he got out of his private car (*My Republica*, 2022). In 2023, Nepal Police had to fire shots to take an alleged drug dealer Abinash Rai (45) under control in Jhamsikhel of Lalitpur (*My Republica*, 2023). He was shot in the right leg. Two bullets along with a gun were recovered from the alleged drug dealer. In 2023, Rupesh Sharaf, a 38-year-old resident of ward 6 of Kalaiya Sub-metropolitan City and principal of Kalaiya-based Bal Ekata Boarding School, was shot dead by an unknown group of people at Kalaiya-Bariyarpur Road near the main market of the city (Sah, 2023).

The security agency arrested 351 persons with 267 firearms in 2018-19 and 309 persons with 238 weapons in 2017-18. As many as 637 rounds of live bullets were confiscated in 2018-19 against 356 in 2017-18. The data with Nepal Police hint at growing gun culture in the country (*The Himalayan Times*, 2019)

During the first six months of 2022/23, 134 (130 man and 4 woman) people were arrested with illegal weapons from different places across the country. 6 of them were foreign nationals. During that period, 17 people were arrested from Kathmandu valley, 18 people from Koshi province, 25 people from Madhes province, 13 people from Bagmati province, 14 people from Gandaki province, 21 people from Lumbini province, 12 people from Karnali province and 14 people from Sudurpaschim province. Also, a total of 94 cases have been registered under illegal weapons

(Nepal Live, 2024). In 2023, Nepal Police apprehended two individuals accused of fatally shooting a youth in the course of a robbery from Dharan Sub-Metropolitan City of Sunsari. Police also managed to seize an illegal firearm and bullets among others from the possession of the suspects (The Himalayan Times, 2023).

Legal Provisions of Small Arms in Nepal

The small arms were reportedly introduced in Nepal in the 17th century, although the first modern arms and ammunition factory was established only during the later years of Rana rule. But, before the start of the Maoist insurgency in 1996, only local political and economic elites, security forces, and retired British and Indian Army personnel possessed firearms. Criminal elements, largely based in the Terai region, owned a very limited number of firearms. Civilians for the purposes of self-protection, have also got access to the firearms.

Obtaining a gun license is not easy in Nepal, and measures 'introduced since democratization in 1990 have made it difficult. Under the Arms and Ammunition Act of 1963, applications must be approved by respective Chief District Officer (CDO). No handgun licenses are reported to have been issued since 1990 and the basic license fee was increased in 2010 to NPR 10,000 (USD 140) further restricting legal ownership. The cost and complexity of the licensing system make it difficult, if not impossible, to legally possess craft (country-made) firearms, thought to be the most numerous.

The Government of Nepal has regulated the acquisition, possession, and use of firearms and ammunition since 1962 by enacting the Fire Arms and Ammunition Act, 1962 and its Regulation, 1971. These legislations have regulated but not totally restricted the possession of firearms and ammunition by the civilians. The legislations prohibit the production of cannons, machine guns, and arms and ammunition, keeping arms in one's possession or putting or making arrangements to put such arms and ammunition in other places, converting from one shape to another, and selling without a license. Similarly, the legislations prohibit carrying arms without a license. An individual who is discovered to be in violation of this regulation may be subject to a penalty of a maximum of seven years' imprisonment in addition to a substantial fine as determined by the relevant Chief District Officer

(Law Commission Nepal, 2019).

The Act empowers the concerned official to arrest any person who has arms and ammunition, with or without a license, to commit any illegal act. Under the Act, any person who intends to obtain a license to possess arms must apply in the prescribed format and pay the prescribed fee to the CDO. After the submission of the application, if the CDO finds justifiable reasons to issue the license with the conditions as written in the application, may issue a license in the prescribed format to the applicant with the prescribed terms and conditions. The Act provides for the provision on the suspension or cancellation of the license for the sake of public order, peace, and security.

Similarly, Government of Nepal, Ministry of Home Affairs (MoHA) announces the notice during election conduction time, considering the small arms threats and possible misuse of licensed weapon. According to the ministry, the district offices publish the notice to collect the small arms and light weapons in the whole duration of election. Likewise, the MoHA publishes the notice to collect the unauthorized, unrenewed, and after death of authorized owner in nearby Police office, offices of Nepal Army and Chief District Office (CDO), time to time. If somebody keep the unauthorized weapon and keep without permission they are punished as per the law (MoHA, 2019).

Private security companies do not possess legal authority to acquire, possess, or use firearms under the prevailing Act and Regulation. However, the Act and Regulation do not restrict any person who has lawfully possessed the arms or ammunition for private use from selling them to any other eligible person who is not prohibited by the existing law to possess such arms or ammunition.

Table 1*Number of Registered Arms and Weapons in Nepal*

S. No.	Types of arms	Number of arms
1.	Pistol	312
2.	Revolver	117
3.	12 bore guns	13892
4.	22 bore guns	4661
5.	Bharuwa banduk	1
6.	2 Nale banduk	12091
7.	Hawadari banduk	1010
8.	Others	2231
Total		34315

Source: Khoj Khabar Program, Sagarmatha Television, 22 July 2012

Table 1 reflects the total number of private weapons and types of weapons registered in Nepal. The table presented that 34314 small arms were granted licenses in Nepal before 1990. Likewise, this number was remaining same until 2015 as Basnet (2019) study shows that even until 2015, total 34 thousand 314 arms and weapons including pistol, revolver, improvised or home-made, and other guns have been registered.

Moreover, during a telephonic conversation held on May 6, 2024, a section official from the MoHA. of the Government of Nepal revealed that the compiling of comprehensive report on the creating the precise count of registered small arms and weapons is ongoing in Nepal. As per the information the current estimation stands at 33,373 that shows that the registration of small arms and weapons has been declined in the number in comparison to the data of 2012. It highlights, on the one hand, the government's dedication to upholding transparency and answerability, in

another hand, the management of firearms, which is essential for the protection of public welfare and national and the responsibility of government as well.

These small arms contribute a range of security issues, including armed violence, terrorism, organized crime, human rights abuses, and the displacement of population. Moreover, presence of those arms can undermine effort to establish peace and security in long-term. Moreover, it is seen that the cases of police officers involved in various crimes have been reported and key informants referred to plainclothes police having been involved in various forms of extortion and selling or carrying arms for criminal gangs (Racovita et al., 2013). Existing firearms law and their punishment system are not enough to cope with the present situation of crimes.

During interviews conducted with individuals convicted in cases involving the possession and trafficking of arms and ammunition, a recurrent theme emerged regarding the perceived lack of consistency in the application of legal measures for similar offenses. Specifically, incarcerated individuals contended that individuals with political influence often receive preferential treatment in terms of both sentencing leniency and access to facilities within correctional systems. This observation underscores a critical need for legislative reforms aimed at addressing disparities in the punishment of individuals involved in the possession and illegal trade of small arms. Consequently, it is imperative for governments to enact comprehensive legal frameworks and regulations designed to uniformly penalize perpetrators engaged in the unlawful possession and trafficking of firearms and related materials.

Security Implications of Small Arms

The presence of small arms within Kathmandu Valley poses a significant threat to security. Security stands as a paramount concern across all human societies, acting as a foundational element for societal progress. The proliferation of small arms undermines this security fabric, engendering an environment rife with threats and illegal activities. The empirical evidence presented underscores the severity of the issue, highlighting the unsustainable conditions and pervasive threats faced by the general populace within urban areas. Notably, criminal syndicates and gang elements have established a foothold within the Kathmandu Valley, utilizing small

arms to orchestrate illicit activities and perpetuate an underground trade network within city confines. Moreover, this phenomenon has disproportionately affected and ensnared a considerable portion of the youth population, exacerbating the societal repercussions of these illegal acts.

The security agencies of Nepal lack in adequate equipment and technologies. They perform their duty on very limited modern equipment and resources. With the limited resources and budgets, they are facing hard times to establish good law and order in society. On the other hand, criminals apply modern techniques with technology and use small arms by learning about the various criminal groups through the internet, videos, and documentaries. They are learning new techniques and technology day by day and at the same time, the security forces are just entering into society with same of equipment and resources. This needs to develop modern technology in the security agencies which makes them perform better work to cope with the small arms and its proliferation.

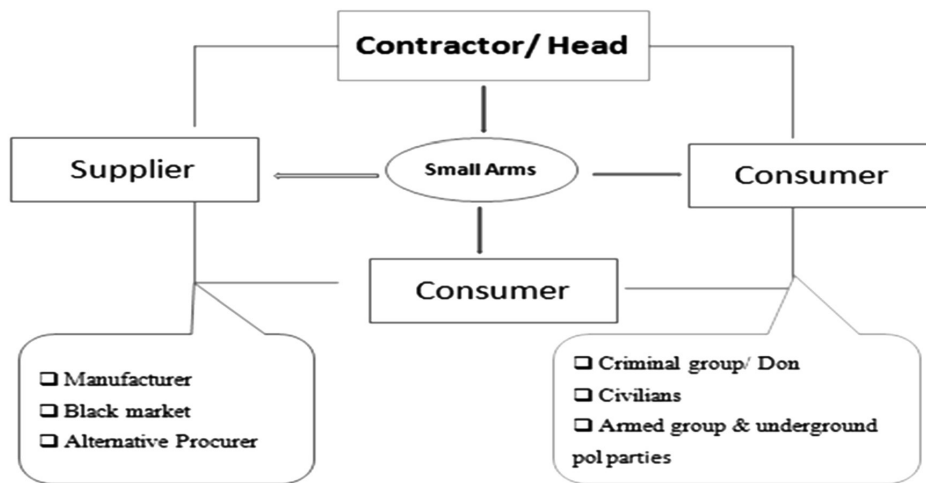
Nepalese people are seriously affected from insecurity and violence. Phenomena of criminality led insecurity, such as kidnapping of children, murder and attempted murder, robbery, illegal trafficking of arms and ammunitions, human trafficking, drugs abuses and trafficking, atrocities, murders, killings, massacres, forced displacement became serious (Upreti & Nepali 2006). Due to the lack of technology and trained technical manpower, vehicle x-ray machines, it becomes difficult to track such hiding weapons inside the vehicle. So, the technology and sniffing dogs should be deployed in those Nakas (entry point) to curb small arms and other illegal activities.

The manufacture and supply of new weapons both inside and outside the continent, to the remnants of weapons shipped into Africa in the 1970s and 1980s by the former Soviet Union, the United States and their allies to facilitate different inter-state and intra-state proxy wars also played a role in the use and proliferation of small arms (Edeko,2011). Further Clarke (2020) explained that in order to understand how SALW served as a source of terrorist financing, not only in terms of trafficking but also with respect to armed robberies, extortion, and other revenue-generating activities, it is critical to comprehensively examine not only terrorist and insurgent groups themselves, but also their operating environments.

Although there is no unanimous understanding among the researchers and scholars about the number of deaths caused by small arms in Nepal during the decade-long conflict, Bogati (2012) revealed that according to United Nations High Commission for Human Rights (2012) the decade-long insurgency between the Government of Nepal and the Communist Party of Nepal (Maoist) resulted in 13,000 deaths mainly due to the use of small arms. Many were victimized, abducted, displaced, or threatened by the use of small arms. With the emergence of armed groups in the Terai and Eastern Hills – made up of local criminals, unemployed youth, and former Maoist combatants – after the Comprehensive Peace Agreement (CPA), the use of small arms for criminal activities skyrocketed.

Figure 2

Network of Illegal Small Arms, How the Criminal Group Access the Small Arms from the Manufacturer and Black Market.



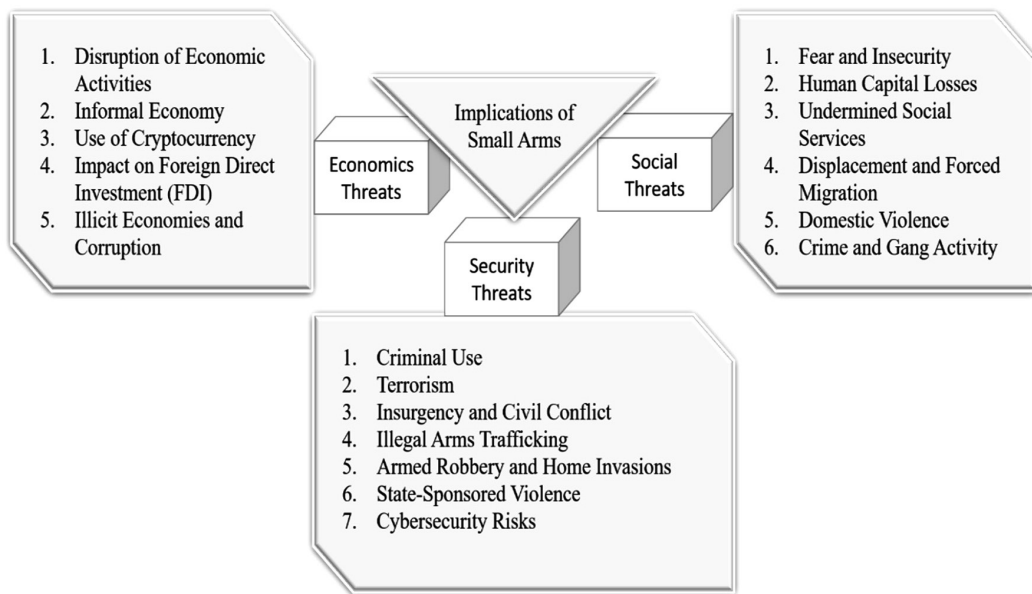
Source: Field survey, 2024

Figure 2 shows the mobility of the small arms from the manufacturer to consumer. In the entire process, black marketing of the small arms is exploited by the numerous criminal groups, armed groups and civilians. Apprehending the same, it can be realized how the security threats from small arms are numerous and diverse. Nepal has seen many political changes during short period. Following the abolition of monarchy and establishment of Republican system, the safety and security always remain in

mist. The security implication from small arms can be visualized from following figure:

Figure 3

Security Threats from Small Arms



Source: Field survey, 2024

The Figure 3 illustrates the social threats, economic threats and security threats emanating from the influx of the small arms. As such, the implications of the small arms are noticeable in economic activities, informal economy, illicit economies and corruption. At the social domain, the impacts are felt through domestic violence, crime, migration, displacement and several social insecurities. In the realm of security, the implications of small arms influx are more severe, manifested in their criminal use, terrorism, insurgency, illegal arms trafficking and state-sponsored violence.

This study has discovered that there are various challenges to fight the proliferation of SALW in Kathmandu, particularly after the country turned into republic from monarchical system of governance. Jekada (2005) believes that, border is the focal point for the proliferation, accumulation and as such, easy availability of weapons

should be viewed as a sufficient factor in triggering violent behaviors and conflict-bound situations. The idea of the availability of small arms and light weapons is as result of various porous borders, whose systematic management and regulation have faced numerous traditional and non-traditional security challenges.

One of the efforts to preserve international peace and security in 21st century has been the issue to control or limit the number of small arms and light weapons in circulation, and the way in which weapons can be used through illegal possession of arms for criminal purposes by individuals or groups in the society (Ubale, 2018).

From the above discussions, the key findings of this research paper can be summarized as follows:

- i. Despite the conclusion of the post-conflict period and the transition to a stable government, there persists a notable escalation in the proliferation of small arms.
- ii. A concurrent rise in criminal activities facilitated by the use of small arms is evident, indicating a concerning trend in the region.
- iii. The vulnerability of the security environment within Nepal is exacerbated by a confluence of factors, including political instability, inadequacies in security infrastructure, deficient border surveillance equipment, economic downturns, and a culture of political impunity.
- iv. Existing legal frameworks lack sufficient penalty provisions to effectively deter and punish offenders involved in the unlawful possession and use of small arms.
- v. The absence of a robust regulatory body for overseeing licensed firearms exacerbates the shortcomings in law enforcement mechanisms, potentially allowing for the exploitation of legal and policy loopholes.

Conclusion

Against the same backdrop, this study has realised that SALW persist as easily accessible tools facilitating armed conflict, terrorism, and criminal activities. The recognition of SALW proliferation as a menace to peace, security, development,

and human rights underscores the urgency for concerted action. The proliferation of small arms has emerged as a prominent factor contributing to sustained regional instability across various regions of Nepal in recent years. This proliferation precipitates a myriad of adverse consequences, including exacerbating human suffering, fuelling criminal activities, jeopardizing individual and societal security, impeding efforts toward reconciliation and peace-building, and hampering economic and social development initiatives. Moreover, the persistent circulation of small arms following the cessation of conflicts presents a persistent threat, as these weapons can readily reignite violence or incite new conflicts at any given moment.

The inadequately managed border security arrangements between Nepal and India have facilitated the sanctuary and operational freedom of numerous insurgents and criminal elements within Nepalese territory. Exploiting this porous border, these actors utilize Nepal as a haven for concealing their activities and perpetrating cross-border criminal endeavours. Furthermore, Nepal's geographical position as a transit point serves as a conduit for the clandestine transportation of weapons, enabling these groups to procure arms with relative impunity.

Reducing the degree and the level of misuse of small arms and light weapons in Nepal, from the hands of combatants, criminals and terrorist, there is an urgent need for a new dimension of approach that calls for a serious engagement with all stakeholders to developed an inclusive security package that suits Nepal's peculiarities and vulnerabilities for regulation of SALW in Nepal and effectively implement action program and the evaluation instrument mechanism to ensure that small arms and light weapons are not in the hands of criminals or terrorists. Most importantly, the attempts and efforts towards fighting the proliferation of small arms and light weapons must engage civil society groups and other community structure competent enough to ensue peaceful and secured society.

The proliferation of small arms within Nepal has emerged as a critical factor, posing significant challenges to peace, security, and socio-economic development. As a result, there is chance of being threat of theft, robbery, assault, and murder buy use of such type of small arms in Kathmandu. Which pose the direct threat to social life, social peace and harmony, and the economic activities as a whole. Moreover,

the presence of small arms creates an atmosphere of insecurity and fear among civilians, affecting daily lives, mobility and mental well-being as well.

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Safeguarding Nepal: National Security Landscape & Challenges

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Abstract

This article explores the complex notion of security in Nepal, covering its history, current challenges, and future prospects. It compares the traditional view of national security focused on protecting borders with newer threats that include social, economic, environmental, and geopolitical factors. Political instability, bureaucratic politics, economic crises, ethnic and religious tensions, occasional acts of violence, refugee problems and ecological destruction are ongoing challenges to the Nepal's internal security. The state also has external issues such as its geographic position as well as socio-cultural pressure, which are immense and aggravated by the geopolitical complexities that stem from being landlocked and surrounded by powerful neighbors, India and China. The researchers used qualitative and analytical methods that involved collecting secondary data from various sources like books, journals, websites, dissertations, and reports, as well as the researcher's academic and professional proficiency. The comprehensive national security

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policy and strategy is essential to bolster defensive capabilities contribute to resilience building and socio-economic growth. The government required adopting adept statecraft to maintain the equilibrium between national interests and threats; domestic and international. Further, preserving Nepal's sovereignty and ensuring the welfare of her people necessitate joint efforts and unity among all stakeholders along with a deep comprehension of evolving security dynamics.

Introduction

“A nation has security when it does not have to sacrifice its legitimate interests to avoid war, and is able, if challenged, to maintain them by war.” (Lippmann, 1943, p. 5)

The concept of security is complex and difficult to find precise explanation due to its nature. Security discussed here is related to the national security and the national security is interlinked with national interest and the interest of the nation is solely dependent on internal politics and diplomacy. However, it applies to many different situations and serves various purposes for individuals, businesses, governments, and scholars. Different stakeholders have different understandings of security and national security. The national security is the state of being free from physical violence and protecting a country's people, land, government, policy, and institutions from both internal and external threats to preserve its values and interests (Uberoy, 2004).

Every state has the highest objective of making itself secure. However, all states still feel insecure, because of various internal and external threats. Absolute security involving the complete eradication of threats as detrimental is generally neither unobtainable nor will states attain a stage of perfection in the future. The traditional sense of national security implies the relationship between a population and the territory it occupies which is viewed as a nation; its government and state institutions as legitimate bodies and the ability of the nation to protect its internal values and national interests against both internal and external threats. National security has two major goals: preserving sovereignty and maintaining territorial integrity. Governments usually use military or diplomatic means to deal with external threats. However, for internal threats like inadequate integration; political instability; social unrest; economic fragility; and environmental degradation require

comprehensive approaches that involve all aspects of national power, influence, and control (Baral, 2006). At a minimum, this is important because it helps the country build up resilience at a local level whereby it can then be able to strengthen its own political, economic as well as military capacity to confront effectively both internal and external risks.

Nepal's national security policy was first outlined by King Prithvi Narayan Shah. He was a visionary leader who shaped the country's security landscape. King Prithvi Narayan Shah used both diplomacy and military strength to unite the various principalities of Nepal in the 18th century. He didn't just prevent Nepal from losing any of its territory but also laid the groundwork for the nation's independence. He was able to unite different kingdom under a single ruler and this established the basis of Nepal's ability to resist external threats and internal dissension. His strategic planning remains a touchstone in Nepal's modern security approach, emphasizing oneness and military acumen as vital means of protecting national interests. He advocates that Nepal is in vulnerable geological position and should avoid direct confrontation with India and China focusing on defensive approach. Nepal must choose a policy of peace and stability through a constructive endeavor that promotes sovereignty and protection of the nation's interest. Once these facts are taken into account, it becomes clear that Nepal managed to remain an independent state within the existing Asian powers – India and China. However, such rulers focused rather on internal power, thereby leaving no distinct state-level strategy for those who would come after them in history apart from conquests inside their own territories. If one looks at factors like economic development, geography, size, population, foreign policy among others which determine national security status of any country then definitely Nepal is categorized as weak landlocked poor state though never colonized by any other modern nation-state (Thapa, 2002).

Following the end of the Shah Dynasty, Nepal encountered a mix of liberty, more external interference and societal discord. The constitution of Nepal 2015 was crafted by the people's representative in parliament and normal people's son became the head of state. Nepal became the secular country and civil liberties are more protected compare to King's regime. On the other hand, the engagement of India, China and western countries in Nepal's internal affairs seems considerably

increased. India's special support towards Madesh based political parties and western countries supports to ethnic parties are very open to all of us. International agencies involvement in fault lines such as fomenting free-Tibet movements, ethnicity-based federalism and social transformation explain the degree of engagement and external influence in Nepal (Bhatta, 2013). Political instability and dissatisfaction among the populace propelled the Maoist movement, which assumed an ethnic dimension. Though Nepal has achieved inclusive constitution in 2015 but its full implementation is still in dilemma. Still there are the impediments related to delegation and decentralization of authority to province, disregard of provincial civil service and police acts, ongoing ethnic and socio-economic issues and allocation of resources. All these challenges and obstacles are directly and indirectly threats to Nepal's internal security. Addressing these looming security challenges necessitates a comprehensive understanding of threats and the formulation of appropriate national security policies. The repercussions of a decade-long Maoist insurgency and globalization and its effect have prompted a public discourse on the demand for human security and the roles of society and the state, highlighting challenges in reconciling them (Lohani, 2017). Despite the geographic unification achieved by our founding fathers, Nepal still struggle with inclusiveness and cohesion among diverse populations.

The developing nations are sensitive to any real or perceived threats to their fragile identities. Nepal being an underdeveloped and landlocked country; external threats may come in any form or means. Nepal is geopolitically situated between two giant nations, India and China, and external challenges from them against Nepal's vital interests cannot be ignored. In such circumstances, while determining our strategic and security relations, the most crucial factors for Nepal in its interstate dealings would remain its survival as well as independence. Nepal should not be carried away with a mindset of a yam caught between two boulders, rather should advocate Nepal as a root of prosperity and stability for both China and India (Baniya, 2023). Likewise, the prevailing internal political landscape marked by frequent changes in government and its coalitions, coupled with economic challenges such as a substantial trade deficit, environmental issues including the impacts of climate change, and social dynamics underscore the imperative for us to address a range of threats facing our society and country with utmost seriousness.

The article focuses on Nepal's security landscape, discussing its current threats and challenges. The scope of the study is mainly confined to the existing provisions, practices, and issues on national security, external and internal security, national interest, policies and possible challenges ahead of national security.

Review of the Literature

The main aim of this review is to create a framework for the study of Nepal's national security landscape and its challenges in order to guide the analysis towards discussion and findings, and conclusions. The review has been structured thematically to discuss various aspects about research article.

Khand (2005) investigates basic concepts of security, power dynamics and national security by intertwining them with Nepal's national interests and aligning them with broad security objectives. This study further looks into essential aspects that are extremely necessary for Nepal's defense system, such as capacity building issues like military capabilities and strategic considerations which provide insights on what diplomatic as well as defense strategies have been adopted in the country. Concurrently, Brown's (1984) examination of U.S. national security provides a philosophical view point which advocates for global defense through democratic principles. His work forms significant additions to the ongoing debates regarding national defense strategy but also addresses multifaceted issues such as tensions with neighboring states, arms control and domestic threats. In an extensive review of systemic dimensions of contemporary world, both Khand and Brown offer subtle perspectives that are vital in understanding and designing effective national security policies.

Singh (1996) and Jayasekera (1992) give fresh ideas on the national security dynamics within South Asia, concentrating mostly on India's strategic considerations and its engagements with the neighboring nations such as Nepal. For instance, Singh's assessment of India's security policy offers a template for comprehending regional security challenges and thus helps provide recommendations to Nepal based on its neighbor's policies. On the other hand, Jayasekera explores the issue of security dilemmas in small states which bring out significance of geographical vulnerabilities or threats stressing that any potential aggressor trying to exploit strategically placed

but economically deprived countries like Nepal will face high costs in terms of economic burden. This is because these works bring out how various geopolitical factors coupled with security dilemmas creating complexities in ensuring national security.

Baral (2006) and Thapa (2002) both present valuable insights into the complex character of national security in Nepal. Baral's examination of security aspects in a democracy underscores the need for fair power sharing and individual empowerment, calling for a response to traditional as well as non-traditional threats. He highlights that there is no one country whose security interests cannot be affected by another's insecurity; thus it is important to redefine security beyond the confines of state-centralism. Thapa further highlighted that economic, environmental and social well-being are vital elements towards achieving national security. He emphasizes redirecting priorities towards indigenous resources and strengthening democratic institutions so as to promote public confidence and allegiance towards national interests. Consequently, the two authors advocate for a comprehensive approach to safety hence involving socio-economic progress, democratic ruling as well as strategic foresight that will see Nepal's stability and prosperous in future.

Uberoy (2004) has further explained the complexity of threats through emphasizing that political threats take precedence over military ones and connecting them by analyzing historic events such as the Iran-Iraq war and Cold War. The author's detailed analysis of diplomatic history clarifies the tainted intelligence assessment on Soviet military strength during this period, highlighting vulnerability to threat perception as pivotal for national security. However, Joshi (2000) focuses on security and strategic thinking, looking at armed forces optimization within a larger national security framework. From another point of view, Joshi focuses on these aspects, but it is through his assertion that we get to understand conflict dynamics in relation to military forces and caution against possible pitfalls brought about by dominance of some sectors in national discourse on national security. In summary, these works help us to learn much more about threat perceptions and dynamics of conflicts as well as the organization of security forces in safeguarding national security.

Stiller (1989) and Baidhya (1993) both emphasize on Nepal's historical and geopolitical landscape exploring leadership of Prithvi Narayan Shah. Stiller had

revealed invaluable information of Shah's commitment and strategy on statehood establishment, structuring government, economics administration and military matters. On the other hand, Baidhya adumbrates further on this knowledge since he discusses geographical characteristics of Nepal, consolidation efforts by Shah resulting in a unified kingdom extending over vast territory. In summing up these historical and geographical findings, it is significant to note that history, culture and strategic considerations are intricately intertwined with each other in shaping Nepal's national security framework.

In summary, these literature review highlights how complex interlink ages in relation to security dynamics transcend traditional military paradigms into diplomacy, economics, society and environment. A more nuanced understanding of national security challenges and formulation of effective strategies towards protecting interest of nation-states like Nepal may be achieved by exploring fundamental concepts, regional perspectives, historical contexts and comprehensive approaches to security.

Research Methodology

This research methodology is qualitative-analytic in nature drawing from broad professional as well as academic competence of the researcher. The process involves synthesizing secondary data from a variety of sources including books, scholarly journals, dissertations, websites and reports were used for descriptive analysis among others. This study therefore attempts to facilitate an all-round understanding about the research topic through systematic analysis of multi-faceted data that utilizes both existing knowledge and researcher's opinion thus enabling detailed explanations and advice.

Discussion

Conceptualizing National Security

The concept of comprehensive security was first put forth in Japan during the early 1980s and is based on the fact that contemporary threats are multidimensional, economic crises, trade interruptions or natural calamities as well as military aggression (Tsuneo, 1991). These include full use of political, economic, diplomatic, and military resources. Comprehensive security refers to safeguarding essential

interests and fundamental values from both internal and external risks. These core values may change according to internal or external contexts such as military security, territorial integrity, economic viability or national political stability. The security perceptions are not only of individuals but also of states that tend to differ from each other. National security in its conceptual framework cannot be observed independently since it is related to the concepts of national power, national stability, national objective, and national interest.

A key matter in comprehending the concept of national security is national power that involves both the tangibles and intangibles. These are such as military power, territory occupation and economic capability, form of governance, population factors and patriotic feelings among others. The central issue in discussing national security is about national stability which can be divided into two major components; internal and external stability. Internal stability refers to the perception of fairness and equality between citizens within a country while external security refers to strategies employed by the government to protect it from threats coming from outside its borders. Simultaneously, formulation of national goals is important because they represent what the government believes how things should be for it to spend resources and effort on them. In a democratic society, these goals are often consistent with national interest as determined by the majority opinion. National interests in Nepal arise out of an intersection between internal dynamics and external imperatives defined as collective demands and aspirations for development amongst its people. As a sovereign entity, Nepal determines its own interests and devises strategies to pursue them, with scholars commonly delineating between vital national interests: such as independence, territorial integrity, sovereignty preservation, economic prosperity, and national cohesion; and other interests (Thapa, 2002).

National Security Policy

Nepal's first national security policy was included in the 'Rashtriya Mul Neeti' adopted in 1985 (Acharya, 2019). That policy was abandoned after the advent of democracy in 1990 despite its inherent to security agencies for strategic guidelines and to maintain peace and security. After the formulation of the 2015 constitution, the Nepali strategic and political thinkers have developed a greater understanding

of the importance of national security policy. The Constitution has set forth its national security policies under Article 51(a) as to promote and preserve national independence, sovereignty, national unity and harmony among diverse ethnic, religious cultural and linguistic groups to promote a national security system including human security and to make the national security institutions professional and capable. The Constitution of Nepal 2015 defines such things as maintaining national independence, sovereignty, territorial integrity; protecting rights of Nepal and Nepali citizens; creating laws to punish any act against nation's interest; seeking economic prosperity (Secretariat of Legislative Parliament, 2015). The National Security Policy (NSP) was adopted in 2016 with a broad definition of security comprising: human, economic, environmental, and resource securities (Ministry of Defense, 2024). Also, there is a provision for compulsory consultation with the National Security Council regarding major decisions concerning projects, construction, treaties, foreign investment, and trade with strategic significance to the country.

The policy has also found several external threats and challenges to Nepal such as foreign intervention, porous international borders that could be encroached upon or infiltrated, fuel supply bottlenecks, regional security environment and competitive conflict prone global security landscape. All these threats pose crucial risks to Nepal's national security along with other factors. It is the Nepal's national security policy documents which outline an inclusive set of policies covering both internal and external dimensions of Nepali statecraft. The main objective is to safeguard Nepal's freedom, independence, sovereignty, national unity, dignity, territorial integrity and national interests. The security agencies of Nepal; such as Nepal Army, Nepal Police, Armed Police Force, Nepal and the National Investigation Department, should be given top priority on enhancing their institutional capability in a aim to bolster national security mechanisms. This strategic approach aims to strengthen Nepal's defense capabilities and safeguard a robust response to emerging threats, both domestically and internationally.

Nepal does not have a unified national security strategy as some other countries do notably the United States, China, UK and Russia. The Nepal's national security policy could be said to have components of national security strategy although it

does not measure up to that level. The policy was revised by the government in 2019 however it is not disclose to the public yet. The main thing about the national security strategy first and foremost is to identify and apply wisely the national power for securing national interests. It should however be noted that military power of a country forms an important part of its national security strategy but not the sole power in the modern world. There are other powers such as power diplomacy, political diplomacy and approach, economic strength, social and cultural power, and power of the people that determine the elements of national security (Acharya, 2019). A national security strategy must include military security, land and border security, economic security, environmental security, energy security, resources security, human security, technology and cyber security, patent security, health security and food security.

It is indeed a foreign policy that stands as the principal element of a nation's security. It is the responsibility of a nation-state to defend its territory from internal and external threats. It utilizes all available resources encompassing political, diplomatic, economic, military, civilian and legal powers so as to achieve this comprehensiveness. For such a strategy to be effective in attaining security objectives in context with external milieu, it must have elements of diplomacy within it. However, the foreign policy dimension is often ignored by Nepal's security forces thereby giving rise to strategic gaps. This means there is an urgent need for consensus on matters regarding the nation's vital issues pertaining to domestic interest, internal stability as well as foreign affairs with the guiding principle being 'Amity with all enmity with none' (Shrestha, 2017).

The use of soft power is the best tool for Nepal to secure its national interests, prioritizing the cultivation of trust and confidence with immediate neighbors India and China, while also vigilantly monitoring and swiftly engaging with extra-regional powers. The management of its internal capabilities and external opportunities along with global dynamics is crucial to overcome geographical limitations. To ignore this responsibility will risk engaging the country in serious consequences. It illustrates the complex yet highly important nature of formulating and implementing a robust foreign policy and national security strategy, as well as defense and diplomacy management. They are essential for protecting the nation's

sovereignty, democratic principles, peace, tranquility and well-being of people that directly serve the common good.

National Security Doctrine

Albert Einstein (1879 – 1955) said “The world is a dangerous place, not because of those who do evil, but because of those who look on and do nothing.” It means a nation must always be conscious of threat and danger, predict them and take the steps necessary to guard against it. The interest of national security will determine the direction of foreign policy and is the only basic duty of a country’s citizens is to promote or defend national objectives. There is very little conventional external military threat to Nepal's security in the form of aggression or war. Nepal has peace and friendship treaties with both India and China. A potential threat to Nepal's security may come from the military conflicts between other states in the neighborhood. There is the possibility of spillover of wars between them, sometimes dragging Nepal into the conflict.

Nepal has always maintained neutrality in the war between its neighbors; it cannot remain untouched if a full-scale military conflict were to outbreak between them. Nepal might have to take measures to repulse the military advances by either of the conflicting parties wanting to use her soil to achieve their military objectives against the other. Any conflict that may arise involving China a major power in the world may affect Nepal as it cannot remain untouched when the next-door neighbor is in a conflict. The Western powers might want to make use of Nepal as a platform from which to watch China and deploy their security footprints in the event of a break out of hostility with China (Sangroula, 2018). Though Nepal has always pledged not to allow its soil against the security interests and the territorial integrity of China; the Tibet issue is one such factor that has the possibility of dragging Nepal into the conflict.

The geopolitical reality does not allow Nepal to enter into any military pact or alliance with any particular power. For its security, Nepal has to keep its military ready for minimum deterrence, against any possible external military intervention. Such deterrence can be created by a combination of the conventional and modern military apparatus. Nepal's earliest national security doctrine was laid out by King

Prithvi Narayan Shah. He had not only likened Nepal to a 'yam between two rocks', but also stated a defensive strategy saying don't attack others unless you are attacked. Though not spelled clearly, the modern security doctrine of the country includes refraining from any offensive acts without being provoked, not allowing the Nepali soil against the security interests of neighboring countries, and rejecting the stationing of any foreign troops on its soil under its policy of non-alignment. As per the state's policy of non-alignment, Nepal's governments have refrained from joining any military alliance or security pacts, but the army maintains cooperative relations with the armies of the neighboring countries and big powers (Lohani, 2017).

Emerging National Security Issues

Over the past two decades, Nepal's security landscape has undergone significant transformation, shifting from conventional military threats to a more diverse array of non-traditional challenges stemming from various non-military sources. The shift has been influenced by dynamics within the country and political changes in Nepal, which have resulted in more social and environmental complications due to a decade long conflict and negative impacts of globalization. Nepal has faced numerous serious challenges such as; sporadic fighting between ethnic and religious groups, heinous crime and violence, e-crimes, the transformation of the nation into one of transiting hubs for illegal drugs and gold smuggling networks, trafficked persons across borders, corruption at all levels of governance, income inequalities getting wider apart between rich and poor people; escalating unemployment rate and massive youth emigration. Moreover, there's been an alarming trend of illegal migration, politicization of governmental institutions, and the intertwining of criminal elements with politics. At the moment, the environmental security challenges are another serious security threat for Nepal. On the environmental front, Nepal is facing the issues of the constant degradation of shared rivers, the recurrent bursting of glacier lakes, and rising landslides and floods due to torrential rainfalls in the hilly and mountain regions. Additionally, growing urbanization and the development of unplanned city centers is also emerging issue and concerned of national security (Pyakurel & Uddhab, 2018).

Both Nepal and India have recognized the emerging nexus between various armed

groups operating across their borders, as well as the challenges posed by human trafficking, goods smuggling and unregulated migration, which threaten the security and national interests of both nations. The Nepal-Indo border is neither closed nor heavily guarded allowing free movement especially for Nepali and Indians. As well as China's relationship with Nepal continues to be shaped by the Tibet issue where Chinese policies reflect both internal as well as international imperative (Baniya, 2023).

National Security Threats and Challenges

Nepal faces a greater array of internal challenges than external ones. The factors endangering national security are dynamic, evolving, and based on circumstances. Safeguarding Nepal's cultural, social, political, psychological, economic, and physical integrity, along with its value system, necessitates vigilant protection against diverse pressures and challenges.

Political Instability

Nepal grappled with political instability after the abolition of its age-old monarchy in 2008. The period following this change has seen the formation of 13 different governments suggesting that it is still hard to establish a lasting framework for good governance. Due to the frequent changes in government, it has direct impact on achieving national goals and objectives. The former Prime Ministers of Nepal include Puspa Kamal Dahal, also known as 'Prachanda', who held office from 2008 to 2009, 2016 to 2017, and from 2022 onwards; KP Sharma Oli, who served in 2015-2016 and 2018-2021; Sher Bahadur Deuba, who served from 2017 to 2018 and again from 2021 to 2022; Madhav Kumar Nepal, who was Prime Minister from 2009 to 2011; Jhala Nath Khanal, who briefly held office in 2011; Dr. Baburam Bhattarai, who served in 2011; Khil Raj Regmi, who held office from 2013 to 2014; and Sushil Koirala, who served as Prime Minister from 2014 to 2015 (Government of Nepal, 2024). It strongly indicates that frequent changes in government and its coalitions are becoming common and public sentiments towards political parties and government are on a downward trend. Political instability, political distrust, and external influence (to some extent) are significant challenges that pose a threat to the national security of Nepal to a considerable degree.

Politicization of Bureaucracy

It is a fact that bureaucracy is regarded as the permanent government of a country and the backbone of every nation. They are entitled to provide good governance to the public by any means. On the contrary, Nepali government services are known to operate on favoritism, patronage system, institutionalized corruption and political inclinations. There are various civil service employee unions in Nepal government associate to the political parties such as Nepali Congress affiliated trade union, UML affiliated trade union, Maoist affiliated trade union, etc. It is clear indication that bureaucracy is amalgamated with politician and political party. Moreover, this bureaucracy intersects with party dynamics while manifesting much fragmentation along ideological lines. Often time's bureaucrat seems prejudiced in their dealings with elite group, politicians and normal people thus undermining ideals of neutrality and non-partisanship (Singh, 2020).

Economic Factors

The economy is basis for building up and the means to safeguard the nation and should be considered as a main servant of national security. Nepal ranked 110th position of the world economy in 2022 and 30th largest economy in Asia-Pacific (World Economics, 2024). The problem of national security of the particular state is closely associated with the economy and can't be separated. A noteworthy decline in economic activities, reflected by the worsening of indicators, is how the Nepal's economic crisis begins. This has been marked with decrease in Nepal's economic growth from 6.7% in 2019 to -2.4% in 2020 and increase in unemployment levels from 10.6 in 2019 to 13.1 percent in 2020 (World Bank, 2024). That indicates lack of job opportunities and low purchasing power thereby worsening social and economic problems. With falling demand and a decrease in the country's currency value, inflation rates raise thus rendering goods more expensive to ordinary consumers. In addition, a devaluing currency compounds this problem since rises in imports and foreign debt costs placing pressure on national financial stability. Government revenues drop due to reduced economic activity resulting into fiscal shortfalls that reduce its ability to deal with major social and economic needs. An uncertain atmosphere created by a feeling of unease among people as well as investors hampers any recovery plans for the economy therefore making things

worse during such crises. The causes for such crises are varied comprising political instability, natural disasters, poor infrastructures, graft cases, external interference into economies COVID 19, and poor economic governance (Subedi, 2023).

Ecological Factors

Nepal is in the 20th topmost disaster prone country in the world. Nepal is highly vulnerable to climate change impacts and ranked 4th in vulnerability position, 11th in earthquake prone area and 30th with regard to vulnerability to flood hazards (Khanal, 2020). Nepal's immediate environment is fraught with numerous natural threats that could be a result of either natural phenomena or human interaction with nature. Floods, landslides, avalanches, deforestation, earthquakes, hurricanes, climate change, global warming and its repercussions, scarcity of water and food, pollution of air and water, as well as the rise in contagious diseases like Covid-19 are some of the ecological challenges Nepal's faces due to her geographical position and global impact. World Bank report shows that approximately 80 percent of Nepal's population is at risk from natural and climate-induced hazards; and Nepal could faces losing 2.2% of annual GDP due to climate change by 2050 (World Bank Group, 2024).

Ethnic and Religious Problems

Nepal is home to approximately 30 million people who are multi-lingual, multi-ethnic, multi-racial, and multi-cultural. In essence, the Nepalese populace predominantly consists of two main racial groups: the Indo-Aryan and the Tibeto-Mongoloid. These two races have distinct cultural and genetic backgrounds. In addition to that, Nepal has five key religious communities namely Hinduism, Buddhism, Islam, Christianity and Jainism according to census data (National Statistical Office, 2024). This has contributed towards a unique tapestry of Nepalese traditions values and culture through the diversity in racial and religious demography. Prior to 2046 B.S., there was no any issues on national unity and identity as nowadays. There have been increased ethnic and religious tensions especially in Tarai and East Nepal leading to questioning social fabric as well as norms within the country. This shift raises pertinent questions regarding the traditional coexistence and national solidarity that Nepal has long prided it on.

Illegal Immigrant

Nepal stands out among South Asian nations due to its distinctive international border dynamics. The movement of people across this border can be termed open migration where migrants effortlessly coalesce with local settlements, which share common language, customs, and religion. Nonetheless, the presence of Bhutanese refugees in Nepal has generated a number of problems that are undesirable. Moreover, the occasional focus on Tibetan refugees in the mass media and undue interest shown by western countries contributes further to the complexity of Nepal's situation. Nepal has currently shelter approximately 20,000 refugees, including those from Bhutan, Tibet and other states after resettling more than 113,500 Bhutanese refugees to eight different countries with the help of UN refugee agency (UNHCR, 2024).

Extremism

Extremist activities have become a notable concern in Nepal despite the country not being traditionally associated with such threats. These happenings at times are attributed to different rebel groups and eras of political uncertainties particularly during the Maoist insurgency between 1996-2006 characterized by huge loss of lives and destruction of infrastructure. Nevertheless, sporadic acts of extremism continue to occur since the conflict officially came to an end with Comprehensive Peace Agreement in 2006 as various Maoist splinter groups and other marginalized ethnic and political factions resort to violence. The continued existence of extremism is driven by entrenched socio-economic grievances, ethnic tensions and political turmoil worsened by ineffective governance systems; widespread poverty levels and limited access to essential services especially in some parts of Nepal. Moreover, Nepal's porous borders, notably with India, enable militants and weapons to move freely, making security efforts more challenging (Baniya, 2023).

External Threats

It is widely accepted that the potential enemy of any country is its neighbors and there are no permanent friends or foes, only permanent interest. Considering the present international and regional security environment, Nepal does not see any immediate military threats to Nepal from either of our neighbors. We can presume that direct aggression is likely to be the last resort that either China or India will

resort against Nepal to further their national interest even Nepal has good relation with both neighbors. They both have the capability to interfere and compel Nepal to allow their national interests through the use of soft power such as political, economic, and psychological means.

Military Factors

A nation's security can be threatened in various ways and means. Armed aggression is the most direct and visible of these, it can also be endangered by means other than a full-fledged war (Uberoy, 2004). Nepal is surrounded by two big and powerful countries in Asia- India and China. Both China and India have the largest military forces in the world and are ranked 3rd and 4th of the 145 countries considered for the annual global firepower review, respectively (Global Firepower, 2024). On the other hand, Nepal is just ranked 128th and has 95,000 personnel serving in the Nepali Army (Baral, 2022). Both neighboring countries have powerful armies with sophisticated military equipment and nuclear power. The Nepali Army is too small and less equipped; hence, the fear of slim threat is obvious to Nepal despite its close relationship.

Geo-strategic Factors

Nepal is a landlocked country having 147,516 km² with diverse ethnic composition of rich culture which faces multiple threats from within towards societal cohesion and fundamental values. However, within that small area, there is a great variation in altitude and hence also very difficult terrain. Nepal lies in a strategic position between democratic India and socialist China. After the Chinese occupation of Tibet, Nepal's strategic position has been further enhanced. Hence, looking at it from a broader perspective, Nepal is acting as a buffer zone or cushion between two giants; India and China.

Geo-political Factors

Geopolitical issues arising from poorly demarcated borders remain a key threat in many developing countries. Unchecked migration and flow of people is another burden arising from neighboring countries. Of course, larger and stronger neighbors remain less caring about the geo-political issues of other states. Nepal is always aware of whether the external situation threatens her survival or not. There is also a

need to check the behavior demonstrated by neighbors. None of the countries show concern over border issues until their security is under threat. Nepal's geographical vulnerabilities cover a wide area of national security.

Socio-Cultural Factors

Nepal is a country with a diverse socio-cultural structure. Its socio-cultural structure towards the international boundary matches with neighboring countries, especially India. Unwanted socio-cultural penetration and the flow of information along with illegal migration are also the main threats to Nepal. Also, the Indians crossing with negative mindset into our border by hundred every day without being recorded has certainly become a serious concern for security agencies. The trend of ethnic-based politics in Nepal can be considered as a part of these socio-cultural threats.

Border Disputes

“For an independent nation, failure to protect its boundary is equal to failure in protecting its national security.” (Shrestha, 2003, p.1)

Nepal shares a border of over 1880 km with India to the south, east, and west respectively and a 1,414-km-long border with Tibet China along the north Himalayan range. The present status of the Nepal-Indo border is marked by historical treaties: the Sugauli Treaty of 1816 and the 1950's Treaty of Peace and Friendship. Additionally, there are various ongoing border disputes with India, especially in the areas of Kalapani, Lipulekh, Limpiyadhura, and Susta. Around 60,000 hectares of Nepalese land have been encroached upon by India in various disputed areas (Shrestha et al., 2020). On the contrary, there is no official record or statement regarding border disputes with China, despite occasional media reports. The border security situation on the Chinese side doesn't seem problematic, but due to the difficult terrain, it is not easy to deploy security personnel at all the border crossings.

Economy

Economy is a crucial component of nation and inextricably interlinked to the national security. The country is in safe site when she doesn't depend on other nation for essential commodities and technology. Geographical limitations coupled with

Nepal's geopolitical situation makes it prone to several economic risks. Nepal relies heavily on its neighbors for daily commodities and trade route. Nepal had a trade deficit of 11.04 billion USD in the fiscal year 2022/23, which shows the dependency and trade imbalance facing the country (Lakhey, 2023). That dependence raises the risk of economic controls and instabilities like inflation, technical constraints as well as other forms of adverse economic pressures such as blockades, trade embargoes sanctions and unfair trade practices. Previous experiences with Indian unofficial economic blockade and subsequent imbalances in trades suggest a graver outcome resulting into more difficulties on national economy and hindering developments in the country.

E-crime

Electronic crime (e-crime) refers to unlawful activities conducted through electronic tools such as computers, mobile, digital devices and internet. These actions are wide-ranging including hacking, identity theft, frauds, phishing and spreading of malware. Moreover, online harassment and cyber bullying, copyright law infringements, sharing undesirable or illegal content also fall under e-crime illegal activities (Forensic Focus, 2023). Cybercrime is a significant external threat to Nepal due to the interconnectivity of the whole world using digital means. As more communication, commerce and governance activities depend on digital technologies in Nepal, it becomes increasingly vulnerable to attacks from abroad hacker. A number of attacks have been launched by cyber-criminal groups who exploit vulnerabilities in the country's cyber security infrastructure thereby threatening various critical infrastructures such as economy and people's privacy. With cybercrime not having boundaries especially for attacks originating from abroad that can greatly affect national security in Nepal showing the need for global collaboration regarding this developing threat environment.

Conclusion

The national security of Nepal, being multidimensional and complex, requires a subtle approach that covers both traditional and emerging threats. Nepal's geographical location and internal dynamics like political uncertainty and ethnic diversity have shaped Nepal's security policy historically, thereby making it very

sensitive for two regional powers, India and China. King Prithvi Narayan Shah's defensive strategy, articulated in 18th century, still holds today, as it focused on maintaining sovereignty without aggression. Despite some success in forthrightly stating its national security policies, such as the adoption of a national security policy in 2016, Nepal remains without a comprehensive national security strategy and doctrine. An integrated approach of foreign policy is also required to align diplomatic efforts, economic strategies, environmental factors and security forces towards common national interests. This must consequently be directed at protecting vital interests such as territorial integrity, independence, social cohesion, and economic prosperity among others.

In the context of Nepal, political instability, bureaucratic politicization, economic vulnerabilities, ecological threats, ethnic and religious tensions, illegal immigration and sporadic violence activities are well known threats and challenges to the national security. Nepal needs to improve its governance processes by addressing socio-economic disparities, environmental degradation, and other underlying factors contributing to the internal insecurity. Through this, Nepal can reduce the root causes of internal instability and enhance societal cohesion. Also, Nepal ought to implement proactive measures to expand trade relationships, strengthen economic resilience, and encourage cooperation among neighboring countries to safeguard Nepal's economic sovereignty. As for its external influences, it is worth mentioning that no direct military threat will come from the neighbors, but the country remains susceptible to geopolitical forces. Nepal has a unique geostrategic position with India and China, which calls for diplomatic engagement and cautious application of soft power in safeguarding national interests. Nepal should give top priority to developing a strong national security strategy concentrating on traditional and non-traditional threats. This approach must be all-encompassing, involving all agencies of government, and designed to achieve synergy among different actors to build a nation that can survive amidst changing global ecosystems. By adopting a proactive and comprehensive approach, Nepal can strengthen its resilience and safeguard its national sovereignty and national interests in an increasingly complex security environment.

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Cross Border Illegal Migration and Security Challenges in Nepal

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Abstract

This article is about the cross-border illegal migration in Nepal-India border and aim to show the vulnerabilities of the porous borderlands, cases of Rohingya refugee are chosen for the study. Nepal and India are practicing the open-border system. The open border provides opportunities for illegal migrants to enter and exit easily which become the security concern in country. The free flow of migrated people from India and the third countries through the Southern border of Nepal creates different security challenges. The purpose of this paper is to analyse the trend of illegal migration into Nepal from the Southern border. It accounts that the open border system and its characteristics which enhance the possibilities of infiltration of criminals and terrorist groups into Nepal. The illegal flow of Rohingya Muslims from Myanmar as well as several foreigners through the Southern border of Nepal shows the changing scenario of the security-related challenges. On the other hand, this issue has become an issue of the international concerned as well as the serious

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problem that Nepal has been faced to find out solution. The study is exploratory and descriptive in nature, and it is carried out on both primary and secondary sources. Furthermore, it has utilized governmental and non-governmental reports besides journalistic reports related to the intention of illegal migration of Rohingyas to analyze the ground reality of such activities. The researcher discovers that the open border system between Nepal and India continuously increases the security threat to both countries.

Introduction

Migration invites both problems and opportunities as well as global challenge in the modern world. The same is the case of Nepal-India borderlands. The interdependent borderlands may be opportunities for the migrant workers, footloose, vendors, travellers, and others but challenges emanating from the illegal migration via open borders cannot be ruled out.

People from the different region of South Asia has migrated to Nepal, especially from the Southern and East-South borderlines. Rohingya refugees have entered Nepal as the victims of the internal conflict in Myanmar. They have entered Nepal via India. Although social, political, economic, and environmental compulsions back home, or even personal whims, may affect a person to cross the borders and settle in a new country (Das; 2016, p. 27). In the case of Rohingyas, the leading factors such as political upheaval, religious persecution, and ethnic violence play vital roles in leaving their home country and migrating to the foreign lands.

Interestingly, the illegal migration of Rohingyas from Myanmar through the route of India into Nepal is rarely raised. However, it is a subject of UNHCR's concern regarding refugee issue. The government agencies of Nepal closely monitored the problems rather than any strict intervention to stop the entry of Rohingyas through the route of Indian land into Nepal. The subject of the illegal migration of Rohingyas has triggered the security concerns for Nepal. There are challenges related to ethnic conflict, religious conflict as well as other security related issue due to the entry of Rohingyas in Nepal.

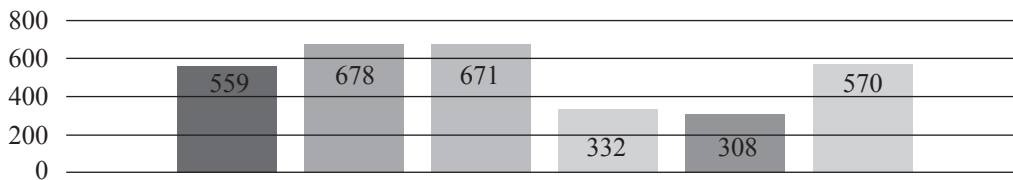
Illegal Migration

Illegal migration is a migration that occurs outside of the legal-institutional

frameworks established by states (Edwards, 2008, p.1449). Illegal migration is the arrival or departure of people from one country into another country without entering via legal methods. Illegal migrants are also referred to as undocumented migrants. Already, illegal migration has emerged as major challenge of the world (Kalita, 2019, p. 2). It is perceived as the same class of problem as all non-legitimised private economic activities occurring across national territorial boundaries. There must be three basic forms for illegal immigration based on the nature of their entry and stay which are: illegally crossing the border, crossing border by using fake documents, and overstayed after expiry of valid documents. According to the data received from immigration office, 3118 foreigners were deported from Nepal in five years due to different causes. They were charged of immigration crime, drug abuse, fraud, sexual offence and overstay.

Figure 1

Number of Deported Forgeiners (2017 to 2022 AD)



Source: Immigration Office

In above mentioned figure, it is seen that the number of foreigners deported was high in the year 2018. People from other countries except SAARC were also deported due to different reason.

There might be different ethnical, social, political, economic and environmental compulsions which could drive a person to cross the borders and settle in a new country. In the case of Rohingyas, a host of political and economic factors, such as political upheaval, religious persecution, ethnic violence has pushed them to leave their homes and migrated to foreign lands.

In case of Nepal, a foreigner may or may not be an illegal migrant is based on the nature of their entry into another geographical setting. In case of Nepal, the status of foreigner is usually determined by the Foreigners Act 1958, The Citizenship Act, and Immigration Rules 1994 and so on. After all an illegal migrant is a person who

illegally crosses the international boundary to live permanently in another country by violating their laws. They may be documented or undocumented.

Review of the Literature

Illegal migration is the grave concern, which has a long-term effect on Nepal's political, social, and economic sectors. The entry of illegal migrants is continuous that has brought several security-related threats. The geographical circumstances and the socio-economic situation attracts illegal migrants entering Nepal intentionally or unintentionally. Kansakar (2010) mentioned that the unrestricted movement across the border has indeed been responsible for all sorts of crime and anti-social activities.

Shrestha (2004) highlighted the negative impacts of the open border system between Nepal and India. The illegal smuggling of goods, trafficking of girls to brothels in Indian cities, trafficking of narcotic drugs, arms and ammunition and movement of criminals and terrorists are the continuous challenges of open border. In principle, both Nepal and India have positively agreed to control such illegal activities along the border, but there is a lack of an effective and practical approach (Kansakar, 2010). Furthermore, the most serious and adverse impact of the open and uncontrolled Nepal-India border has been in the form of growing anti-social and lawless activities.

Regarding the open border system, Singh (2010) argued that any socio-political and economic change in Nepal has a direct bearing on Indian security. Hence, there is of great concern for India from the security points of views. On the other hand, Nepal has faced several security-related long-term threats due to free flow from southern borderlines. Singh (2010) stated that open border is key source of threat to the internal security of Nepal and India. However, KC (2016) argued that the borderline between Nepal and India is no more open because of the presence of the surveillance mechanism in the border. The increasing border posts and the border security forces as well as the tightening of the flow of goods provide evidence on his argument. Despite the surveillance and increasing initiatives towards the border managements, illegal migration still triggers security challenges in Nepal. The cases of the migration of Rohingya from Myanmar to Nepal become one of

the security threats to Nepal. The displaced Rohingyas entered Nepal from the North-East Indian States to Nepal. Also, several terrorist and criminal gang leaders entered Nepal and lived in the guise of fake identities which has been recorded in security-related organizations. Individual migrating from the southern border have been arrested in Nepal and informally extradited. According to the Chief District Officer of Jhapa district, the security force arrested a Nigerian citizen and sent to the immigration office for further actions.

Basnet (2013) explained that the open border between Nepal and India is susceptible to social crimes through illegal migration. Gupte and Bogati (2014, p. 21) outlined that the Indo-Nepal border has remained a security challenge for Nepal. The open border with India significantly contributes to insecurity in Nepal. It has overlooked factors such as social networks, motives of external forces and geo-political interest in cross-border crime, especially illegal migration into Nepal. KC (2013, p. 111) considers the open border as the prime cause of Indo-Nepal cross-border crime. Upreti (2010, p. 255), nevertheless proposes the necessity of border management urging it has to be fully taken into account in the National Security Policy of Nepal. The significance of borderlands is that it is also contributing to a thread of mutual relationship between two nations and is accepted by both the government of Nepal and India.

Baral and Pyakurel (2015) argued that an open border is regarded as a "safety-valve" for Nepal. Furthermore, they stated that the Nepal-India border is not a porous border, but it can be called an open border. To them, open border facilitates migration, both seasonal and permanent, and seems to be the driving force for human movement on the border (Ibid, 2015). They also mentioned that open border has the problem of the heinous crime of human trafficking. However, the researcher highlighted human trafficking from Nepal to India and other countries and overlooked the illegal migration into Nepal.

Dahal (2010) argues that geography is one of the factors responsible for shaping the social relationship in the borderlands (p. 79). Open border with India seems to be both challenges and opportunities for Nepal as several security challenges have been noticed which are related to both from air and land routes. After the hijacking of a plane of Indian Airlines from Kathmandu on 26 December 1999, the security

threats emanating from Nepal was globally disseminated (EFSAS, 2018). Terrorist groups had entered Nepal and hijacked the plane from Tribhuvan International Airport in Kathmandu. Following the incident the security in Nepal's International Airport was questioned and Nepal has been defamed as the hiding safe land for the terrorists. Similarly, a notorious international criminal Charles Sobraj was arrested in Nepal signalling how he had challenged the security management of Nepal, especially in the international airport.

There are several cases of notorious criminals and terrorists have entered Nepal from the southern border. Whenever India starts its search operation for gangsters, terrorists and separatists, their security organizations show their concerns towards the border-points with Nepal. Regarding the case of Amritpal Singh, leader of the Free Khalistha Movement, India formally wrote a letter to Nepal in assisting India to arrest Singh (Gopal, 2023). Though Nepal showed serious concern toward Indian security interests, Indian co-operation is deficient in maintaining peace and security in Nepal. The Nepalese side has doubts about India for supporting anti-nationalists and those actively involved with their strategy to support the rebellions. During the Maoist insurgency, the Indian side was alleged for their support to the Maoist leaders for providing shelter in their land. Nepal has always supported India in border management and cross-border cooperation. The border security management has both direct and indirect interrelationships with the next side of Nepal's border. Neither the border with India has been fenced nor visa is required for crossing it. Hence, effective border management and maintenance of interdependent borderland security is the responsibility of both countries.

The illegal migration of Rohingyas of Myanmar through the route of India into Nepal is rarely raised issue in national debates and regional deliberations. However, it is a subject of concern of UNHCR in terms of refugee's issue. The government agencies of Nepal closely monitored the issues rather than any strict intervention to stop the entry of Rohingyas through the route of Indian land into Nepal. Regarding the Rohingya issue in Nepal, the shortfalls of literatures highlighted the issue as the rights of the refugees rather than the possibilities of security threat to Nepal in the future. It is very difficult to find such scholarly effort of study about the problem of illegal migration of Rohingyas from Myanmar through the route of India and its

consequences in Nepal's internal security.

Nepal and India have an open border system that the citizens of both countries permit to cross the border without passports or any other identity cards. It has been an extraordinary relationship since a long time. The unique and special relationship is characterized by the open border of Nepal and India based on shared history, geography, culture, close people-to-people ties, mutual security and close economic linkages. The two countries' connectivity is robust and interrelated with people-to-people contact. However, the transnational criminals both organized and unorganized, have misused the open border practice between Nepal and India since a long time ago. The free flow in the Nepal-India borderline has its significance and uniqueness but the illegal migrants entering into Nepal has threatened its national and human security.

Nepal has formulated several policies to maintain its security. In Nepal, the National Security Policy was formulated for the first time in 2016. Its objectives were: to protect and promote national unity, social and cultural solidarity and tolerance in the context of the multi-ethnic, multicultural, multilingual, multi-religious and geographical diversity of Nepal in one and to maintain the freedom, sovereignty, territorial integrity, national unity, independence and dignity of Nepal in another (NSP, 2016). Geographical location and open border, religious, geographical and ethnic issues are mentioned as the elements influencing national security (Sharma, 2023, p. 152). However, there is no clarity on whether the issue of illegal migration has been mentioned or not as the elements of challenges of national security.

The Constitution of Nepal 2015 has provisioned Directive Principles, Policies and Responsibilities of the State for border security and its management. Article 5 of the Constitution of Nepal 2015 has emphasized on the defending political independence, safeguarding of sovereignty and territorial integrity, nationality, autonomy, self-respect, protection of rights and interests of Nepali people, protection of boundaries, and economic progress and prosperity. The Article 51, policies regarding national unity and national security are provisioned that calls for making the Nepal Army, Nepal Police, Armed Police Force, Nepal and other security organs strong, capable, professional, inclusive, and accountable to people based on national security system.

Nepal's 2015 Constitution forbids human trafficking and provides for the protection of the fundamental rights of women, labour, and children by criminalizing exploitation and torture (Banjade et al., 2019, p. 13). There are policies to curb illegal migration into Nepal. Immigration is regulated mainly on the basis of Immigration Act 2049 (1992), Immigration Regulations 2051 (1995) and Immigration Procedure 2065 (2010). These laws established the Kathmandu Immigration Department as the only official agency granting non-tourist visas. Emigration is regulated by the Memoranda of Understanding between the Nepalese government and the governments of the receiving countries.

Research Methodology

The researcher has attempted to make this study more empirical by visiting the bordering areas and the temporary habitat of the Rohingyas in Kathmandu and Lalitpur Districts for reliable data. The researcher has also visited Birgunj-Raxaul, Kakabhitta-Panitanki and Biratnagar-Jogbani border areas.

Qualitative research methods have been applied in the paper. Case in-depth case studies are used to explore the illegal migration of Rohingyas into Nepal. Both the primary and secondary data are used in this article. This data includes reports on the Rohingya issued in Nepal. It also includes documents and reports on Nepal-India border management, border security. The interview reports of respondents on the illegal migration and border issues are also examined. Secondary data includes books, newspaper and research articles. Relevant academic works on illegal migration, border management and national security have been consulted. For reliable sources of data, a field visit was made on the month of Chaitra 2080 in border areas and Rohingya camps of Kapan and Sunakothi.

Cross-Border Migration in Nepal

Cross-border migration through Nepal's borders with India has been common whose history goes back centuries. The Nepal-India Peace and Friendship Treaty signed on July 31, 1950, agreed to grant, on a reciprocal basis, to the nationals of one country in the territory of the other the same privileges on matters of residence, ownership of property, participation in trade and commerce, movement and other privileges of a similar nature. Kansakar (2010) argued that the treaty became a major turning

point in the movement of Indians into Nepal and was further reinforced by the Nepal-India open border.

Several cases of cross-border illegal migrations have been noticed in history. After the expulsion of the ethnic Nepalese from Bhutan in 1991, Bhutanese Refugees entered through South-east border of Nepal from India (Ikram, 2005). Nepal has faced multiple challenges related to security, political and social concerns due to the refugee issues. Although the Bhutanese refugee problem has been partially solved with the third country settlement, Nepal still faces security challenges in the name of refugees. The Bhutanese refugee scam, a prominent controversy in Nepal, is a case in a point which is highlighted as symbolic of the prevailing normlessness in Nepalese politics (Sneha, 2023).

Rohingya issues is another refugee problems that Nepal faced. Rohingya refugees entered Nepal through Southern borderlines and the process continues as their number has been increasing. According to Mahat (2020) Rohingya refugee cases seems to be the next security challenges for Nepal. In addition, many people in Terai believe that Nepal's Terai has become a safe haven for fake currency rackets and armed groups in some stances.

Numerous Indian Terrorists, including Yasin Bhatkal, Abdul Karim Tunda were arrested in 2013 in Nepal and were handed over to Indian security force (EFSAS, 2018). They were hiding in Nepal with different identities. Bhatkal migrated through Nepal-India border and hide in the guise of a religious leader. As such the free flow through the open border provides opportunities for criminal groups which in turn brings several challenges to national, international and human security.

Security Management and Challenges

After the Indian Airlines flight was hijacked on 24th December 1999, the possibility of terrorist activities in Nepal were heavily discussed both at the national and regional fronts. The rise in the terrorist activities of Pakistan based, Harkat-Ul-Mujahideen has been accounted for in the region. Ghimire (2019, p. 6) stated, "The new US State Department report says that Nepal has also become a playground for the Indian terrorist group. Furthermore, it is mentioned that Islamic Mujahideen has also expanded its area of operations to Nepal, which is now the biggest hub for

Islamic Mujahideen operations". Furthermore, India has been reproaching Nepal time and again for not adopting strict measures to stop the free movement of ISI agents from Nepalese soil. Also, New Delhi is often heard complaining about the fragile security management of the border (Bogati, 2023, p. 163). An open and porous border with India provides opportunities for the infiltration of criminals and terrorists into Nepal.

Terrorist groups are active in South Asia like Laskar-re-Toyeba, Jai-se Mohammad, Al Qaeda and ISIS who might misuse the open border with India. They could conduct serious terrorist activities throughout the region. According to Ghimire (2019, p. 6), "DHD-J commander in chief Niranjan Hojai was arrested from Baudha, Kathmandu. He had been residing there since a long time back with his Nepalese wife and owned a home in the name of his wife. Lashkar-e-Taiba bomb-maker Adbul Karim Tunda and Yasin Bhatkal, a founder of the terrorist outfit Indian Mujahideen, were arrested on the Indo-Nepal border".

India shows the concern on border points with Nepal which was also seen in the case of search out for Amritpal Singh, the freedom fighter of radical pro-Khalistan separatist and a self-styled Sikh preacher may reveal more. After living in Dubai for a decade, he returned to Punjab in September 2022, having been controversially appointed as the leader of Waris Punjab De (lit. "Heirs of Punjab"), and started a campaign that encouraged youth to refrain from drugs, adopt a traditionalist form of Sikhism, and advocated a sovereign Punjabi Sikh nation-a state called Khalistan. India formally wrote a letter to Nepal to support arresting him if he entered Nepal (Gopal, 2023). Nepal has shown serious concern for Indian security interests and wants same in maintaining peace and security in Nepal. The Nepalese side has doubts about India for supporting anti-nationalists and those actively involved with their strategy to separate the country. During the Moist insurgency, the Indian side was alleged for their support to the Maoist leaders for providing shelter in their land. However, India denied this allegation. According to the news report of Nepali Times (2005), several senior Maoist leaders and many junior-level Maoist cadres have been either arrested or handed over to the Nepal government. But India did not hand over the two senior Maoist leaders, Mohan Baidya Kiran and CP Gajurel to Nepal.

Nepali leaders and bureaucrats said that Nepal has never compromised on addressing

India's security interest without hampering its national interest. Regarding the informal extradition, several most wanted persons in India were nabbed in Nepal and handover to India. Nepal has never contributed to weakening the Indian separatists and terrorists; however, sometimes voices have been raised expressing doubt on Nepal's commitment on action against anti-India activities reflected in the opinion of the Indian leaders, bureaucrats, and intellectuals. The security management and solving problems associated with the border security have direct and indirect interrelationships with the next side of Nepal's border.

Illegal Entry of Rohingya Refugee to Nepal

Political and religious conflict forced Rohingya Muslims of Myanmar to be displaced in several neighbouring countries and others. Thousands of them has fled to Bangladesh, India and Nepal. There were reports that more than three hundred thousand of Rohingya Muslims fled from Myanmar and scattered mostly in Bangladesh, and some of them arrived in Nepal through the route of India. In the field study, it is seen that they have been temporarily settled in Kapan of Kathmandu and Sunakothi of Lalitpur districts.

The entry of the Rohingyas into Nepal is the subject of concern, both from the perspective of national and international security. It has been observed that the open border between Nepal and India has been the main factor for the influx of Rohingyas in Nepal (Bashyal, 2019, p. 17). However, the push and pull factors are also important in the analysis of the illegal Rohingyas migrants, who entered Nepal. Bogati (2023, p. 150) highlighted the stories of Rohingyas migrants who are illegally settled in Nepal. For them, Nepal is safer heaven than Myanmar, but they have faced harsh days in the tarpaulins in Kathmandu and Lalitpur. Still there is no particular data on Rohingyas who have entered into Nepal. Morch (2017) mentioned that only 147 Rohingya refugees are registered with UNHCR. However, informal sources claim that thousands of Rohingyas illegally entered Nepal and are scattered in different districts of Nepal. The cases discussed and described below may divulge more on the same.

Case Study of Lasuntar

Alif (pseudo name), 41 years old, is from Setanakotarab Gram, Mangdujela, Myanmar

where he had a good farm with 12 ropanis of land and owned domesticated cattle. He is temporarily residing in Lasuntar, Budanilkantha Municipality, Kathmandu, Nepal. He arrived in Nepal in January 2015 and settled in the Lasuntar. He has 10 members in his family. He left Myanmar after the eruption of violence in his village. According to him, he felt insecurity from Myanmar's army who tortured him several times. In 2010, he entered Bangladesh and temporarily settled in the refugee camp. He illegally migrated to India in the next year and worked as a Kawadi worker where he was tortured. He was not paid for his work in India and was beaten by the owner of the Kawadi collector business. Then he planned to leave India.

In 2015, he contacted the Nepalese in Jambu who described about the better life in Nepal in comparison to India. He surfed online news to get knowledge about Nepal and the settlement of Rohingyas in Kathmandu. Then, he got information and ideas to enter Nepal. He managed money and illegally entered Nepal with his family members. At first, he entered India and then took a route towards Nepal. He entered through the route of Kakadbhitta border point in Eastern Nepal. The police asked his identity card, but he was unable to show it. Then he returned and entered through the same point after three hours.

Alif has six sons and a daughter from his two wives. His three children were born in Nepal and others were born in Myanmar and Bangladesh. All of his family members are in Nepal, including several relatives who are also settled in Nepal, whereas others are in Bangladesh. Generally, he is in contact with relatives through social networks. He also disclosed that several Rohingyas have been living outside in the rental house. He described several problems associated with the settlement, works and livelihood in Nepal. He has been working as a plumber and earning around NRs. 30 thousand per month. He is also getting a monthly allowance for food from UNHCR. His children go to school, but he is not satisfied with their education. He has not faced security threats but has problems on the movement in different places of Kathmandu. His family members and relatives are in contact through social network, but they have not meet physically since a decade. He feels alienated in Nepal and wants to return to his birthplace. He can neither enter Myanmar nor get a chance to migrate to other countries than Nepal. He is eager to reunite with members and relatives in different countries. However, he is not confident about

going back to Myanmar due to the insecurity and violence in his place. He has also dreamed of settlement in the third countries.

According to Alif, he has got knowledge about Nepal from social networks, news and those Nepalese who were in his contact. He came into contact with them and managed his migration. He entered Nepal and made contact with the influencers in the Rohingya settlement in Lasuntar. After he entered Nepal, he has never left Kathmandu Valley.

The respondent belongs to the Sunni Muslim community and are Rohingyas from Mynamar had illegally migrated to Nepal after he got information about Nepal from social networks and news. They got support from relatives to settle and work outside the camp.

All of them have denied their political affiliation during the days in Myanmar, but Alif disclosed his affiliation as a treasurer in the Rohingya Community, Lasuntar Rammandir. He denied any affiliation to the Muslims Organizations of Nepal. He has good relations with the management committee of the Mosque. However, he said they are not supportive solving their problems.

The open and porous border is one of the causes of the illegal entry of migrants into the country. However, the pull factors are major causes to be accounted that the country with a safe environment for the migrants are facing the problems of massive flow of migrants. On the other hand, there are several national and international institutions actively involved in their rights. Such information is noticed through social networks as well as other types of networks and the attempts of the migrant workers to enter Nepal. Several human trafficking groups have also misused Nepal as a transit point for the trafficking of people in developed countries.

The support of relatives is significant on the illegal migrants of Rohingyas into Nepal as their networks in Bangladesh, India, and Nepal have contributed to the illegal migration in any countries they have access. The Rohingyas in Nepal have been facing several problems related to settlement but they are also working illegally despite no work permit. They have also challenged the job security of the people of Nepal. Stateless, poor, and insecure. As such, for their everyday survival, Rohingyas are vulnerable to being misused by internal and external extremist forces.

Jakir (Pseudo name), 43 years old Rohingya Muslim, is from Sikansari Gram, Mangdugela, Myanmar, close to the Bangladesh border. He is temporarily residing in Lasuntar, Budanilkantha Municipality, Kathmandu, who arrived in Nepal in November 2017. He is a member of a family with 11 persons but currently living alone in Nepal. His three children, wife and mother are in Bangladesh and the rest of the family members are in Myanmar.

He escaped from Myanmar after the security threat and entered Bangladesh in 2012. He lived in Bangladesh for five years before he entered India and moved towards Nepal through the Kakadbhitta border point of Eastern Nepal. He got information about Nepal from his cousin brother Juber who is in Bangladesh. He supported him to make contact with the Rohingyas living in Kathmandu through his cousin brothers and know the better life in Nepal in comparison to Bangladesh. He faced no obstacles at the border point and easily entered Nepal. On his way to Kapan Camp, he entered Kakadbhitta and reached Jame Masjid in Ghantagar, where he stayed for four days. Then he stayed two nights in the hotel and managed to settle in Kapan Camp.

He faced several problems of hatred and torture in Bangladesh. Also, moving outside the Refugee Camp was a life threat. He got relief goods in Bangladesh, but the life was harsh. Hence, he decided to leave the place and move towards Nepal. He has not bribed anyone to migrate towards Nepal. According to him, India-Bangladesh cargo vehicle trafficked the people to India whom he paid IRs. 300 to enter India from Bangladesh. The police in the India-Bangladesh border were bribed IRs. 100 and the driver was paid IRs. 200. However, he denied any bribe at the Nepal-India border and claimed he only paid the fare of the bus.

He has fertile land in Myanmar where his family members cultivated rice and wheat. He left Myanmar after he had no citizenship to study further after grade 10. He described the torture, and violence by the Burmese Army, which displaced thousands of youths from Myanmar. He is earning money by working in WOREC but is not satisfied with his life in Nepal. He is feeling physically secure in Nepal but feeling have a dark future in his own country.

He was working as a helper in a local NGO and supporting his family living in

Bangladesh. He is also getting a monthly allowance for food from UNHCR and has good contact with NGOs and INGOs. According to him, he has a good relationship with the Nepal Muslim Association, and Nepal Development Society which are supporting the Rohingyas migrants in Nepal. He also disclosed that Nepal Jama Masjid also supported them in their difficulties. It had also provided jobs to two persons but the involvement in the stealing of those persons hampered the perspectives towards Rohingyas in Nepal.

He believes that Nepal is a safe country for the Rohingya people. He also has information about the people living outside the camp. He has made contact with them and meets them regularly. He has also contacted his relatives and friends in Myanmar and Bangladesh through social media but has not been able to meet them yet. He doesn't have any intention of going back to Myanmar and has a dream of settling in third countries. He wants to go to a country where he can have a bright future. He doesn't want to take his family members with him to Nepal due to language issues and the education of children who are educated in Bangladesh and Myanmar.

The respondents like him entered Nepal through the route of Kakadvitta without any obstacles from the security force at the border point. Neither is he checked in his route while travelling to his destination. His family networks in Nepal encouraged him to enter the country and settle in Kathmandu. He is also working in Nepal despite having no work permit. Further, he has good contacts with NGOs/INGOs and Muslim organizations.

Security Threats

Illegal migrants who enter in a particular country also establish strong bonds and networks for their rights as well as to promote their vested interests. They also encourage members of their community for illegal migration into safe places. The strong bonds and networks of the illegal migrants may create security threat to the destined country. Illegal migrants with their networks have chances of misused by organized and criminal groups. Further, they may also create multiple conflicts in the country where they are settled as migrants/refugees.

The Rohingyas have made good networks in Nepal and their relatives and friends are

attracted to come here. The young male Rohingyas have been illegally migrating to the countries with job opportunities. They have good networks in South Asia and are also inhabiting in better places. However, the Rohingyas in Nepal are facing several problems related to the settlement and their vulnerability may be the serious issues which may also bring the threat to the country and the host society where they are settled in. On the other hand, their contact with the national and international organizations may be the future challenges in regard to the domain of security threats.

During the field visits and interviews, Rohingya people said that they are safe and secure in Nepal that they are recognized as refugees by the UNHCR. They are also getting adequate assistance for their normal livelihood in Nepal. Moreover, they also feel secure in the country where the locals have not disturbed their settlements, like in Kapan. The Rohingyas are physically protected and safe in Nepal, but their presence has brought various security-related challenges. The dispersion of Rohingyas in the different parts of Nepal is still unaccounted and their illegal and extremist activities are not investigated seriously. The presence of Rohingyas in Nepal has concerned issue to Nepal's neighbouring countries and the international organizations. Myanmar, Bangladesh, and India have serious concern about the Rohingyas issue. On the other hand, UNHCR, the Muslim countries and their organizations have expressed their concerns related to the security of the Rohingyas in Nepal.

Rohingyas problems are directly related to the conflict in Myanmar, but it has affected other countries, especially Bangladesh and India. Consequently, the illegal migration of Rohingyas also entered into Nepal through the Indian Territory. In Nepal, about 250 Rohingyas have settled in a slum of shacks in Northern Kathmandu (Shrestha, 2019, p. 14). However, as the data is not clear about the Rohingyas living in different parts of Nepal, the threats and challenges emanating from the illegal migration of Rohingyas may be diverse and numerous which can be systematically discussed.

There are several illegal activities recorded and reported inside the Rohingya camp in Kapan, Kathmandu, and Sunakothi, Lalitpur. According to the local police, crimes like domestic violence and fighting are reported in the camp (Interview with

Police Chief of Kapan, 21st May 2024). Still the Rohingyas in Nepal maintain their secrecy that their activities are hardly known by the security agencies and other organizations. They do not want to disclose any form of incident outside of the premises of the camp. They do not allow outsiders to take their picture and also the picture of the camps (Interview with Member of Rohingya Committee in Kapan, 16th December 2023). The police have never been to the camps to conduct investigation into their illegal activities. In the same contexts, chance that illegal activities by the Rohingyas cannot be ruled out, which may affect the national security of the country. When you know very less about some communities, then generation of suspicion and fear becomes obvious, particularly to the host communities, even in regards to the issue of sanitation, health, culture, civility among others.

Alcoholism and fighting inside the camp are everyday problems. It also plays a role in increasing the cases and episodes of domestic violence. The alcoholism of the migrated people creates a security threat to the people in the local community. The local women and girls feel insecurity due to the alcoholism and night movement of the people from other communities. On the other hand, the possibility of spreading terrorism in the name of different organizations cannot be ruled out. The illegal migrants are vulnerable to terrorism and may be easily misused by terrorist organizations.

Ethnic conflict is a serious concern in Nepal due to the rise of extremist groups. The political parties use the ethnic issues as their tactics to mobilize youth for electoral and political gain in the country. Several ethnic groups and religious groups are formed with their fundamentalist, conservatist and extremist agendas. As such the possibilities of conflict in the Rohingyas' settlement in Kathmandu cannot be ruled out during the time of social, cultural, and religious tensions. Social conflict between the local people and Rohingyas in Kapan have been reported several times. Rohingya migrants are being a threat to the local community because they have shown their engagements in the controversial activities which are of the serious concern to local people (Interview with Local Resident of Kapan, 4th January 2024). The local government of the Budanilkantha Municipality ward no. 11 has raised the issue of the settlement of the Rohingyas in its area in Kapan (Interview with Chair Person of Budhanilkantha Ward No. 11, 7th February 2024). Local people have

blamed that there are social disputes with the local landlords who have provided the land to the Rohingyas as rent. Local people have been blaming the landlords as the actors of creating all kinds of social problems associated with the Rohingyas in Kapan. As a result, the social relationship and community harmony existing among the community members have been deteriorated. A representative of the ward said that the issue is internationalized, and the local government has been unable to remove the Rohingya camps (Interview with Chair Person of Budhanilkantha Ward No. 11, 7th February 2024).

Conclusion

Although migration is global phenomenon, illegal migration has the potential to invite numerous security threats. In the same contest, illegal migration of Rohingyas through the open border with India has created new types of challenges for the country.

The security of the border is of utmost importance for the security of the border countries. The Nepal and India border management ensures the free flow of people within the borders of the two countries. The informal collaboration between Nepal and India for the mutual security interest of the two countries should continue. The open borders of Nepal and India provide easy access for people to come and go freely. The Rohingya people entered Kathmandu through the Nepal-India border from Myanmar. People from different communities are vulnerable and endangered in the local environment characterised by suspicion, doubts, social tensions, and cultural and religious differences. Afterall, the Rohingya are not considered refugees but illegal immigrants. The settlement of illegal immigrants is a difficult task for the nation. Employment, education for children, and other problems are faced by Rohingya people. In such a hostile environment, there may be different measures to regulate borders. Fixed entry and exit points are effective regulating measures in open borders that has triggered security threats for both countries. Besides applying the system of an identity card for the people crossing border, the border regulating system should be strong to stop the illegal movement of people.

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Forms of Modernization and its Impact on Economy

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Abstract

This article is concentrated on the study of modernization, its forms and positive and negative impact over the economy of the country. Modernization is the process of societal development from a traditional to a modern society. It symbolizes a process of economical and cultural change of the nation. In modernization society tries to innovate and utilize its present and old knowledge, patterns, techniques and resources. Modernization has positive as well as negative effect on cultural, political and economic life of the people. Based on descriptive and analytical method, this study explores the concept and practice of modernization on a global scale. It delves into the various forms modernization and further analyzes the impact of modernization on both social structures and economic systems. Finally, the article also looks at the challenges that come with modernization. Modernization theory divides the whole global into two parts: north and south. The rich western countries known as North and poor countries of Asia, Africa and Latin America are known

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as South. The modernization theory explains the development and change in the south countries are influenced by the patterns of development of North. The country economy and culture are always dynamic. It is influenced by external development trends such change is directed by the development of physical infrastructure, information technology ,education, ideology of northern countries. Therefore the country's economy and culture are gradually influenced by the developed nation and move from traditional to modern.

Introduction

The transition of a traditional civilization into a modern one is known as modernization. Advancement, or betterment and positive onward motion, is what modernization stands for. It just represents a process of change; it does not signify any philosophy or movement. It only makes sense to advance and improve in a variety of life, including living standards, job styles, behavioral patterns (morals, values, and principles), technology, education, and patterns of relationship education.

Society strives to innovate and make use of its resources, patterns, techniques, and knowledge from the past, present, and future as it modernizes. A culture becomes more self-assured, self-reliant, versatile, and self-sufficient as a result. The realization of modernity's distinctiveness allows society to grow and progress beyond its knowledge. Modernization reveals society's distinctiveness and its potential to grow and progress beyond its previous state.

Another way to characterize modernization is as a social shift incorporating aspects of science and technology. The entire system of social interactions has undergone extraordinary changes as a result of scientific and technical advancement, with new ideas replacing old ones.

Modernization theory was developed in the US in the 1950s and 1960s by students at Columbia University, including W.W. Rochester and David Apter (Eisenstadt, 2010).

Once started, modernization is a broad process of profound social change that tends to permeate all spheres of existence, including social interactions, political institutions, and economic activity. This process is self-reinforcing. An acute awareness of innovation and change is a byproduct of modernization and is associated with the

notion that human societies are developing (Inglehart & Welzel, 2007).

Leading international academics examine the effects of social change and modernization on the growth of the individual and at the society level, drawing on in-depth research from a variety of cultural groups. Intercultural interactions are becoming more prevalent in the modern world, and significant questions concerning the nature of specific cultural differences and similarities—with an emphasis on the relationship between cultural and human development (Kagitcibasi, 2005).

Modernity and modern civilization share certain key traits, such as the main analytical stances taken in relation to the main social institutions and the modern state. The idea of much modernity forms the basis of this analysis. This theory is predicated on the premise that modernity can best be understood as the history of the ongoing formation, constitution, reconstitution, and evolution of numerous, dynamic, frequently contested, and contradictory modernity's (Eisenstadt, 2010).

A stage of social development known as modernization occurs when a traditional society is changed to a modern one. It has placed emphasis on the evolution of the economic backdrop as a determinant factor in social development, transforming an economy centered on agricultural into one that is focused on industry. Modernization can be understood as a blend of industrialization, urbanization, and westernization since industrial progress has intensified the pressure of urbanization, leading to the practice of westernization.

This article explores the concept and practice of modernization on a global scale. It delves into the various forms modernization and further analyzes the impact of modernization on both social structures and economic systems. Finally, the article also looks at the challenges that come with modernization.

Research Methodology

This study is highly based on secondary sources of information. Researcher spent long time for study of related document and collection. Similarly researcher used library method of collecting relevant facts and needy information. Books, article, journal articles of various prominent authors have been used. This article is based on descriptive and analytical method of study.

Findings and Discussion

After World War II, many countries experienced rapid economic modernization and reconstruction. The application of scientific principles to industry, known as the scientific and technological revolution, played a crucial role. The rise of multinational corporations and globalization started to reshape economic structures, fostering increased international trade and investment. The digital revolution significantly altered the economic landscape, enabling faster communication, automation, and the development of new industries. Globalization intensified as information and capital flowed more freely across borders. In the 21st century, economic modernization continues to be driven by technological innovations, including artificial intelligence, biotechnology, and renewable energy. There is a growing emphasis on sustainable development, with a focus on environmentally responsible practices and social inclusivity.

Policy makers are grappling with the challenge of ensuring that economic modernization benefits all segments of society and do not exacerbate existing inequalities. So, different scholars of university were attracted to study in the various dimension of modernization.

Models of Modernization

The process through which societies experience economic and social progress is known as "socio-economic modernization," and it is usually characterized by advancements in infrastructure, education, living standards, and general well-being. Although there isn't a single, widely accepted model for socio-economic modernization, researchers and decision-makers frequently take a variety of approaches and variables into account. The following are some essential elements and models related to socio-economic modernization:

Internal Factor Model

The internal factor model of modernization is associated with the works of social scientists and scholars who have explored the internal dynamics and factors within societies that contribute to the process of modernization. One notable figure in this regard is Alex Inkeles, an American sociologist who contributed to the development of the Internal-External model Scale and the Modernization and Post modernization:

Cultural, Economic, and Political Change in Societies (Inkless, 1996; Smith, 2016).

Inkeles' work, particularly the Modernization and Post modernization model, examines internal factors such as cultural values, economic structures, and political institutions that influence the modernization process within societies. The model considers how these internal factors interact and shape the trajectory of social change, economic development, and political transformation.

The internal factor model of modernization focuses on the factors within a society that contribute to its modernization and development. The internal factor model looks at the characteristics and dynamics within a society itself. Industrialization, capital accumulation entrepreneurship, education, social mobility, stable government, institutional development, attitude towards change, cultural values, technological innovation, infrastructure development, population dynamics, health and education, and sustainable practice of environment are the major key factor include in this model. This model calculates the changes in the economy according to the various economic, social cultural, political, technological and physiological factors listed above.

External Factor Model

The concept of external factors influencing modernization has been discussed by various scholars in the fields of sociology, political science, and economics. One influential figure associated with the idea of external factors in modernization is Walt Rostow an American economist and political theorist. Rostow is best known for his work on economic development and his model of economic growth, often referred to as the "Stages of Economic Growth" or the "Rostovian Take-off Model" (Rostow, 1960; Thaha, 2022).

External factors play a crucial role in the modernization of societies, influencing economic, social, and political changes. This factor has to do with the aspects of the economy that are directly impacted. Global economic forces, technological transfer, cultural diffusion, political and security factor international institution and aid, environmental and climate change, diaspora and migration, human right and governance are the key external factor of this model. Trade and globalization, foreign direct investment, technological transfer, access to information and communication

technology, media and culture, education and training, global environmental challenges, international agreement, diaspora influence, brain drain, international norms, foreign policy and diplomacy are the major contributor to bring change in different aspect of global economy, politics and society.

The Linear Model

The linear model of modernization was associated with the early formulations of modernization theory, and it was influenced by the works of several scholars. One of the key figures often credited with introducing the linear model of modernization is Rostow, an American economist, presented his ideas in his influential book titled "The Stages of Economic Growth: A Non-Communist Manifesto," published in 1960.

The linear model of modernization is a theoretical framework that emerged in the mid-20th century to explain the process of societal development and transformation. It was particularly popular in the fields of sociology and political science during the 1950s and 1960s. The model posits a linear and sequential progression of societies from traditional to modern stages, with certain identifiable characteristics and stages of development.

This model illustrates how traditional and modern society's economies change throughout time. It gauges the scope of many facets of society and social transformation. The factors that gauge societal trends and progress include literacy, women's engagement in society, the advancement of human rights, population size, social security, child rights, inclusive etc. (Rostow, 1960; Thaha, 2022).

Forms of Modernization

Modernization is a complex and multifaceted process that involves changes in various aspects of society, including economic, political, social, cultural, and technological dimensions. Different forms or dimensions of modernization can be identified based on these aspects. Here are some key forms of modernization:

Urbanization

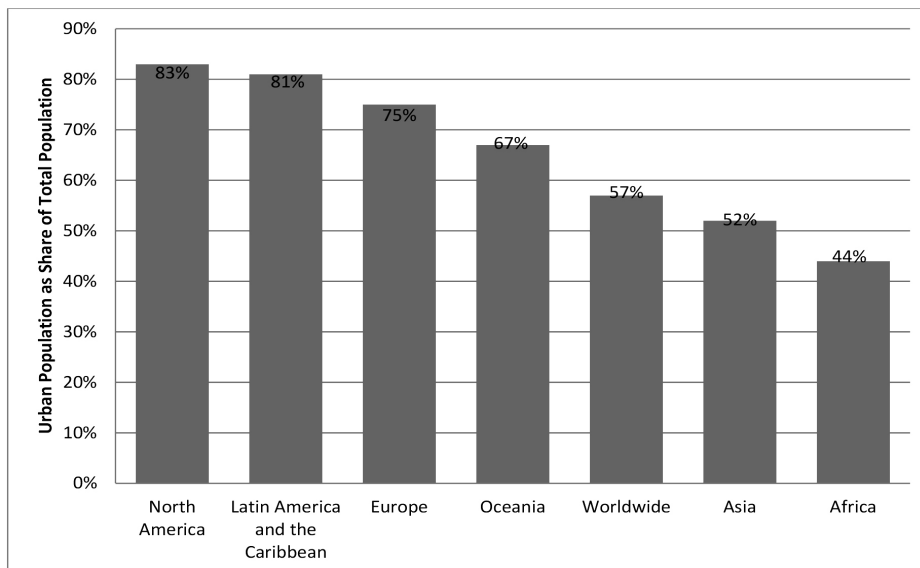
The process of permanently concentrating a large number of people in comparatively small regions to construct cities is known as urbanization. It represents the expansion of cities as a mark of advancement. For example, any area in the United States with

a population of more than 2,500 is considered a "urban place." Land is transformed for residential, commercial, industrial, and transportation uses as a result of this concentration.

Certain cities, such as New York, London, and Tokyo, have become key nodes in the global economic network. These cities serve as central hubs for advanced economic activities, particularly in finance, specialized services, and information exchange (Sassen, 1991). Cities" are characterized as areas of capital. Different countries have different definitions of what constitutes a city; some only include the capital of the country, while others include towns with 100 or more houses. The world's urbanization rate was 57% in 2022 (Dyvik, 2023). With more than four fifths of the population living in urban areas, North America has the highest rate of urbanization of any region. The percentage of people who live in areas designated as national or provincial capitals is determined by the level of urbanization. Conversely, fewer than half of Africa's population resides in cities. China makes up more than one-fifth of the world's populated built-up areas with over 500,000 people. The figure below shows the distribution of population of global as per continent.

Figure 1

Share of Urban Population Worldwide in 2022



Source: Dyvik, 2023

Figure 1 show the distribution of urban population of global as per continent. North America has highest urban population with 83%. Similarly Latin America, Europe, Oceania, Asia, and Africa are with 81%, 75%, 67%, 52% and 44%. The attraction of migration to urban areas seems to be increasing in North America. The urban attraction of global south also seems to be increasing.

Industrialization

The process of converting an economy from one centered mostly on agriculture to on the production of goods is known as industrialization. Craftsmen are frequently displaced by assembly lines, and mechanical mass production frequently takes the role of individual maker labor. A shift from an economy dependent on resources or agriculture to one centered on mechanized manufacturing is known as industrialization (Rostow, 1950; Thaha, 2022).

A demand for goods and services, government policies, labor-saving innovations, and entrepreneurial aspirations are some of the variables that might propel industrialization. It has significant effects on the population leading to a surge of small-scale farm migration to towns and cities in search of employment.

Due to the extraordinary demand that World War II generated for several manufactured items, production capacity increased. Prosperity in the post-war era supplied additional stimulants that maintained high capacity utilization and encouraged future expansion.

In the 18th and 19th centuries, Europe and North America saw the onset of early industrialization; other regions of the world saw it later.

Asia was one of the regions of the world that had the most rapid industrialization in the late 20th century. The Asian Tigers South Korea, Taiwan, Hong Kong, and Singapore all took part in the expansion of their economies through manufacturing goods for export. China experienced its own industrial revolution after moving away from a strict communist model. Technological advancement, automation and robotics, information technology, globalization and supply chain, environmental consideration, flexible manufacturing system, human capital development, quality control, standardization economic diversification, energy efficiency,

global competition and innovation are the key achievement from modernization contributes to industrialization.

Westernization

Westernization is the process by which communities and nations outside of Europe, either voluntarily or under duress, absorb the customs and culture of Western Europe. Westernization spread throughout most of the world during the colonial era and is still a major cultural phenomenon now due to globalization.

The West evolved from modernization to Westernization (democratic institutions) gradually. The 17th century scientific revolution led the way, but underlying that revolution were time-honored cultural practices that were our heritage from ancient Greece (critical thinking) and Rome (rule of law), as well as certain religious values that mandated that even kings could not violate certain human rights. The medieval period also established the Western principle of contract law: rights of the church, the state, cities, and universities.

Western European traders, colonists, and missionaries brought their superior way of life to the peoples they journeyed to, which is how westernization got its start. The occupied peoples were forced to adopt alphabets, languages, commercial practices, and clothing from Western Europe, or were encouraged to do so. In addition, they were urged to embrace Christianity and adopt the literary and artistic norms, as well as the educational institutions of Western Europe. The military and political systems of many nations were imposed from the West.

A society becomes more westernized when it absorbs Western norms, practices, or popular culture. Examples of this include an African city and an Indian town where people are dressing in jeans and hoodies. Throughout history, many people have been forced to be westernized by invaders who imposed Christianity, Western-style apparel, or the English language. When the term "Westernize" was first used in the 1800s, it meant that Japan was going to become "more like the West."

Westernization not only includes the introduction of new institutions, but also fundamental changes in old institutions. Westernization has brought a radical change in the south Asian culture and life ways. The out dining, attire, fashion, fast food, hip hop music, etc. have become a part of south Asian culture now.

Issue and Challenges of Modernization

Modernization in developing countries can present several problems, despite its potential benefits. It offers an evidence-based strategy to overcoming obstacles, increasing implementation, and producing more effective and sustainable development outcomes. (UNDP, 2019; NPC,2020). Highlighting the problems encountered in developing countries' modernization attempts. Some of the special problems that developing countries confront in their efforts to modernize certain sectors. Understanding the complexities and tackling the specific challenges are crucial for achieving long-term development and advancing the country's modernization. Some concerns or challenges can be discussed as follows:

Growing Inequality

Modernization may increase existing inequities in developing countries. Thus, if South Asian countries want to attain the Sustainable Development Goals, (SDGs) by 2030, they must curb the rise in income inequality (UN, 2015). Due to industrialization, the amount of inequality varies greatly throughout South and Southeast Asia. Economic development may not be evenly distributed; in the most unequal countries, such as India, Maldives and Thailand, the top 10% earn more than half of the total revenue. Bangladesh, Nepal and Singapore have lower levels of inequality, with the richest 10% earning roughly 35% of national GDP. In nations such as Indonesia, Pakistan and Vietnam, the richest 10% of the population earns between 40-50% of the national revenue (Wid world, 2023).

Environmental Degradation

Rapid industry and urbanization linked with modernization can contribute to increasing pollution, deforestation, habitat destruction, and natural resource depletion. Developing countries frequently confront challenges while implementing sustainable development strategies. Like many developing countries, Nepal also has the dual challenge of modernity and sustainability (Chhetri & Gurung, 2017; Khatri & Bhandari, 2019). As Nepal has abundant natural resources, including minerals, forests, and wildlife, sustainable management and conservation are critical for biodiversity preservation, ecological services, and long-term economic benefits (Shrestha, & Bhattarai, 2019). Modern urbanization, industrialization, population

growth, deforestation, and other factors contribute significantly to environmental degradation. Environmental pollution is the degradation of the quality and quantity of natural resources. Various types of human activity are the main causes of environmental degradation (Tyagi et al. 2014). The importance of researching and tackling environmental sustainability challenges cannot be overstated. Strategies for achieving sustainable development goals and incorporating environmental considerations into modernization practices include promoting sustainable agriculture, improving renewable energy sources, implementing proper waste management systems, and strengthening ecosystem conservation efforts.

Urbanization Challenges

As industrialization proceeds, there is frequently a large rural-to-urban migration. Rapid urbanization can strain infrastructure and services in cities, resulting in overcrowding, inadequate housing, sanitation issues, and heightened social tensions. Migration has the ability to cause fast changes in population number, composition, and distribution, especially at the local level. During the COVID-19 pandemic, broad international border restrictions had a significant impact on worldwide migrant flows (González-Leonardo et al., 2023).

Dependency on Foreign Investment

Developing countries may become reliant on foreign investment and aid to fuel their modernization efforts, leaving them subject to external economic shocks and the influence of multinational corporations, which undermine indigenous industries and economies. According to the World Investment Report of 2019, foreign direct investment flow into developing countries increased by two percent to \$706 billion in 2018. Africa has the highest inflow of foreign direct investment among the different regions. In 2018, the flow of foreign direct investment into Africa increased by 11 percent. The reasons for the highest foreign direct investment inflow in Africa are the continued resource-seeking investments, slow expansion of diversified investments in a few economies, and more than double inflow records in South Africa (UNCTAD, 2019).

OECD (2002) discusses the disadvantages of foreign direct investment on the home economy. Foreign direct investment may have a negative influence on the host

country's Balance of Payment (BoP) due to repatriated profits, a lack of positive linkage with local firms, negative environmental impact, social disruptions, and a decrease in national market competition (Singh, 2008). Multinational corporations may crowd out domestic investment due to their superiority in technology, capital, and managerial abilities over domestic competitors (Kumar, 1990; Markusen & Venables, 1999).

Cultural Displacement

The adoption of modern technologies, consumer lifestyles, and cultural norms from the West or other developed regions has the potential to erode traditional cultures and identities in emerging countries. Cultural displacement can result in social disruption and loss of cultural diversity. Traditional cultural norms and practices frequently favor community values, conventions, and rituals over personal pursuits (Fisher, 2010). These deeply ingrained cultural traditions can occasionally oppose or conflict with modern practices and development objectives. Second, there is opposition in Nepali society to change the status quo and adopt new techniques. Cultural conservatism and unwillingness to change can impede the adoption of new methods (Pradhan, 2013). Traditional beliefs and practices may be firmly rooted, leading to mistrust or unwillingness to adopt new technology, ideas, or development projects (Shrestha & Bista, 2019). Resistance to change might stem from a fear of losing cultural identity or uncertainty about the influence on social systems.

Political Instability

Modernization can upset established power structures and societal conventions, resulting in political instability and conflict. Rapid social change, such as changes in gender roles or growing ethnic variety, can challenge the developing countries to established power dynamics and create societal tensions. Political instability has posed a serious impediment to Nepal's and other developing countries' modernization initiatives. Frequent changes in leadership, a lack of policy continuity, and governance issues have slowed growth in numerous sectors and hampered the country's overall development (Sapkota, 2023). Political shifts, coalition governments, and frequent elections have disturbed the continuity of development plans, impeding long-term vision and strategic planning (Adhikari, 2017). It has so hampered the execution

of modernization strategies and initiatives (p. 101). It is a key topic to assess if identity politics would ensure the emancipation of Nepal's marginalized and poor populations or not (Bogati et al., 2017). Impacts of bureaucrats, corruption lack of national obedience, lack of communal obedience, crisis of nationalism, legitimacy crisis, lack of well education are the major challenges faced by developing countries while adopting modernization (Hasan, 2021).

Impact of Modernization

There is a great debate on whether modernization is good or bad. Some pessimists advocates that it has increased dependency on other countries and introduced social and cultural hazards in society, while optimists say that it is a means of introducing new trends and ideas by replacing traditional trends. Modernization can have positive and negative effects on cultural, political, and economic life. It affects internal and external policies. Therefore, the impact of modernization can be studied from both perspectives. The positive impacts of modernization can be studied in following dimensions.

Increase Efficiency

Modernization often entails implementing sophisticated technologies and techniques that can considerably increase production and efficiency in a variety of industries. This can result in higher output levels with less resource, hence boosting economic growth. The digital economy has broken traditional industries' boundaries and significantly affected substitution, penetration, and synergy. It expands the perspective and space of the original industrial development model and plays an essential role in transforming agricultural modernization and integrating rural industries (Hosan et al., 2022). The organic integration of agriculture with the secondary and tertiary industries promotes complementary functions and value-added effects of new industries and modern agricultural production, forming innovative development models for diverse rural industries such as eco-tourism, rural e-commerce, and intelligent agriculture. Integrating rural industries under the digital economy's leadership has economic and ecological value and effectively extends the depth and breadth of the traditional agricultural industry chain (Leng & Tong, 2022).

Environmental Impact

The drive of modernity can put strain on natural resources and ecosystems, resulting in environmental deterioration and climatic change. However, modernization provides opportunity for the adoption of sustainable technologies and practices to offset these effects. Cities are praised for their potential efficiency in energy usage and transportation, thanks to their proximity to services and dense living circumstances. On the other hand, they can become hotspots for pollution, trash generation, and greenhouse gas emissions. (Bera et al., 2023). There is a link between urbanization and environmental damage. From natural resource depletion to greenhouse gas emissions, habitat fragmentation to pollution intensification, cities are praised for their potential efficiency in energy usage and transportation due to their proximity to services and dense living conditions. On the other hand, they can become hotspots for pollution, waste creation, and greenhouse gas emissions. The environmental costs of urban growth are numerous. Urbanization, on the other hand, can provide chances for more sustainable lives by promoting efficient land use, sustainable transportation, and technological innovation (Bera et Al., 2023).

Change in Socio-cultural Values

The majority of modernization projects are linked to the basic change from traditional to modern society. This change is associated with strong macro-social stresses that appear as a result of reducing the role of the traditional society and intentional transformation, including modernization projects. Other macro-social conditions of realization of modernization projects are also connected with this issue (Andreeva et al., 2017).

Innovation and Creativity by Technological Development

Modernisation promotes innovation by stimulating the creation of new products, services, and business models. This invention has the potential to generate economic growth by opening up new markets and offering possibilities for entrepreneurs. The modernization of the economy is a process of qualitative transformation of socio-economic relations, which results in a new, more technologically advanced level of production, changes in the principles of exchange and distribution of benefits, and changes in consumption standards (Vikulin, 2017). Modernization of the economy,

defined as one of the primary strategic goals of the state's socioeconomic policy, includes overcoming the commodity nature of the national economy and enhancing its competitiveness through the adoption of new technology (Hamidullaeva, 2014).

Job Creation

While modernization may cause job displacement in some industries, it also generates new job opportunities in developing sectors. For example, the expansion of technology and digital sectors has created a demand for talented individuals in fields such as software development, data analysis, and digital marketing. Labor mobility has been an important and essential feature of economic and social development throughout the human history. In 2006, migrant workers in the industrial countries sent home more than \$300 billion, nearly three times the \$104 billion received as foreign aid by the developing countries (Shrestha, 2006).

Improved Standard of Living

Modernization frequently improves people's living conditions by providing improved access to healthcare, education, housing, and other important services. Rising salaries and increased economic possibilities can help people escape poverty and foster social mobility. The overseas migration and remittances have been instrumental in poverty alleviation as well as for improving the living standards of the people (Seddon et al., 1999 & Shrestha, 2004). Modernization facilitates people to understand culture, tradition, customs, education system, health facility and economic condition (Pradhan, 2022).

Global Competitiveness

Countries can increase their global competitiveness by upgrading their economies. This might lead to increased commerce, foreign investment, and access to new technology and knowledge, all of which are necessary for long-term economic success. Over the last three decades, globalization processes have modified the demand for new professional competencies it creates competitive environment even in the domestic market. Medium scale and small scale and even large scale national companies cannot compete with multinational corporation (Pradhan, 2022).

Conclusion

Modernization is bringing about change economically and culturally in the global south, which represents Asia, Africa, and Latin America. The development of all the countries in the south will reflect the patterns of development in the north. This perspective argued that the economic and political factors that had been important for explaining the rapid development of the countries in the north. It is the forms of new economic policy that were effectively applied by global south countries and international organizations .

The country's economy and culture are dynamic and influenced by developed countries policies and trends of development and culture as well. This type of effect or change is influenced by information technology, education, political ideology, infrastructure development, and charismatic leadership. So that the economy and culture of the global south are continuously influenced by developed countries, i.e., the global north, and converted to modernization from traditional.

The impact of modernization can be studied from both positive and negative perspective. From a positive perspective, modernization creates opportunities for the worldwide economy based on productivity and quality. It helps to increase the rate of infrastructure development, reduce inequalities, maintain quality education, digitalize, and improve health care facilities, reduce geographical distance, old agriculture tools replaced by modern technology, scientific innovation, a change in family structure, the elimination of social crime. Likewise, there are some negative impacts on modernization. Western bias, cultural resistance, and the introduction of colonialism and neocolonialism do not breakdown the economic disparities of poor countries; corrupt and self-seeking cultures established in global south countries increase the promotion of false needs, etc.

Although it has both a negative and positive impact on the economy, every country should be aware of the opportunity for modernization at the right time and be able to reduce or eliminate the negative impact of modernization.

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Twigging the US-China Competition from the Lens of Offensive Realism: Implications for Nepal

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Abstract

What are the implications of ongoing US-China competition on the entire global system and particularly to strategically-placed countries like Nepal? The United States has been voicing its growing displeasure against China's rise. The United States regards China's military modernization and economic growth as evidence that it will not be a status quo power. In this scenario, there is a widespread belief that great power is inherently offensive, that the quest for power never ends, and that China will maintain the status quo posture until it achieves power parity with the United States. As a result, the United States has shifted its policy toward the Asia-Pacific region and is forming strategic alliances to counterbalance China. It is argued that if there were no legacies of friendship and ideological proximity, a great power fall or power transition from a dominant nation to a challenger almost always results in a cold war or

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major war. The U.S. and China have cultural and ideological differences; however, China has integrated many aspects of the existing international order and its global norms. In this background, this article examines fundamental assumptions of offensive realism and the nature of the U.S.-China rivalry, as well as the meaning of China's rise and the U.S.-China greater power competition for Nepal. This phenomenon will be tested through offensive realism and how it amounts to great power behavior.

Introduction

General academic literature on great powers takes no less time to assume that great-power countries and their interactions have the potential to shape international politics and influence the global system. As such, there are two fundamental questions: firstly, how many great powers can be identified in different international systems characterized by multipolarity, bipolarity, or even unipolarity? Secondly, what is the extent and potentiality of the identified great power? The cycle of great power's rise and fall continues throughout history, and it occurs approximately every 120 years according to the theory of long cycles (Pop & Grigoras, 2018). The multipolar world system emerged after the collapse of the Roman Empire in the 5th century and continued until the 19th century. It was characterized by the existence of multiple great powers, each with its sphere of influence and competing interests (Gills & Frank, 1993). Likewise, the bipolar world system emerged after World War II, with the United States and the Soviet Union emerging as the two rival superpowers. This system was characterized by global competition for supremacy, and it was known as the Cold War (Rogov, 1993). Similarly, the unipolar world system emerged after the collapse of the Soviet Union in 1991, with the United States becoming the sole superpower (Wohlforth, 1999). This is the first time in recorded history that we have had a unipolar system. This system was characterized by the dominance of U.S. political, economic, and military power around the world. The United States took a leading role in global affairs and often acted unilaterally to pursue its interests. Today, the global system is in transition from unipolarity to multipolarity. During this shift of the balance of power towards multipolarity, the U.S. is still considered the most powerful state, followed by China, Russia, and India. On the other hand, there is a strategic bipolarity between the U.S. and China

(Loke, 2023). Thus, China is very close to the U.S.; it surpassed the U.S. in 2014 in PPP terms, and it is the second-largest economy in nominal terms. In addition to that, it has been forming parallel multilateral institutions and an alternative worldview. Apart from that, it has been rapidly exporting its development model around the world (Bello, 2023).

In this reality, according to Mearsheimer, if China continues to rise for thirty years, like in the past thirty years, its rise will not be peaceful at all. So, the real threat to the U.S. is China, which has the potential to become more powerful than the U.S. (Carlson, 2023). Based on his theory, he predicts that China's rise will be marked by hegemonic and aggressive behavior, inevitably leading to a major conflict between China and the U.S. (Alenezi, 2020). Thus, China is pursuing a more multipolar world order and aiming to become an advanced socialist country by 2049. Therefore, the most contentious question is how powerful the U.S. will be relative to China, Russia, and India in this multipolar world. How will the U.S. behave toward its peer competitors, especially China? In this scenario, this article intends to test the nature of the U.S.-China rivalry through the lens of offensive realism, and what does China's rise mean for Nepal what are the implications if the U.S.-China great power rivalry continues? To discover answers to the same, this study relies on qualitative method for analyzing the secondary data gathered from reliable books, journal articles, and some authentic websites. Deductive methods and explorative research techniques have been used to analyze the data and phenomenon from the realist perspective, with a specific focus on offensive realism.

Offensive Realism and Great Power Politics

Can China rise peacefully? This is the topic of the final chapter of John Mearsheimer's "Great Power Politics". According to Mearsheimer, China's rise won't be peaceful because, while it continues to rise economically, it will translate its economic might into military might (Modebadze, 2020). To Mearsheimer, international politics is a zero-sum game. As such, if the U.S. gains, China loses; if the United States loses, China gains. He further argues that China will emulate the U.S. and try to dominate Asia the way the U.S. dominates the Western Hemisphere. It aims to be the most powerful state in Asia and push the U.S. out of it (Mearsheimer, 2014). Mearsheimer's analysis is based on five theoretical assumptions: firstly, states are

the key actors in the international system, and they act as an anarchical system. Secondly, all states have some offensive military capabilities, and some have a lot. Thirdly, it is impossible to know the intentions of other states. Fourthly, survival is the principal goal of states. Fifthly, states are rational actors; they act strategically in pursuit of their goals (Steinsson, 2014). Thus, based on this theory, states pursue numerous goals, but in an anarchical system, survival is unavoidable. Similarly, states are always in a state of security dilemma because although their material capabilities can be measured, their intentions may not be known. Consequently, there surfaces uncertainty in international politics, and great powers continue their military race. Against the same backdrop, it is very hard to say what China's intentions will be in 2025 toward the US and vice versa (Mearsheimer, 2014). Therefore, the realist school argues that great powers seek to accumulate more power than their neighbors and rivals. That is, according to Mearsheimer, the best way to survive, in an anarchical milieu.

While realists consider the international system anarchical, the components of fear, self-help, and power maximization remain the major concerns of great power. Because their rival states may have significant military capability, and also it is difficult to comprehend their true intentions. Equally, if states get into trouble, there is no higher authority to decide. Therefore, the more powerful a state is, the less likely it is to be impacted by numerous forms of rivalries. As a result, a great power has two ultimate goals; the first is to become a regional hegemon. Second, make sure, no other country dominates its region; in other words, prevent peer competitors from achieving regional hegemony (Modebadze, 2020). In the same way, greater power matters to regions of its peer competitor and their neighborhood or next door because of their potential threat. Furthermore, they always attract critical resources like oil, uranium, etc. because resources are means to acquire power (Lkenberry, 2008).

In consequence, the U.S. pursued regional hegemony from 1783 and until the end of the nineteenth century, it secured that position. Similarly, the U.S. strictly followed the Monroe Doctrine, which involved pushing the European great powers out of the Western Hemisphere and made sure no European or Asian great power would come back (Prifti, 2017). Today, while the U.S. is deeply involved politically,

economically, and militarily all over the world, John Mearsheimer perceives China's rise as the most immediate threat to U.S. supremacy. According to Mearsheimer, China qualifies as a great power. A great power's behavior has a revisionist trait, where it would not be satisfied with the status quo and would always be striving to readjust that power balance to its advantage until it became the most dominant power in the system (Wohlforth, 2009). This rationale suggests that as China ascends, it will assert itself as a revisionist power, aspiring to achieve hegemony.

The offensive realists further argue that regional hegemons naturally aim for global hegemony; thus, as an increasingly powerful China tries to dominate Asia, China's next move may be to push the U.S. out of Asia (Khan, 2023). Therefore, according to this theory, China's rise poses the greatest and gravest threat to the U.S. in the twenty-first century. Similarly, the U.S. believes that Chinese President Xi Jinping has made a grand entrance with full preparation to fill the gap between superpower rivals; thus, the U.S. considers China a real peer competitor. As such, the U.S. leaves no stone unturned to prevent China from becoming a regional hegemon. That's why the U.S. has shifted its policy towards the Asia-Pacific and launched different strategic initiatives to counterbalance China. The U.S. intends China to remain occupied with security concerns in its own region. Because, if China manages to come out of the security threats in Asia, it will be free to roam all over the world like the U.S. (Mearsheimer, 2021). There have been the cases how the US dismantled its four potential peer competitors in the twentieth century: Imperial Germany, Imperial Japan, Nazi Germany, and the Soviet Union. Thus, the U.S. is applying the same strategic approach toward China (Dicicco & Onea, 2023), whose foreign policy behavior, however, tells a different story.

China's Foreign Policy Behavior

China's foreign policy behavior under Mao Zedong (1949–1976) was to topple all imperialist governments throughout Asia and the world. It had actively supported communist revolutions in developing nations. China actively propagated its socialist ideology abroad, seeking to influence other countries through diplomatic, economic, and cultural channels, aiming to expand its sphere of ideological influence beyond its borders. However, following the Ping-Pong diplomacy and the Nixon-Mao rapprochement of 1971, China was drawn closer to the Western camp. Then China

tempered its rhetoric of revolution; additionally, it didn't aid insurgencies in other nations (Wang, 2021). China followed Deng Xiaoping's path "Tao Guang Yang Hui," which means "to keep a low profile and bide its time while getting something accomplished". Further, China established peaceful development and prioritized coexistence from a philosophical standpoint. Also, the U.S. and China mutually developed the spirit of interdependence. Further, the U.S. helped China join the WTO and opened its market to Chinese products.

China's membership in the WTO in 2001 is a testament to its support for free trade, which helps expand China's global trade. Thus, Beijing's economic partnership expands to Southeast Asia, Latin America, Africa, and so on. Likewise, China rapidly integrated Western-led institutions and reaped the benefits of the United Nations (UN), the International Monetary Fund (IMF), the World Bank, and so forth (Ikenberry, 2008). Alastair Johnston considers China's compliance with most of the global norms; these include sovereignty, free trade, non-proliferation and arms control, national self-determination, international treaties, etc. (Johnston, 2003). Similarly, over the years, China has also managed to resolve border issues with many neighboring countries and has not been involved in a war for forty years (Jalil, 2019). The fact that China can attract its neighbors means that they are increasingly viewing China as less of a threat (Jalil, 2019).

On the other hand, some critics argue that, since 2013, after the 'bold' entry of Chinese President Xi Jinping into the competition, the certainties of the so-called 'unipolar world' became blurred. China was no longer comfortable with concentrating only on its internal affairs and started to abandon the motto of "keeping a low profile", as it sought to project its power outside its borders, as the great power does (Mahadevan & Nugroho, 2019). Today, China has been rapidly modernizing its military strength, and its military expenditure is ranked second after the U.S. Besides military developments, China has also increased naval patrols (Jalil, 2019) along with construction of aircraft carriers and cutting-edge stealth fighters, as well as the establishment of overseas military bases, beginning with one in Djibouti (Pop & Brinza, 2017). Some contend that China is resolute in its ambition to establish itself as a naval force possessing a blue-water navy, a critical characteristic of major global powers. In the same way, China regularly engages in a

military confrontation with India at its border, and it has threatened Taiwan against moves for independence and deployed missiles on the mainland as well. As a result, the Taiwan issue and regular border confrontation with India are seen by Western Powers as China's non-status quo endeavors (Balasubramaniam & Murugesan, 2020). Another perspective is that China has been promoting alternative world views through the 'Global Development Initiative,' "Global Security Initiative' and 'Global Civilization Initiative'. A further argument is that China has defined itself as a defender of sovereignty for weak countries, a pioneer of development, a promoter of good governance, and a promoter of world peace. In the same way, China's most ambitious initiatives, the Belt and Road Initiative, BRICS, the Asian Infrastructure Investment Bank, the Shanghai Cooperation Organization (SCO), and the 'Boao Forum for Asia," are seen as parallel institutions to break down the U.S.-led international institution (Groitl, 2023). Thus, China's foreign policy behavior has been gauged in two parallel scenarios: first, largely integrate into the current international system to balance the U.S., and second, create a multipolar world order (Johnston, 2003), shaping the narratives of great power rivalry.

US-China Great Power Rivalry

Currently, under the fifth generation of communist leadership, China is heading toward global supremacy. Thus, in recent years, "the rise of China," and "global power shift" have become eye-catching headlines of media coverage. So, due to China's rise, numerous ramifications are perceptible in the global system (Xing & Bernal-Meza, 2022). Thus, arguments are being framed that the U.S.-led "unipolar world" would not last long and predictions are being made that an eventual transition either to a multipolar world with China being one of the power centers or a change of guard with China at the helm (Lai, 2011). To A.F.K. Organski, "China will become the most powerful, but the question is how long it will take to achieve this status" (Organski 1958). However, some analysts argue the period of power transition has already begun, which caused the amendment of the Chinese Constitution to abolish the term limits of its president. Thus, experts say China has entered a phase of relative parity of power (Degterev et al., 2021).

During the Soviet period, China was ten times weaker than the U.S. While the global GNP of the US was 25% China had 2.2%. But it was an absolute miracle

that by 2014, China had risen to the top of the PPP rankings (Nye, 2023). During the Cold War, the U.S. allied with China to contain the USSR; however, China converted it into an opportunity and learned best practices from Western science and technology, took advantage of trade expansion, and so on (Bello, 2023). This unexpected growth has made China a real peer competitor of the U.S. Nonetheless, greater power has two goals: first, to become a regional hegemon, and second, to prevent peer competitors. In this scenario, the U.S. campaign to avert China's rise doesn't fall. However, the U.S. is still in a trial-and-error phase to prevent China from becoming a regional hegemon. Thus, to counter China, the U.S. has been involved in intense security competition with China through the Indo-Pacific Strategy, Quad, and Aukus. Similarly, to slow down China's rise, the U.S. has launched a trade war, arms race, technological competition, and space race. In 1979, the U.S. de-recognized Taiwan; however, now its policy is rapidly changing (Somers, 2023). The U.S. has regularly weaponized Taiwan, and since the speaker of the US House of Representatives Nancy Pelosi visited Taiwan in 2022, more tension has risen. There is no civilized communication, and the situation seems like a new cold war (Keegan & Churchman, 2023). Therefore, it is argued that the South China Sea and Taiwan issues may act as a war trigger in U.S.-China relations, as seen through the power transition angle.

At the same time, some critics argue that Chinese challenges are very different from those of the Soviet Union. The Soviet Union did not have the same prospects and economy as China. On the other hand, the Chinese Party is unlike Lenin's, which wants to establish the superiority of its ideology (Kim & Kim, 2022). Critics further argue that China is integrated and willing to work within the existing, western-led systems, and it is not an outsider to this order (Pop, 2017). Also, China has not been involved in a war in the last 40 years. To support this logic, Kishwor Mahbubani says it is not appropriate to apply a Cold War strategy. He further argues that Chinese leaders are motivated by the memory of humiliation from the middle of the 19th century to the middle of the 20th century when the greater powers of Europe and Japan all exploited China (Mahbubani, 2022). Taiwan is the last symbol of humiliation (Mahbubani, 2022). Thus, Chinese people simply want no more humiliation. As a result, the Chinese understand that there are no other options for becoming the most powerful. This pursuit intensifies, fueling determination to

ascend to the zenith of power, driven by the imperative of reclaiming dignity and status on the global stage.

Ambitious Challenger vs. Displeased Hegemon

The U.S. has started to weave a narrative globally, particularly among its allies that Chinese President Xi Jinping is a tough leader, who follows an aggressive foreign policy to replace the existing U.S. supremacy. Thus, the U.S. feels a threat against the current global order and its worldview shaped by the US values and interests (Zhou, 2022). As a result, the U.S.-China rivalry creates a situation like the Cold War. The American dissatisfaction is the cause of China's relative parity in wealth, military capacity, trade, technology, and the space race (Xu & Liu, 2022). Similarly, China's formation of parallel multilateral institutions, creation of alternative world views, and promotion of its development model have aggravated further tensions. On the other hand, the United States had hardly endured its rivals, historically. Thus, as a response to, the U.S. first announced the "Pivot to Asia" policy of the Obama administration in 2011, and, second, the Trump administration declared the significance of the Indo-Pacific strategy to the US and its allies. Now, with Joe Biden at the helm, American policy toward China echoes the same. Further, the U.S. has taken counterbalancing initiatives such as the Quadrilateral Security Dialogue (QUAD) and the trilateral security pact between Australia, the UK, and the US (AUKUS) (Xu & Liu, 2022). Despite having Quad and Aukus, the U.S. is active in expanding NATO+ in the Asia-Pacific region. Thus, the emerging hegemon China and the established hegemon United States compete in a variety of formats, such as the formation of new alliances or checking each other's influence in the region (Flint & Zhu, 2019).

The United States, as reported, desires a rule-based international order, whose major elements are pronounced as democracy, human rights, and the rule of law (Mattej & Nader, 2008). Thus, the long-term goal of engaging with China was that, over time, economic development in China would bring about political changes and eventually turn China into a democratic state. By virtue of shared democratic values with the United States, China would be a friend to the US rather than a foe (Mearsheimer, 2019). However, China didn't turn into a democratic state. It's the realization developed by the US policymakers. Thus, the U.S. believes that China

took great advantage of the current Western-led system, but it didn't accept the values of democracy and rule-based international order. Thus, the U.S. considers China to be the single largest roadblock to this U.S. mission. China, however, holds a different view. Chinese leaders argue that democracy is not the panacea for international problems; ideological conflict is only a smokescreen. The real problem is competition for global supremacy (Schweller & Pu, 2011).

In fact, in the twentieth century, ideology was the center of great power competition; however, in today's world, trade, technology, and space competition are at the center. Thus, the Chinese policymakers assert that even if China were to become a democracy tomorrow, the United States would still have problems with China because the United States, in President Obama's words, does not accept second place. Further, Donald Trump also popularized the slogan "America First" as his policy (Skonieczny, 2018). Consequently, the U.S.-China rivalry has resulted in spillover effects, polarizing world politics with few characteristics from the days of the Cold War. In these circumstances, the U.S. is aggressively engaging to influence China's neighbors. On the other hand, China is trying to push American power away from its neighbors (Xing & Bernal-Meza, 2022). A similar situation was experienced by the Nepali policymakers during the ratification of the MCC Compact. Whilst China wanted Nepal to join its GSI and GCI, the U.S. wanted Nepal to be a member of the SPP (which couldn't be materialized later) revealing how the U.S.-China competition will continue to create further strategic space in Nepal (The Kathmandu Post, 2022).

What Does China's Rise Mean for Nepal?

Nepal's northern neighbor, China, has the oldest civilization and a big market. It has been making miraculous progress from the days of Mao Zedong to the current leadership of Xi Jinping. China achieved an impressive average gross national product (GNP) growth rate of nine percent from 1978 to 1993 (Smil, 1993). It has become one of the world's largest trading nations, enabling it to increase outward foreign direct investment. Similarly, massive industrialization has succeeded in boosting China's economy while amassing vast holdings of foreign reserves. China holds the second position globally in terms of Gross Domestic Product (GDP), trailing only behind the U.S. This economic prowess has facilitated the upliftment

of millions from poverty, underlining China's significant role in global economic dynamics and its impact on improving living standards for its populace (Zawaski, 2023).

Thus, China is knocking on Nepal's door with big opportunities to enhance connectivity and technology transfer. However, Nepal allegedly turns to China only at difficult times. After the 1989 embargo, Nepal swiftly forgot the strategic significance of China, and the same scenario manifested during another embargo in 2015. During the 2015 embargo, a Memorandum of Understanding (MOU) was signed to buy fuel from China, similar to the facilities of transit and transportation agreements. However, the seven Chinese ports, which Nepal has accessed today, are yet to be utilized from the Nepali side. Similarly, in May 2017, Nepal and China signed a Memorandum of Understanding (MoU) on BRI (Murton, 2023). After Nepal signed up for China's Belt and Road Initiative, Nepal's government formed two committees led by foreign and finance secretaries to identify projects for negotiations with China. The finance secretary-led committee listed 35 projects to develop under this initiative. Later, the government of Nepal cut the number of proposed projects from 35 to nine at Beijing's request. But till now, no project under it has been concretely implemented (Sharma & Chhetri, 2022). Further, when Chinese President Xi Jinping came to Nepal in 2019, most of the agreements made had not taken off in a full-fledged manner. The most-hyped Kerung-Kathmandu railway connectivity has been pushed back.

In this situation, experts argue that most of the developing countries around the world are taking huge advantage of China's growth; why can't Nepal? They further argue that this is a crucial time to reap benefits, so Nepal should remain determined about maximizing the benefits. The BRI intends to connect regions through highways, rail routes, key ports, gas pipelines, and other infrastructure (Lahtinen, 2022). Thus, once Nepal and China begin capitalizing on the resources of the Himalayas, there will be immense changes in the development landscape. Therefore, trans-Himalayan cooperation may secure Nepal's position in the new regional economic order conditioned that the government provides diplomatic commitment and enhances cooperation in mutually beneficial areas.

Cooperation in the Trans-Himalayan region is not a new approach, however; during

the medieval era, Nepal not only had trade with Tibet and Bengal but was a vibrant hub that connected the lands in the north and south (Rose, 2023). The demand for Nepali goods in the northern Indian plains is recorded in Kautilya's *Arthashastra*. The mobility and business between Kathmandu, Lhasa, and Calcutta are most repeated in the history books (Singh, 2009). Thus, the history of Sino-Nepal ties embraces the interface of civilization, culture, and economic activities (IFA, 2014). To revive these historical glories, China's BRI initiative is often referred to as an opportunity for Nepal to invest in trans-Himalayan infrastructure building. While China has the technology and capital, Nepal is often advised by Nepali and Chinese experts to grasp these opportunities to eventually "land link" China with the South Asian region, and free itself from the chains of landlocked-ness and buffer status.

But, in doing so, whether Nepal will be able to consider and be careful of not letting the expansion of connectivity be one-sided? And will the entry of a third country in the field of infrastructure be equally encouraged? Because, India has not joined China's BRI initiative and India manifests perpetual anxieties when Nepal and China launch any connectivity projects. In the meantime, the dimensions of US-China rivalry have been expressed variously. Whilst the overlapping strategic ambitions of the U.S., China, and India are reportedly at their peak, the nature of the rivalry between these three nations will fix the 21st century's new geopolitical and geo-economic order in Asia. These phenomena are sure to put Nepal's geopolitics on the global radar. As such, Nepal may need to carefully understand the emerging dynamics of its neighbors and closely and carefully assess emerging global geopolitical trends, growing economic contact between New Delhi and Beijing, shifting relations between India and the U.S., and America's Asia rebalancing policy. Against the same backdrop, the high-level visits from the US and China to Nepal in different periods since the Trump administration divulge interesting accounts in regards to diplomatic signaling in the geopolitically stretched environment.

The US High-Level Visit Nepal since Donald Trump Administration

- National Security Council official Rear Admiral Eileen Laubacher arrived on Dec 6, 2023
- *USAID* Assistant Administrator of the Bureau for Asia *Michael*

Schiffer arrived in *Kathmandu* on Dec 6, 2023

- Chief Executive Officer (CEO) of the US-funded project Millennium Challenge Corporation (MCC), Alice Albright, visited Nepal, on October 3, 2023.
- Senator Chris Van Hollen, a member of the US Senate Foreign Affairs and Appropriations Sub-Committee on State and Foreign Operations, arrived in Nepal on September 1, 2023.
- Cameron Alford, Vice President of the MCC's Compact Operations Department, arrived in Kathmandu ahead of the MCC's Entry into Force (EIF) on August 30, 2023.
- Donald Lu, the United States assistant secretary of state for South and Central Asian affairs, made his third visit to Nepal for his one-day visit on July 14, 2023.
- The United States Undersecretary of State for Civilian Security, Democracy, and Human Rights and US Special Coordinator for Tibetan Issues, under the Joe Biden administration, Uzra Zeya, came to Nepal on May 22, 2022.
- Samantha Power, the chief of the United States International Cooperation Agency USAID, was in Nepal on February 7, 2023.
- US Under Secretary of State for Political Affairs Victoria Nuland, who arrived in Kathmandu on a two-day official visit, met Prime Minister Pushpa Kamal Dahal on January 30, 2023.
- Donald Lu, the United States assistant secretary of state for South and Central Asian Affairs, made his second visit to Nepal on July 28, 2022.
- Anthony Flynn, commander of the US Army's Asia-Pacific Command, was in Nepal on June 9, 2022.
- The four-member US congressional delegation led by Senator Kirsten Gillibrand, including Senators Sheldon Whitehouse (Rhode Island), Cory Booker (New Jersey), Mark Kelly (Arizona), and Representative Mondaire Jones, visited Nepal on April 22, 2022.

- Donald Lu, the United States assistant secretary of state for South and Central Asian affairs, made his first visit to Nepal on November 19, 2021.
- MCC's vice president, Fatema Z. Sumar, and deputy vice president, Johnathon Brooks, visited Nepal on September 9–12, 2021.
- Commander of the U.S. Indo-Pacific Command, Admiral Phil Davidson, visited Nepal on January 11, 2019.
- Acting Deputy Assistant Secretary for South Asia at the US Department of State, David J. Ranz, visited Nepal on May 15, 2019.
- Joseph H Felter, US Deputy Assistant Secretary of Defence for South and Southeast Asia, visited Nepal on, February 25, 2019.
- Admiral Harry B. Harris, Jr., Commander of the United States Pacific Command visited Nepal and participated in the opening ceremony of a US-sponsored multinational U.N. peacekeeping exercise (Shanti Prayas) in Kathmandu on March 20, 2017.
- Leading a bipartisan delegation of the US House of Representatives, US Congresswoman and former speaker of the House of Representatives, Ms. Nancy Pelosi, visited Nepal on May 6–7, 2017.
- A delegation from the U.S. government's Millennium Challenge Corporation visited Nepal in July 2017 to hold discussions over the final provisions of the planned MCC Compact.

China's High-Level Officials Visit to Nepal in Recent Year

- A delegation from the International Liaison Department of the Communist Party of China led by Vice Minister Sun Haiyan arrived in Kathmandu on January 27, 2024
- Visit of Li Zhanshu, outgoing chairman of the Standing Committee of the National People's Congress of China visited Nepal from September 12–14, 2022.
- Chinese Foreign Minister Wang Yi, who is also the State Councilor of

China, visited Nepal from March 25–27, 2022.

- Chairman of the Standing Committee of the National People's Congress Mr. Li Zhanshu visited Nepal in September 2022.
- Head of the International Liaison Department of the Communist Party of China, Liu Jianchao visited Nepal on June 10, 2022.
- Leading a four-member delegation, Guo Yezhou, vice-minister of the International Department of the Communist Party of China (CPC), arrived in Nepal on December 27, 2020.
- State Councilor and Minister of National Defense Gen. Wei Fenghe visited Nepal in November 2020.
- Xi Jinping, President of the People's Republic of China paid a state visit to Nepal on October 12–13, 2019.
- State Councilor and Foreign Minister. Mr. Wang Yi visited Nepal in September 2019.
- Governor of the Yunnan Province Mr. Ruan Chengfa visited Nepal in November 2019.

US-China Great Power Completion: Implications for Nepal

Although Nepal may have little significance in the world's politics on its own, it ironically offers considerable strategic leverage for others. Because Nepal's location connects the two land masses of India and China, it has a unique strategic status enjoyed by only a few countries worldwide (Uprety, 1991). Its location between the two rising, competing, and conflicting powers of Asia --China and India-- makes it important for Western powers to strike a strategic balancing act in the region (Ayadi, 2021). Due to the power transition from the U.S. to the Asia-Pacific region and the U.S.-China bipolar strategic rivalry, the U.S. is aggressively engaging to influence China's neighbors. On the other hand, China is pushing American power away from its neighbors (Xing & Bernal-Meza, 2022). In this situation, the U.S. strategic entry into Nepal and the intense rivalry between China's BRI and the U.S.' MCC projects are reflections of these two countries' growing competition in world

politics. These expressions amply reflect the attempts at geopolitical struggles and counter-struggles.

On the other hand, as offensive realists opine, to survive as great powers, they should be regional hegemons. Thus, China's foreign policy seems not to confine itself to its borders and maintains a low profile. Accordingly, China's proactive political and diplomatic engagement with Nepal has been increasing. China is also concerned about the United States' regular high-level visits and its concerns about the Indo-Pacific Strategic and State Partnership programs have been already reported by the press, and discussed by the Nepali politicians in the parliaments (Ford, 2020). China believes both the MCC and SPP initiatives are part of the U.S.'s broader strategy to counter China's influence in South Asia. So, to balance U.S. influence in Nepal, China is contagiously requesting Nepal join its GSI and GCI initiatives, which are also known as counter-initiatives to the U.S.-led Indo-Pacific Strategic and Quadrilateral Initiatives (The Kathmandu Post, 2022). On the contrary, the U.S. believes China's Belt and Road Initiative (BRI) is not just an economic initiative, but also a geopolitical one. The BRI is part of China's broader strategy to expand its global influence. They further believe that one of the primary goals of the BRI is to export Chinese development and influence, particularly in the developing world (Hu, 2020). Thus, during the U.S.-China bipolar strategic rivalry, they are in a race to influence each other's regions.

In the meantime, Nepal's southern neighbor, India, is riled by China's increasing presence in Nepal. In addition to that, Sino-Indian conflict is reported on the Indian Ocean and the Himalayan border. Today, India and the U.S. are on the same side to contain China because India is a natural ally of the U.S. Furthermore, India believes that the U.S. is not working against its interests in South Asia (Shahzad & Khan, 2022). As a result, India is balancing cooperation with the U.S. Similar to that the U.S. considers India essential to its Indo-Pacific strategy to counterbalance or counterweigh China in the region. Additionally, India has not joined the BRI, and it has been blaming the BRI for violating its sovereignty in Kashmir and believes that the BRI has a "string of pearls" strategy (Gokhale, 2021). In the same way, in regard to India's foreign policy, almost all governments have embraced Nehru's Himalayan security policy (Feer, 1953). Thus, India, too, perceives that the rise of

China changes the status quo in the Himalayan regions. Although Nepal has joined the BRI project and further agreed to expand railway connectivity, India seems reluctant to welcome it, which will eventually be extended to India's northern parts. Whilst both India and the Western powers don't entertain China's strong presence in Nepal, over the last few years, the government of Nepal has been facing geopolitical pressure.

Conclusion

Great powers are major players in international politics, and they matter in shaping the international system. The American supremacy and worldview established after the Second World War went unchallenged for almost two decades after 1990. The basic foundation of the worldview was the final victory of liberalism and the narrative of "the end of history". However, now the world is rapidly moving from unipolarity to multipolarity, with strategic bipolarity between China and the U.S. The U.S.'s growing dissatisfaction with China is due to China's relative parity with the U.S. on wealth, military, technology, and space race, creating parallel multilateral institutions and alternative world views. Thus, this contrast between U.S. displeasure and Chinese ambition has created geopolitical and economic implications at global and regional levels, and their rivalry manifests as a "new cold war." In this scenario, it is widely believed that in an anarchical world system, great powers are always motivated to maximize their power. In this reality, the U.S. believes China is a revisionist power, and a rising China aims to become the ultimate hegemon. On the other hand, history shows that the U.S. didn't tolerate its peer competitors and its second position in the international system. Thus, to address this situation, United States has established various initiatives, such as the Indo-Pacific Strategic, Quad, Aukus, and NATO+, as counterbalancing measures to limit China's influence in the Asia-Pacific area. Furthermore, the U.S. has been putting pressure on its regional allies to take its side and adopt a more explicit position against China on various issues such as the Taiwan Strait, South China Sea disputes and Tibetan Refugees issues. Therefore, through the lens of the power transition, scholars argue, the U.S. and China will clash in Taiwan and the South China Sea. Similarly, Nepal's neighbors, India and China, can be seen as competitors on the border and in the Indian Ocean. In the meantime, India sees China's emergence as a challenge to its

status quo in the Himalayan regions and perceives development in the region as impacting its security interests. At the same time, the U.S. is enhancing stronger relations with India to counterbalance China in the region. Thus, both of them perceive China as a threat in the Indo-Pacific region.

On the other hand, China's strategic and security interests are largely related to security and peace in Tibet, while its economic interests are to expand its trade in South Asia by using Nepal as a "gateway" through its BRI connectivity projects. However, China's engagement with Nepal overlaps due to the U.S. strategic entry into Nepal and the intense competition over the MCC and BRI projects. Thus, this is a reflection of these two countries' growing competition in world politics, and it puts Nepal at the center of strategic calculations. Therefore, China's involvement in Nepal is aimed at maintaining equilibrium between India and Western countries, leveraging initiatives like the Belt and Road Initiative (BRI), Global Development Initiative (GDI), Global Civilizational Initiative (GCI), and Global Security Initiative (GSI). This is also known as the counterbalancing initiative against MCC and SPP. Thus, Nepal's location between the two rising, competing, and conflicting powers of Asia (China and India) makes it important for Western powers to strike a strategic balance in the region. Most importantly, while Nepal borders the U.S. competitor country China, on the one hand, and its strategic partner India, on the other, Nepal must tread strategically.

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Extension of the Triple Helix to Quadruple to Quintuple Helix Model

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Science speaks to society, and society speaks back to science (Nowotny, Scott, & Gibbons 2001; Liyanage & Netswera, 2021)

Abstract

This study explores the multiple helices extended from the Triple Helix (TH) Model of innovation. Describing what Triple Helix, Quadruple Helix and Quintuple Helix Model as well as Mode3 is the primary motive of this paper. This study is solely based on secondary sources and the research is exploratory as well as descriptive in its nature. Originally proposed by Henry Etzkowitz and Loet Leydesdorff (1995), the TH Model elucidated innovation dynamics stemming from interactions among academia, industry, and government. Building upon this foundation, the Quadruple Helix Model was introduced as the fourth helix, emphasizing basically on the role of civil society in innovation processes, thus highlighting aspects of social inclusion, public engagement, and ethical considerations. Likewise, the Quintuple Helix

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Model incorporates socio-ecological interactions, emphasizing the generation and dissemination of knowledge impacting the natural environment. This framework basically depicts opportunities for addressing new challenges such as climate change through innovation for sustainable development within the knowledge society and economy. Similarly, exploring the implications of Mode 1, Mode 2, and Mode 3 knowledge on economy, society and democracy, this study also attempts to investigate the evolution of innovation helix models and their impact on fostering inclusive, collaborative, and sustainable innovation ecosystems. In course of studying the model of innovation system, there come simple question about how the Triple Helix Model of innovation has been extended up to Quintuple Helix via Quadruple Helix Model of innovation. This is a policy-based research which will help to the stakeholders like academics, planners, researchers, industry leaders, entrepreneurs, and governing bodies for understanding Triple Helix, Quadruple Helix and Quintuple Helix model in better way.

Introduction

The Triple Helix (TH) Model emphasizes the symbiotic relationship between academia, industry and government in knowledge production which has become integral to driving innovation and significant progress globally. Academia serves as the foundation for knowledge creation and industry applies this knowledge to innovate new products and technologies. Likewise, government provides support, funding and regulations that help to facilitate these interactions and ensure sustainability. Understanding the importance of this global model which is based on partnership and knowledge exchange, it enables stakeholders to overcome the challenges and to ensure economic and social development (Hattangadi, 2022). For the sustainability of academia, industry, science, technology, innovation, entrepreneurship, economy, society, culture, media, etc., there has been invention and extension of helices by different renowned scholars of different disciplines since 1995. Hence, this study is gradually becoming popular in different parts of the world and its adoption by both developed and developing countries underscores its universal acceptance and applicability in shaping the future of knowledge production and collaboration.

Open innovation makes it easier for companies to cross their boundaries so that the creation of knowledge benefits both the organization itself and the ecosystem at the

same time. The current social interaction has taken on the following characteristics: Technologies such as big data, cloud computing, and AI have brought endless treasures of data and information. Knowledge, information, and data have become increasingly difficult to distinguish. At the same time, the problem of information overload has begun to emerge. The combination of the Internet, social media, and mobile technology has brought about a “Hyperlinked” world, in which everybody participates in others’ lives (Chen, 2022, p.6).

Today’s new challenges faced by human beings are climate change, globalization and economic crises on different geographical scales, from the regional and national to the supranational level. Environmental problems are becoming more complex, uncertain and multiscalar, affecting a variety of actors and agencies, demanding new technical solutions, societal transformation and new collaborations. A transformation into a more sustainable society calls for a larger transition of societal functions, including new innovations in technology, regulations, production and consumer patterns, values and norms and supply networks (Geels, 2005; in Grundel & Dahlström, 2016). It also requires a variety of knowledge and values in decision-making processes. Therefore, innovation, technology and knowledge have become an integral part of this study. Innovation policy is mainly driven by economic growth and economic development agendas, where new innovations are seen as drivers of economic growth and development. In this way, innovation policy is used as an important tool for governmental institutions to enhance and support innovations on different geographical scales to promote economic growth (Asheim & Coenen, 2005; Pettersson, 2007; Lindberg 2010; in Grundel & Dahlström, 2016).

The Industrial Revolution, spanning from the late 17th century to the early 19th century, marked a profound transformation in human society. This period of rapid industrialization laid the groundwork for the collaborative structures and systems that are prevalent in today's societies. The First Industrial Revolution (1760 to around 1840 as mentioned by Davis, 2016 & Schwab, 2016) is widely taken to be the shift from our reliance on animals, human effort and biomass as primary sources of energy to the use of fossil fuels and the mechanical power this enabled. The Second Industrial Revolution (1870) occurred between the end of the 19th century and the first two decades of the 20th century, and brought major breakthroughs in the form of electricity distribution, both wireless and wired communication, the

synthesis of ammonia and new forms of power generation. The Third Industrial Revolution (1969) began in the 1950s with the development of digital systems, communication and rapid advances in computing power, which have enabled new ways of generating, processing and sharing information (Davis, 2016; Schwab, 2016). In Germany there are discussions about “Industry 4.0”, a term coined at the Hannover Fair in 2011 to describe how this will revolutionized the organization of global value chains. This is the reason why Massachusetts Institutes of Technology (MIT) Professors Erik Brynjolfsson and Andrew McAfee have famously referred to this period as “the second machine age”(Schwab, 2016). The Fourth Industrial Revolution (2013) (Zhou, Liu & Zhou, 2015; Schwab, 2016) can be described as the advent of “cyber-physical systems” which is a digital revolution of this century involving entirely new capabilities for people and machines. While these capabilities are reliant on the technologies and infrastructure of the Third Industrial Revolution, the Fourth Industrial Revolution represents entirely new ways in which technology becomes embedded within societies and even our human bodies. Examples include genome editing, new forms of machine intelligence (mobile internet and artificial intelligence and machine learning) breakthrough materials and approaches to governance that rely on cryptographic methods such as the block chain.

When it comes to academic revolution, the “ivory tower” (first academic revolution) (Etzkowitz & Viale, 2010) is no longer a viable academic structure. Cracks in the framework of academic isolation have appeared in part due to the very success of a university research enterprise that has produced a cornucopia of results, many of which have been successfully translated into use. Not surprisingly, the benefits produced have led to increased interest on the part of government and industry in closer ties to the university (Etzkowitz et al., 1998, Foreword).

Universities produce knowledge and knowledge is indeed a key resource for companies. But the implementation and the consequences of strategies aimed to create, appropriate, protect and use knowledge, go far beyond their boundaries (Laperche, 2024). Knowledge is an ‘intellectual product’ or ‘something learned’ that is acquired by thinking, judging, reasoning, reading, observing, and testing (Demir et al., 2015). Innovation is the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes, efficiency, effectiveness or quality (Mulgary & Albury,

2003).

Before the concept of the Triple Helix Model of innovation, the scholars have discussed on the concept of 'knowledge flow'. Knowledge flow as per Etzkowitz et al. (1998) is a contrasting model based on separation and the Triple Helix based on integration of institutional spheres (academia, industry and government collaboration) (Hessels & Lente, 2008). Knowledge flows indicate that universities produce knowledge which is transmitted through publication and ideally do not sell it. Linkages between the spheres and flows of knowledge across them are shaped, both organizationally and ideologically (Etzkowitz et al., 1998). Knowledge flows are a key element of university industry relations; some suggest it should be only the dimension! (Etzkowitz & Leydesdorff, 1997; in Etzkowitz et al., 1998). In essence, the evolution from the Single Helix to the Double Helix and finally to the TH Model reflects a deeper understanding of the complexities of innovation ecosystems and the necessity of multi-stakeholder collaboration for sustainable progress and growth (Hessels & Lente, 2008).

The approaches of the Quadruple Helix and Quintuple Helix innovation systems are designed to comprehend already and to refer to an extended complexity in knowledge production and knowledge application (innovation); thus, the analytical architecture of these models are broader conceptualized (Carayannis & Campbell, 2021). To use metaphoric terms, the Quadruple Helix transcends the Triple Helix, while the Quintuple Helix embeds and conceptualizes the Quadruple Helix. This study includes introduction, methodology and focuses majorly on Triple Helix, Quadruple Helix, Quintuple Helix, N-tuple Helices, Mode 3, transformation of science systems, knowledge economy, knowledge society, knowledge democracy, diplomacy, artificial intelligence, green knowledge and Greening University which are interrelated to each other representing their own values in this study.

Research Methodology

As there are five helices, the Triple Helix Model has been recognized as one of the most important models; however, Quadruple and Quintuple Helix have authenticated the Triple Helix Model as a global model. While understanding this model, the research methodology adopted in this study is desktop research that includes reviews, critiques and analysis of literature based topics. Desktop research

involves research on existing literature to create new knowledge and insight on the relevant study (Toracco, 2016; Moodley & Naidoo, 2022, p.1044; in Kunwar & Ulak, 2023, p.5). Qualitative research methodology has become the key in this study.

In organized research, it is found that the researchers go through international data sources. For example, Mineiro and Castro (2021) searched articles in international and national bases, such as the main collection of the databases Web of Science (WOS), Scopus, Academic Search Premier–ASP (EBSCO), Science Direct, Scielo and Spell. They used “Quintuple_Helix” or “Quadruple_Helix” or “N-tuple Helix” or “Multiple_Helix” and “Science_Park” or “Technology_Park” or “Research_Park” or “Science_and_Technology_Park” or “Science Technology Park” or “Incubator,” in the topic field; that is, they searched these words in the articles’ title, abstract and keywords. And such approach will make the study more valid. In this study, the present authors adopted narrative review which is unsystematic review in nature and has no specified search strategy, no specific protocol as such; only a topic of interest has been reviewed. Therefore, this is a simple review article that tries to explore how the Triple Helix Model has been extended to the Quadruple to the Quintuple Helix. This study is not commercial project and the authors decided to work on their own to understand these helices theories in better way.

Triple Helix Model

Henry Etzkowitz and Loet Leydesdorff (1995, 1998, 2000) pioneered the TH Model in the 1990s. Their work, spanning from 1995 to 2000, focused on the interactions among university, industry, and government, elucidating the dynamics of their relationships. Over time, this theory has evolved into a significant area of research interest, as highlighted by Hattangadi (2022). Vladoš and Chatzinikolaou (2019) outlined the development of the TH Model into three distinct phases based on its publications: the phase of theoretical foundation (1995-2000), the phase of conceptual expansion (2001-2010) where all different helices were conceptualized, and the phase of recent developments and systematic implementation attempts (2011-2018). The TH Model, as described by Etzkowitz (2003; in Bouraoui et al., 2011) represents a spiral model of innovation that includes multiple reciprocal relationships throughout the process of knowledge capitalization. The model

consists of three dimensions. The first dimension of the TH Model is the internal transformation in each of the helices, such as the development of lateral ties among companies through strategic alliances. The second is the influence of one helix upon another. The third dimension is the creation of a new overlay of trilateral networks and organizations from the interaction among the three helices Etzkowitz, (2002; in Bouraoui et al., 2011). Though Henry Etzkowitz, Loet Leydesdorff, Elias Carayannis and David Campbell are founding fathers of the Triple Helix Model and they are theoretically separated arguing their own perspectives as shown in table 1.

Table 1

Different Understandings of the Helix Concept by the Originators of Helix Models of Innovation

Originators of helix models	Perspectives	Understandings of helices
Henry Etzkowitz	Neo-institutional	The Triple Helix model is composed of the Triple Helix spheres of university, industry, government, which are parallel to the Triple Helix spaces of knowledge, innovation and consensus (Etzkowitz & Zhou 2017; Etzkowitz, 2008).
Loet Leydesdorff	Neo-evolutionary	The Triple Helix is perceived as three functions—namely, wealth creation, knowledge production, and normative control. The three helices also operate as selection mechanisms asymmetrically on one another, but mutual selections may shape a trajectory as in a co-evolution' (Leydesdorff, 2012, p.28).
Elias Carayannis & David Campbell	Eco-systemic	The government, university, industry and civil society represent four basic dimensions of a Quadruple Helix innovation system (Carayannis et al., 2018). However, the fourth helix, broadly understood as media-based and culture-based public or civil society, contextualize the Triple Helix (Carayannis & Campbell, 2021).

Source: Cai & Lattu, 2022, p.268

In recent times, policymakers have started exploring ways to expand the original Triple Helix Model by integrating the Quadruple Helix (QH) framework. Carayannis and Campbell (2021) expanded the TH Model to include the Quadruple Helix innovation system in 2009 and the Quintuple Helix innovation system in 2010. Despite the popularity of the Triple Helix Model and Quadruple Helix Model in innovation studies, Cai and Lattu (2022, p.257) note that the relations between them have not been extensively addressed.

Quadruple Helix Model

In the year 2003, Leydesdorff and Etzkowitz discussed the possible option of adding fourth helix to the Triple Helix Model (Carayannis & Campbell, 2021). Carayannis and Campbell (2012) conceptualize the fourth helix as media, culture, and civil society (Mineiro & Castro, 2021), arguing that the fourth helix is human-centered and focuses on democratic knowledge, and in favor of arts, artistic research, and arts-based innovation (Carayannis & Campbell, 2014; in Hasche, Höglund, & Linton, 2020, p.524). In this regard, Carayannis and Campbell (2010) further argue that fourth helix the “public”, more precisely defined as the “media-based and culture-based public”: “The fourth helix associates with ‘media’, ‘creative industries’, ‘culture’, ‘values’, ‘lifestyles’, and perhaps also the notion of the ‘creative class’ (a term, coined by Richard Florida, 2004; in Carayannis & Campbell, 2010), “civil society,” “arts, artistic research and arts-based innovation,” but also “democracy and knowledge democracy” (Carayannis & Campbell, 2009, 2012; Carayannis et al., 2012; Carayannis et al., 2018a, 2018b; Bast, Carayannis & Campbell, 2015, 2019; Danilda et al., 2009; Park, 2014; in Carayannis & Campbell, 2021, p.2086). The transition from the Triple Helix to the Quadruple Helix Model was motivated by the incorporation of an additional actor, the public environment, which provided a new perspective on societal behavior through the concept of media-based democracy (Carayannis & Campbell, 2009). This inclusion emphasizes the importance of pluralism and diversity among various agents within the innovation ecosystem, such as universities, small and medium-sized enterprises, major corporations, consumers, NGOs, and the community (Carayannis & Campbell, 2009; Carayannis, Barth, & Campbell, 2012).

In this helix, civil society is also an innovative user (Cai & Lattu, 2022), acting as

a driver of innovation processes. In this sense, users are essential to the model and encourage the development of innovations that are relevant to them (Arnkil et al., 2010; Carayannis & Rakhmatullin, 2014; Mineiro & Castro, 2021, p.294). Arnkil et al. (2010; in Mineiro & Castro, 2021) observe four different types of approaches to the Quadruple Helix:

- (1) Innovation user (consumer who assists companies in developing and improving products and services);
- (2) Laboratory centered on the company (company owns the innovation process, but society or users participate in the new knowledge);
- (3) Laboratory centered on the public sector (public institutions develop the innovation processes, to produce better services to society); and
- (4) Citizen (community or society with an essential role in the beginning of the innovation process).

While reviewing the above mentioned approaches, Mineiro and Castro (2021, p.294) incorporated distinct entities of society with different studies carried out by different scholars such as financial organizations, citizens and workers (Grundel & Dahlström, 2016), non-governmental organizations or associations (Grundel & Dahlström, 2016), groups (Mineiro, Castro, & Amaral, 2019; in Mineiro & Castro, 2021) or an arena with multiple actors (Hasche et al., 2019; in Mineiro & Castro, 2021).

Quintuple Helix

The Quintuple Helix innovation model (QHIM) consists of five spiral frameworks that are the education system, economic system, political system, civil society, and the natural environment. QHIM suggests that the constant engagement of the entire disciplinary spectrum is necessary for a thorough analytical comprehension of all spirals. Each helix represents a knowledge subsystem that connects to the other systems in a spiral fashion and, in turn, has a local, regional, and global impact (Lavrinenko, Ignatjeva, Ohotina, Rybajkin, & Lazdans, 2019; Barcellos-Paula, De la Vega, Gil-Lafuente, 2021; in Quacoe, Kong, & Quacoe, 2023). Therefore, The QHIM can be described as theoretical and practical model for the exchange of knowledge resources, based on the five social (societal) subsystems with capital at its disposal to generate and promote sustainable development of society- it is a

pivoted force and driver for progress (Grundel & Dahlström, 2016; Carayannis et al., 2012; in Quacoe et al., 2023, p.3).

In order to know about disciplinarity, first and foremost, it would be convenience for the researcher to understand what discipline is. Choi and Pak (2006) on the basis of English dictionaries define “discipline” as a branch of knowledge, instruction, learning, teaching or education; or a field of study or activity. Examples of a discipline include anthropology, architecture, biology, economics, engineering, history, science, and theology. The Quintuple Helix Model is transdisciplinary and interdisciplinary at the same time: the complexity of the five-helix structure namely the education system, the economic system, the natural environment, the media- and culture-based public and the political system (Carayannis, et al., 2012) implies that a full analytical understanding of all helices requires the continuous involvement of the whole disciplinary spectrum, ranging from the natural sciences (because of the natural environment) to the social sciences and humanities (because of society, democracy and the economy).

Transdisciplinary, first coined in 1970s, orientations in research, education and institutions try to overcome the mismatch between knowledge production in academia, on the one hand, and knowledge request for solving societal problems, on the other. Gibbons et al.(1994, p.168) explain mode 2 knowledge in terms of transdisciplinarity- that is 'knowledge which emerges from a particular context of application with its own distinct theoretical structures, research methods and modes of practice but which may not be locatable on the prevailing disciplinary map'. However, it is proposed to use the term 'extradisciplinarity' to describe mode 2 knowledge production. This is because the term transdisciplinarity meaning 'across the disciplines') is easily confused with interdisciplinarity. Mode 2 knowledge is, however, being introduced outside the disciplinary framework, hence the term 'is seen extradisciplinarity' as being more appropriate (see in Kunwar, 2018). Transdisciplinary research, therefore, aims at identifying, structuring, analyzing and handling issues in problem fields with the aspiration '(a) to grasp the relevant complexity of the problem, (b) to take into account the diversity of live, world and scientific perception of problems, (c) to link abstract and case-specific knowledge, and (d) develop knowledge and practices that promote what is perceived to be the common good' (Pohl & Hirsch Hadorn, 2007; in Hoffmann-Riem, Biber-Klemm,

Gossenbacher-Mansuy, Hirsch Hadorn, Joye, Pohl, Weismann, & Zemp, 2008, p.4). Transdisciplinary research occurs when researchers collaborate with stakeholders from outside the academic world. Knowledge from outside the academic world as well as stakeholder values is integrated with academic knowledge. Together, these insights determine what problem is studied and how this is done, and which interventions are selected to address the problems (Pohl, 2010). As far as transdisciplinarity is concerned, the contested meaning of transdisciplinarity is relatively ironic for a community of scholars who sees the openness to other viewpoints as the fundamental prerequisite for doing transdisciplinarity (Giri, 2002; Loibl, 2006; Stokols, 2006; Pohl & Hirsch Hardon, 2007; in Pohl, 2010). “You might think: \ That is no problem for me; I am open to other viewpoints; I tolerate them” (Pohl, 2010). In study of Quintuple Helix Model as mentioned above, interdisciplinary research has been focused significantly. Interdisciplinary research is a research in which relevant concepts, theories, and/or methodologies from different academic disciplines, as well as the results or insights these disciplines generate, are integrated (Pohl, 2010). Aboelela et al. (2007) capture the essence of the generally accepted meaning: “Interdisciplinary research is any study or group of studies undertaken by scholars from two or more distinct scientific disciplines. The research is based upon a conceptual model that links or integrates theoretical frameworks from those disciplines, uses study design and methodology that is not limited to any one field, and requires the use of perspectives and skills of the involved disciplines throughout multiple phases of the research process” (p. 341; in Bardecki, 2019, p.1181).

With the adding of the “fifth helix of the (natural) environment/environments” to knowledge creation, production, application, diffusion and use, knowledge and innovation (advanced and pluralized Mode 3 knowledge and innovation systems) are transformed to a knowledge and innovation that is sensitive or at least potentially sensitive for “social ecology”: knowledge and innovation, contextualized by society, meets the context of society, the environment. Therefore, the Quintuple Helix has the potential to serve as an analytical framework for sustainable development and social ecology, by conceptually relating knowledge and innovation to the environment. Sustainable knowledge is a knowledge that reflects on the performance and quality of the environment, the natural environment. The Quintuple Helix furthermore

outlines what sustainable development might mean and imply for “eco-innovation” and “eco-entrepreneurship” in the current situation and for our future (Carayannis & Campbell, 2010).

In this model, the Triple Helix system relates to the knowledge economy, the Quadruple Helix to the knowledge society and knowledge democracy and the Quintuple Helix to a broader perspective of socio-ecological transformations and natural environments (Carayannis et al., 2012). Carayannis and Campbell (2009, 2010) saw the importance of natural environments and the Quintuple Helix Model as a way towards sustainable development and social ecology that is the relationship between society and nature and their co-evolution. In this way, the expansion of the Triple Helix Model to include a fourth and fifth helix is interesting in relation to a transformation of society to a forest-based bio-economy. The Quintuple Helix innovation system is problem oriented and aims to function as a way towards socio-ecological transformation that is the transformation of society to a bio-economy or a circular economy and thereby towards sustainability (Carayannis et al., 2012). Ellen MacArthur Foundation (2013; Geissdoerfer et al., 2017; in Kunwar, 2020, p.130) defines circular economy as “an industrial economy that is restorative or regenerative by indentation and design”.

N-Tuple Helices

Carayannis and Campbell (2021), Leydesdorff (2012, FN 24) finally introduced the concept of the N-tuple of Helices (Carayannis & Campbell, 2021) that argued an N-tuple of helices can be expected in a pluriform and differentiated society. Zhou and Etzkowitz (2021) argue the notion of N-tuple Helices, emphasizing that within the Triple Helix, the actors are inherently human beings situated within interacting institutional spheres, rather than mere elements within the innovation system. Their critique cautions against misinterpreting the role of the Triple Helix within the broader innovation ecosystem and highlights potential misunderstandings that may arise from more complex models such as the Quadruple, Quintuple, or N-tuple Helix (Zhou & Etzkowitz, 2021). Leydesdorff (2012; in Kolehmainen, Irvine, Stewart, Karacsonyi, Szabó, Alarinta, & Norberg, 2016) wrote the N-tuple of Helices have even been called a "paradigm" for the development of increasingly better models (Park 2014; in Kolehmainen et al., 2016). Business life and innovation are in a

constant flux, and the changes are reflected in new and emerging characteristics. Paradigms can be understood as basic fundamental, upon which a theory rest. In that sense paradigms are axiomatic premises which guide a theory, however, cannot be explained by the theory itself: but, paradigms add to the explanatory power of theories that are interested in explaining the (outside) world. Paradigms represent something like belief (Carayannis & Campbell, 2009, p.219).

Mode 3

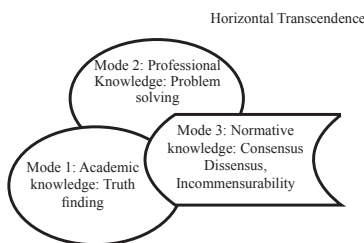
For the first time in the history of academia, the concept of Mode 1 and Mode 2 since 1994 came into existence that expanded to Mode 3 in different periods of time through conceptualization, invention and implementation in the academic world (Gibbons, Limoges, Nowotny, Schwartzman, Scott, & Trow, 1994; Carayannis & Campbell, 2006, 2009, 2010, 2012; Jacob, 2000) focusing on advancement and massification of research and education, the new production of knowledge and knowledge capitalism, innovation, three phases of science and technology and policy (policy for science, science in policy and policy for technological innovation) (Gibbons et al., 1994). Gibbons et al. (1994, p.267) highlight Mode 1 as the complex of ideas, methods values and norms that has grown up to control the diffusion of the Newtonian model of science to more and more fields of enquiry and ensure its compliance with what is considered sound scientific practice. Mode 1 represents traditional research conducted within disciplinary boundaries, emphasizing theoretical advancement through peer-reviewed publication. Mode 1 may be defined as: “academic excellence, which is a comprehensive explanation of the world (and of society) on the basis of ‘basic principles’ or ‘first principles’, as is being judged by knowledge producer communities (academic communities structured according to a disciplinary framed peer review system)” (Campbell & Carayannis 2013, p. 32). In contrast, Mode 2 is shifted from Mode 1 which represented disciplinarity into transdisciplinarity; homogeneity to heterogeneity; hierarchical to heterarchical and transient (Gibbons et al., 1994 Portegies, De Haan & Platenkamp, 2009, p.527; Kunwar, 2018; Carayannis & Campbell, 2010, 2018; in Kunwar & Ulak, 2023). Organizational diversity is also outcome of Mode 2 knowledge production (Gibbons et al., 1994). According to Gibbons et al. (1994, p.267), Mode 2 Knowledge production is carried out in the context of application marked by its: transdisciplinarity; heterogeneity; organisational heterarchy

and transience; social accountability and reflexivity; and quality control which emphasizes context and use-dependence which results from the parallel expansion of knowledge producers and users in society. Mode 2 can be defined as: “problem-solving, which is a useful (efficient, effective) problem-solving for the world (and for society), as is being judged by knowledge producer and knowledge user communities” (Campbell & Carayannis 2013, p. 32). The integration of Mode 1 basic research with Mode 2 problem-solving facilitates the widespread dissemination of high-quality knowledge, contextualized according to societal needs (Carayannis & Campbell, 2009).

Mode 3 “. . . allows and emphasizes the co-existence and co-evolution of different knowledge and innovation paradigms. In fact, a key hypothesis is: The competitiveness and superiority of a knowledge system or the degree of advanced development of a knowledge system are highly determined by their adaptive capacity to combine and integrate different knowledge and innovation modes via co-evolution, co-specialization and co-opetition knowledge stock and flow dynamics” (Carayannis & Campbell 2009; Brandenburger & Nalebuff 1997; in Carayannis & Campbell, 2013, p.1294).

Figure 1

Hybriditized Network Society



Source: Isaac & Platenkamp, 2013, p.178

Kunneman (2005; in Portegies et al., 2009, p.527; Isaac, 2014; Issac & Platenkamp, 2013, p.178) introduced Mode 3 Knowledge, recognizing the necessity to address "slow questions" concerning existential fulfillment, such as sickness, death, and repression, along with moral virtues like compassion, inner strength, and wisdom. These aspects were often overlooked in traditional knowledge production modes but remain crucial across generations and locations. Mode 3 knowledge acknowledges

the influential role of values and meaningful interpretations in addressing real-world problems, particularly in the context of Mode 2 applications. It signifies a shift from normal science to post-normal science, integrating descriptive and normative forms of quality control, and emphasizing ethical and moral values in governance (Issac & Platenkamp, 2013; Isaac, 2014). However, this overall study is based on the Triple Helix including other helices as mentioned above.

Mode 3 knowledge productions, in combination with the widened perspective of the Quadruple Helix and Quintuple Helix, emphasizes an Innovation Ecosystem (social and natural systems and environments) that encourages the co-evolution of different knowledge and innovation modes as well as balances nonlinear innovation modes in the context of multilevel innovation systems. Hybrid innovation networks and knowledge clusters tie together universities, commercial firms, and academic firms. Mode 3 may indicate an evolutionary and learning-based escape route for Schumpeter's "creative destruction" (Carayannis & Ziemnowicz 2007; in Carayannis & Campbell, 2010). Creative destruction, which was coined in 1942, refers to the incessant product and process innovation mechanism by which new production units replace outdated ones (Caballero, 2008).

In the helix studies, scholars have given attention on Mode 3 in different lines that extends beyond formal institutions, involving broader societal participation and prioritizing the democratization of knowledge production through interdisciplinarity and open innovation. Carayannis and Campbell (2010, 2012) propose Mode 3, emphasizing collaborative integration among stakeholders for co-creating knowledge to address societal challenges. This strategy promotes open innovation and diversity in knowledge modes, enabling different knowledge paradigms to evolve and specialize together, thus advancing knowledge-based societies and economies.

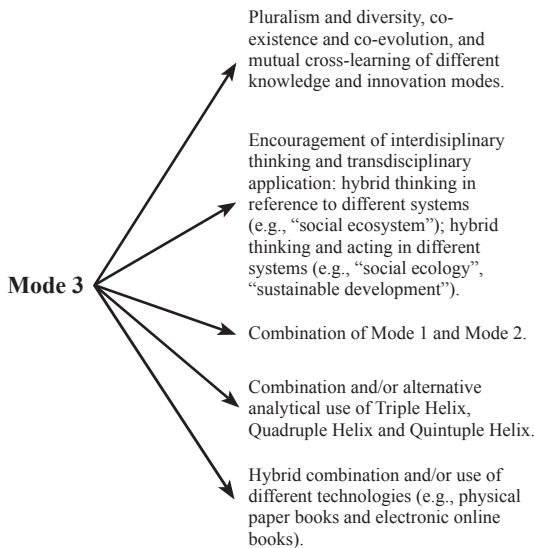
Until now, Mode 3 has been examined by two groups of scholars: one focusing on knowledge and innovation, and the other on tourism and hospitality. The first group Carayannis and Campbell (2006, 2009, 2010) have investigated Mode 3 in relation to knowledge and innovation. Similarly, the second group, represented by Isaac and Platenkamp (2013; Isaac, 2014) have explored responsible tourism within the context of Mode 3, although their focus differs from that of the knowledge

and innovation studies. The application of Mode 3 in responsible tourism could prove highly beneficial in shaping human values and upholding moral and ethical standards, thereby contributing to fostering harmony within the academic realm of tourism.

As a more far reaching conceptualization of knowledge production Carayannis and Campbell (2012) postulate and introduce a new approach that they called it as Mode 3 knowledge production system (expanding and extending the “Mode 1” and “Mode 2” knowledge production systems), which is at the heart of the Fractal Research, Education and Innovation Eco-system (FREIE), and consisting of “innovation networks” and “knowledge clusters” for knowledge creation and diffusion and use (Carayannis & Campbell, 2006a; in Carayannis & Campbell, 2012, p.3). The understanding of FREIE “...is multilayered, multimodal, multinodal, and multilateral system, encompassing mutually complementary and reinforcing innovation networks and knowledge clusters consisting of human and intellectual capital, shaped by social capital and underpinned by financial capital” (Carayannis & Campbell, 2012).

Figure 2

Key Features and Propositions of Mode 3



Source: Carayannis and Campbell, 2010, p.53

Transformation of Science Systems

According to Hessels and Lente (2008), the transformation of science systems is focusing on the emergence of various trends and the prominent concept of "Mode 2" knowledge production. It discusses how Mode 2 knowledge production represents a shift towards a more interactive and socially distributed research system, characterized by factors such as context of application, trans-disciplinary, heterogeneity, reflexivity, and novel quality control criteria. Gibbons et al. (1994) are credited for introducing the Mode 2 concept, arguing that it complements traditional disciplinary structures rather than replacing them. However, the concept has generated both praise and criticism within the academic community. There are alternative approaches to understand science system changes that include: finalization science, strategic research/science, post-normal science, innovation systems, academic capitalism and post-academic science.

They were Bohme et al. (1983, 1973; in Hessels & Lente, 2008) who introduced the concept of 'finalization science', which outlines the progression of science and its interaction with society. 'Finalization' offers insights into the evolving science-society relationship and provides actionable recommendations (Bohme et al., 1983; Weingart, 1997; in Hessels & Lente, 2008). Similarly, the concept of strategic research or strategic science was introduced by Irvine and Martin (1984; in Hessels & Lente, 2008) that focus on shaping policy objectives by prioritizing elementary scientific inquiry to address practical challenges. Likewise, Funtowicz and Ravetz (1993; in Hessels & Lente, 2008) came up with the concept of "post-normal science" as a prescriptive approach addressing the limitations of rational decision-making, especially in policy-relevant fields. Innovation studies emphasize the importance of interactions among various stakeholders in innovation processes. Another concept of innovation systems within transformation of science systems serves as both a descriptive and prescriptive framework, aiming to elucidate the complexity of innovation systems and advocate for systemic innovation policies (Smits & Kuhlmann, 2004; in Hessels & Lente, 2008). Academic capitalism denotes market-driven activities within academic institutions (Slaughter & Leslie, 1997; in Hessels & Lente, 2008). They distinguish two types of such activities: the pursuit of external funding through competitive means, and market-oriented initiatives

like for-profit ventures and patenting endeavors. Ziman (2000; in Hessels & Lente, 2008) presents the concept of post-academic science, which integrates elements from various theoretical frameworks including Mode 2, academic capitalism, and post-normal science.

Knowledge Economy

The concept of a knowledge economy comes from Fritz Machlup, the Austrian-born economist (Etzkowitz, 2003; Machlup, 1962; in Viale & Etzkowitz, 2010). The ‘knowledge-based economy’ was first introduced at a workshop of the Organization of Economic Cooperation and Development (OECD) in 1994 by Foray and Lundvall (1996; in Leydesdorff, 2010) which is only one of many conceptual framework developed over the last 60 years to guide policies and competes for influence with other frameworks such as national innovation system and Triple Helix. Abramowitz and David (1996; in Leydesdorff, 2010) suggested about the ‘codified knowledge’ in the same workshop. Codified knowledge as a basis for the organization and conduct of economic activities, including among the latter the purposive extension of the economically relevant knowledge base. While tacit knowledge continues to play critical roles, affecting individual and organizational competencies and the localization of scientific and technological advances, codification has been both the motive force and the favoured form taken by the expansion of the knowledge base (Abramowitz & David, 1996; in Leydesdorff, 2010). The majority of knowledge-based economies typically function within the framework of neoclassical economics, which often fails to fully acknowledge the significance of natural resources and sustainability beyond the scope of market dynamics (Liyanage & Netswera, 2021).

Knowledge-Based Economy has three main dimensions: production, distribution, and knowledge-information. Another description for knowledge-based economy was made by Powell and Snellman (2004; in Demir, GunerenGenc, Aykac Alp., ...Yildirim, 2015) in which they identified (i) new science-based industries, (ii) knowledge-based labor for the new industries existing in the knowledge society, and (iii) learning and continuing innovation by firms (Sharma, Ng, Dharmawirya, & Samuel, 2010; in Demir et al., 2015). According to Leydesdorff (2010), there are three sub-dynamics reproduced as functions of a knowledge-based economy and they are: (1) wealth generation in the economy, (2) novelty generation by organized

science and technology, and (3) governance of the interactions among these two sub-dynamics by policy-making in the public sphere and management in the private sphere. The economic system, the academic system and the political system can be considered as relatively autonomous subsystems of society which operate with different mechanisms. However, in order to describe their mutual interdependence and interaction with respect to knowledge creation, one first needs to distinguish these mechanisms.

The capitalization of knowledge comes from dynamics within knowledge production itself rather than financial capital invading and controlling knowledge (Etzkowitz, 2008). The capitalization of knowledge denotes the transformation of knowledge into capital and the processes through which this takes place, such as intellectual property rights and the patent system, corporate research labs and consortia, technology transfer and ---venture capital (private and public), incubators, etc. As the capitalization of knowledge occurs, capital also gains more knowledge capabilities (Etzkowitz, 2008). In course of studying knowledge economy, the term “knowledge industry” was also suggested by Malchup for the first time to describe knowledge industries in the context of his new idea of the knowledge economy (Nyiri, 2002). According to Nyiri (2002; Kunwar & Ulak, 2023), knowledge industries are those industries which are based on their intensive use of technology and/or human capital.

Knowledge Society

The progression of this model can be related to the development of a knowledge society. Though Lane (1966, p.650; in Stehr, 1994, p.5) has define what knowledgeable society is; Bell (1973a, p.37; in Stehr, 1994) indicates that he could have substituted ‘knowledge society for ‘post industrial society’ because either the term, and others, for example ‘intellectual society’ (Bell, 1964, p.49; in Stehr, 1994). As Bell (1968, p.198; in Stehr, 1994) indicates that post industrial society is clearly ‘a knowledge society in a double sense: first, the sources of innovation are increasingly derivative from research and development (and more directly, there is a new relation between science and technology because of the centrality of theoretical knowledge); and second, the “weight” of the society-measured by a larger proportion of the Gross National Product (GNP) and a larger share of employment-is increasingly in the

knowledge field' (Stehr, 1994).

Viale and Etzkowitz (2010) highlight that knowledge encompasses not only the representation of the physical and human world but also the ways in which we engage with it. They propose a categorization of knowledge into two distinct types: ontic and deontic. Ontic knowledge focuses on analyzing the world as it is, while deontic knowledge centers on how it can be altered or influenced. These categories of knowledge can be further understood through two primary modes: the analytical mode, which concerns the linguistic expressions used to convey knowledge, and the cognitive mode, which relates to the psychological processes involved in representing and processing knowledge. Viale and Etzkowitz (2010) suggest that two key epistemological factors, the level of generality and complexity, influence how knowledge is generated and transferred within organizations.

In a systematic (social, societal) understanding, knowledge creation and knowledge production often are associated more closely to research, basic research and sciences, thus a function of universities (HEIs), embedded in a national or multi-level innovation system, is to focus exactly on knowledge creation and knowledge production. Knowledge creation and production are being complemented by the concepts of knowledge application, knowledge diffusion and knowledge use (equivalent to innovation). This could imply to think of two sides of knowledge: knowledge creation and production on one hand, and knowledge application and use on the other (Carayannis & Campbell, 2010, p.44).

According to Ghisi (2010), the Knowledge society is a post capitalist society. Everything is changing in this new economy, but nobody tells us anything....(Ghisi, 2010). Ghisi (2010) has also mentioned about the trans-modern knowledge society. In course of analyzing the features of trans-modern knowledge society, Ghisi (2010) has highlighted ten major points of knowledge society which are as follows.

1. The value creation process is immaterial and post capitalist: The very core of any economy is the value creation process. The new value creation process no longer adds value to an object (like in industry), but applies knowledge to knowledge in order to create new knowledge (Drucker, 1994; in Ghisi, 2010, p.43). And knowledge is like Love. The more you share, the more you have.

This is exactly the opposite of capitalist logic (never share your capital!).

2. Post capitalist tool of production is human brain in networks: Every evening the tool of production goes back home. If management is not human centered, the people (the tool of production) go elsewhere with their knowledge and the company fails.
3. Post capitalist & post industrial management: Management Must become human centered, thus humanist. Hence the growing importance of HRD (Human relations departments). In the negative scenario, management will manipulate the employee's brains.
4. Post capitalist economy and society: Peter Drucker (2005; in Ghisi, 2010) explains that financial capital and technology are becoming less important than "human capital". According to him, we are already in a "post capitalist society". But nobody says anything and we continue to manage the new within the old industrial system. Hence the crisis.
5. Post capitalist qualitative Measurements: How do we measure knowledge? There is too much information and knowledge on the WEB. People look for quality of knowledge and wisdom. The stock markets now use qualitative tools of measurement called "intangible assets" (Sveiby, 1994; in Ghisi, 2010, p.44) in more than 50% of the cases.
6. Post capitalist exchange system and money: It is impossible to trade knowledge, because you keep the knowledge you are "trading". In the new knowledge society, you can only "share" knowledge. The "free trade" slogan is outdated in this new economy, as it becomes "free sharing of knowledge" ("Open source"). This means that it is possible to shift to a post industrial and post capitalist money system. The crisis of the industrial financial system is obvious.
7. Post capitalist strategy: from win-lose to win-win: In the new economy, competitors are collaborating in "communities of practice" (Verna, 2002; in Ghisi, 2010, p.44). The soft approach of a win-win strategy is much more efficient. Women are usually twice more efficient in this new type of Knowledge Society Management.

8. Post capitalist Patenting policy: It becomes almost impossible to patent knowledge, because knowledge always leaks (Cleveland, 1997; in Ghisi, 2010). Generic medicines are winning everywhere despite the big fight of the Pharmaceutical companies. Open Source programs are winning more space and importance as China has already chosen Linux and IBM has chosen "Open Source" policies. This induces more transparency in our societies.
9. Post capitalist structures in networks: It is impossible to create knowledge in a pyramidal structure, because information and knowledge do not circulate in a pyramid. Companies have thus to switch to a network structure. The patriarchal "command control and conquer" systems are completely obsolete as it is impossible to control a network.
10. Post capitalist concept of growth: This is one of the best pieces of news. What becomes crucial in this new economy is the quality of knowledge and of wise action. Those new important issues are qualitative. They give a precious indication that we are changing the cornerstone of the industrial-capitalist concept of growth. From quantitative growth we are shifting full speed to qualitative growth. This new growth could be oriented towards a genuine sustainable world economy because only qualitative growth is still possible in our finite world.

The constitution of what could it be called the “Knowledge Capital” of the enterprise, defined as “the set of scientific and technical information and knowledge produced, acquired, combined and systematized by one or more company within a particular productive aim, and more broadly, within a process of value creation” (Laperche, 2017, p.33; Laperche, 2024, p.321) is embedded in its social context. This means that the whole society contributes - this was true in the past and is most true in the current context of open innovation—to its formation (Uzunidis, 2018; in Laperche, 2024): the state through its industrial, territorial, financial, and innovation policies; the universities and other public institutions; all the innovative companies whatever their size that feed (through cooperation) the knowledge capital of the largest companies, organized in mature sectors into globalized oligopolies.

Knowledge Democracy

The democracy of knowledge or knowledge democracy, as a concept and metaphor, highlights and underscores parallel processes between political pluralism in advanced democracy, and knowledge and innovation heterogeneity and diversity in advanced economy and society. There is found a hybrid overlapping between the knowledge economy, knowledge society, and knowledge democracy (Carayannis & Campbell, 2010, pp. 55-58, 60-61).

Knowledge democracy refers to an interrelationship of phenomena (Hall, & Tandon, 2007). “The concept of knowledge democracy acknowledges the importance of multiple knowledge systems (Hall & Tandon, 2007; Rowell & Call-Cummings, 2020). Carayannis (2020; in Carayannis & Campbell, 2021, p.2051) quotes that “Democracy and the Environment are Endangered Species”. According to Carayannis and Campbell (2021; Cai & Lattu, 2022), Quadruple and Quintuple Helix innovation systems are based on democracy and ecology. They further elaborate that knowledge and innovation evolution depend on democracy and knowledge democracy because it is difficult for further advancement of knowledge and innovation without democracy or knowledge democracy; likewise, ecology and environmental protection represent a necessity and challenge for humanity, but they also act as drivers for further knowledge and innovation. Carayannis and Campbell (2017; in Cai & Lattu, 2022, p.266) highlight knowledge democracy as an important dimension in understanding the context in which innovation players interact with each other for knowledge production and innovation. This corroborates Campbell’s (2019; in Cai & Lattu, 2022) proposition of the global quality of democracy as an innovation enabler.

While studying knowledge democracy in this modern era, E-democracy (a blend of the terms electronic and democracy) is a new concept based on digitalization of democracy also known as digital democracy or internet democracy, uses information and communication technology (ICT) in political and governance processes (Macintosh, 2004; Simone, 2017). Similarly, this concept was tested by Taiwan during Covid-19 pandemic to suppress panic buying behavior of their citizens by going beyond constitutional democracy through bottom-up sharing of information, participatory collective actions, and hacktivism (Liyanage & Netswera,

2021) The term is credited to digital activist Steven Clift (Liz, 3 August 2009). By using 21st-century ICT, e-democracy seeks to enhance democracy, including aspects like civic technology and e-government. According to Hosein, Sim, Saadatdoost, and Hee (January 2014), e-democracy has the potential to incorporate crowd sourced analysis more directly into the policy-making process. Democracy could be shortcut as interplay of two principles (Campbell, 2005; in Carayannis & Campbell, 2010): (1) democracy can be seen a method or procedure, based on the application of the rule of majority; and (2) democracy can also be understood as a substance (“substantially”), where substance, for example, is being understood as an evolutionary manifestation of fundamental rights (O’Donnell, 2004, pp. 26-27; in Carayannis & Campbell, 2010). Dimension of democracy as per Campbell (2008, p.41; in Carayannis & Campbell, 2010; Carayannis & Campbell, 2012) are: politics, gender, economy, knowledge, health and environment.

Diplomacy

“Diplomacy is the art and practice of conducting negotiations between representatives of groups or states. It usually refers to international diplomacy, the conduct of international relations through the intercession of professional diplomats with regard to issues of peace-making, trade, war, economics, culture, environment and human rights. International treaties are usually negotiated by diplomats prior to endorsement by national politicians. In an informal or social sense, diplomacy is the employment of tact to gain strategic advantage or to find mutually acceptable solutions to a common challenge, one set of tools being the phrasing of statements in a non-confrontational or polite manner” (<http://en.wikipedia.org/wiki/Diplomacy>; in Carayannis & Campbell, 2012).

According to Carayannis and Campbell (2012), there are different types of diplomacy of knowledge and they are: science diplomacy, cultural diplomacy, economic diplomacy and innovation diplomacy.

Science Diplomacy (SD) is the exchange of science and technology across borders. A valuable resource and little understood tool of awareness, understanding, and capacity building, its power is not widely known or considered often enough” (http://mountainrunner.us/2007/04/science_diplomacy.html; in Carayannis & Campbell,

2012). Likewise, cultural diplomacy specifies a form of diplomacy that carries a set of prescriptions which are material to its effectual practice. Milton C. Cummings Jr. explains cultural diplomacy as "... the exchange of ideas, information, art, lifestyles, values systems, traditions, beliefs and other aspects of cultures..." (http://en.wikipedia.org/wiki/Cultural_diplomacy; in Carayannis & Campbell, 2012). Similarly, Berridge and James (2003; in Carayannis & Campbell, 2012) state that "economic diplomacy is concerned with economic policy questions, including the work of delegations to conferences sponsored by bodies such as the World Trade Organization (WTO)" and include "diplomacy which employs economic resources, either as rewards or sanctions, in pursuit of a particular foreign policy objective". Rana (2007; in Carayannis & Campbell, 2012) defines economic diplomacy as "the process through which countries tackle the outside world, to maximize their national gain in all the fields of activity including trade, investment and other forms of economically beneficial exchanges, where they enjoy comparative advantage.; it has bilateral, regional and multilateral dimensions, each of which is important"(http://en.wikipedia.org/wiki/Economic_diplomacy; in Carayannis & Campbell, 2012). "The definition of science diplomacy varied widely among participants. Some saw it as a subcategory of "public diplomacy" (soft power). "Innovation diplomacy covers the politics of engagement in the familiar fields of international scientific exchange and technology transfer, but raising these to a higher level as a diplomatic objective" (Carayannis & Campbell, 2012, pp. 6-7).

Artificial Intelligence (AI) and Algorithm

A technological innovation is basically information organized in a new way. So technology transfer amounts to the communication of information, usually from one organization to another". These above definitions reveal that there is found a close relationship between science and society for technological innovation. This will be justified by the statement of Nowotny et al. (2001, p.247). As they write the agora is the public space in which 'science meets the public', and in which the public 'speaks back' to science. Due to the influence of science and technology, the world is now predominated by Artificial Intelligence (AI) and new innovations are supported by AI.

AI is defined as the ability "to make appropriate generalizations in a timely fashion

based on limited data” (Kaplan, 2016, pp.5-6; in Stehr, 2022, p.143) exactly which goals, problem solutions and applications (choices) will be realized is open in principle. In other words, the application for repressive purposes is not excluded. AI can be used as a “less expensive” digital weapon; in fact, at lower cost in several respects compared to conventional methods of repression. In this regard, it could be applied the statement of Stuart Russell, the initiator of the Center for Human-Compatible Artificial Intelligence, clearly expects that “machines more intelligent than humans would be developed this century”; obviously Russell anticipates such an enlargement as a potential danger and therefore now calls for “international treaties to regulate the development of the technology” (Stehr, 2022, p.142). Similarly, the historian Yuval Noah Harari anticipates that “humans are at risk of becoming ‘hacked’ if artificial intelligence does not become better regulated”; to hack human beings means “to get to know that person better than they know themselves. And based on that, to increasingly manipulate you” (Stehr, 2022).

Kaplan (2016; in Stehr, 2022) shows algorithms as repositories of knowledge, that is, of human choices that have an elective affinity to AI; this becomes clear when AI is defined as the ability “to make appropriate generalizations in a timely fashion based limited data”. It is noteworthy to describe an algorithm while discussing AI. An algorithm is a bridge between knowledge as capacity to act and the solution to an issue at hand, or an algorithm represents the closure of the circle between knowledge and a goal. Finn (2019, p.561; in Stehr, 2022, p.140) quotes from a Google document that offers a similar definition: “Algorithms are the computer processes and formulas that take your questions and termed them into answers.” The ability to get something done is in fact accomplished by algorithms; and it is accomplished relentlessly, faster, and without deviating from the coded path. Algorithms apply to virtually all phenomena. The foundations on which algorithms operate are not objective or raw information. As in similar cases of decision-making, algorithms employ socially constructed information. Whether algorithms are capable of learning is a contentious issue, however, for some observers, “algorithms can learn by repeating the same task and improving” (Abiteboul & Dowek, 2020, p.16; in Stehr, 2022, p.141). The solution to the problem to which algorithms respond requires of course a judgment, possibly a series of compromises and presumptions about courses of action that may be available as solutions and their effectiveness.

But once the solution is taken on board, once you have acquired the ability to cook a meal, the bridge between knowledge and action can be passed many times if not indefinitely (Stehr, 2022).

Likewise, incubators and science and technology parks (STPs) are examples of these environments as well as mechanisms to support innovation and regional development that are integrated to regional innovation ecosystems, together with educational and research institutions, and the public and private sectors (Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores (Anprotec, 2012; in Mineiro & Castro, 2021). Similarly, science and technology parks (STPs) are a special type of agglomeration which is part and parcel of innovation studies (Albahari, 2021). Technological innovation has been a powerful force for industrial development, productivity, growth and indeed, our rising standard of living throughout history, but intense study of its industrial role and influence is a relatively recent phenomenon (Abernathy & Clark, 1985, p.3).

Green Knowledge

The main outcome of the Quintuple Helix is green knowledge, green economy, green growth and social ecology. Cabrita, Cruz-Machado, Matos and Safari (2016) use “green knowledge” as knowledge that is created, developed and applied in order to understand environmental problems and to deal creatively with their resolution. Green knowledge represents the fuel of green economy and eco-innovation (developing product and services with minimized impact on environment (OECD, 2007; in Cabrita et al., 2016) plays a crucial role as a driver of green and circular economy (Horbach, 2015; in Cabrita et al., 2016, p.129). Furthermore, the proposed green universities enable the production of green knowledge and innovation in their mainstream process (Liyanage & Netswera, 2021).

The green knowledge and innovation could be produced with six types of knowledge systems, they are: Mode 1, Mode 2, Mode 3, THMI, QuadHMI, and superior-quality QuinHMI. Therefore, it is essential that the conventional structure of the university should be reconfigured accordingly. In other words, the proposed green university system should enable the contextualization of other knowledge systems. In this regard, eight requisites for reconfiguration were identified as green

corporate governance, green corporate culture, three pillars of sustainability, green curriculum, green research, green community outreach, green internal environment, and green reporting (Liyanage & Netswera, 2021).

Green economy (GE) stands differently ‘as it accounts natural capital and ecological services as having economics value with a full cost accounting regime in which costs externalized onto society via ecosystems are reliably traced back to, and accounted for as liabilities of, the entity that does the harm or neglects an asset’ (Wikipedia, 2012; in Adhikary, 2012, p.77). United Nations Environment Program (UNEP) defines a green economy as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”. Under this consideration ‘growth in income and employment are driven by investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services (UNEP, 2010; in Adhikary, 2012, p.79). In essence, green economy is low-carbon, resource efficient, and socially inclusive. Dahal (2012; in Adhikary, 2012, p.80) points out five key elements of green economy. They are: (1) generation and use of renewable energy, (2) energy efficiency, (3) waste minimization and management, (4) sustainable use of existing natural resources, and (5) green job creation.

Green growth is a method of resolving environmental issues that places trust in developing science and innovation. A few of the relationships it has are with the economy, resources, environment, technology, politics, market, culture, and people. It is a sustainable approach that puts resource conservation, economic growth, and environmental friendliness first (Gazzola, Dal Campo, & Onyango, 2019; Lingling, Chun-you, & Jing Tao, 2015; Zhou, Luo, Dong, & Zhao, & Wang, 2021; Stoica, Roman, & Rusu, 2020; in Quacoe et al., 2023).

Carayannis and Campbell (2009, 2010) saw the importance of natural environments and the Quintuple Helix Model as a way towards sustainable development and “social ecology” that is the relationship between “society and nature interactions” between “human society” and the “material world”(Fischer-Kowalski & Haberl, 2007; in Carayannis & Campbell, 2013, p.1296) and their coevolution. In this way, the expansion of the Triple Helix Model to include a fourth and fifth helix is interesting in relation to a transformation of society to a forest-based bioeconomy.

The Quintuple Helix innovation system is problem oriented and aims to function as a way towards socioecological transformation that is the transformation of society to a bioeconomy or a circular economy and thereby towards sustainability (Carayannis et al., 2012).

Greening University as a Proposed Model

A proposed design named “green university system,” which integrates all essential elements of a green university, could be incorporated into the conventional structure of the universities so that they enable the production of high-skilled human capital with sustainable values to protect the ecology by being a green university in a KBE. Further, the universities designed for sustainable development enable collaboration, contextualization, and co-creation of green knowledge and innovation effectively and efficiently with all five helices. As far as green knowledge is concerned, Jamison (2001; in Cabrita et al., 2016, p.129) analyzes that green knowledge is not so much about the environmental conditions in which we live but more about how we should operate taking into account to pursuing more sustainable paths of socio-economic development.

Besides, universities those are not sustainable enable ascertaining their status quo and transform their universities into sustainable universities by adopting the proposed design. In support, Di Nauta et al. (2015; in Liyanage & Netswera, 2021) point out that universities are accountable for developing the country in which it operates. They have to offer solutions by collaboration and co-create developing instruments, tools, and models for social issues. Velazquez et al. (2006; in Liyanage & Netswera, 2021) define the sustainable university as “A higher educational institution, as a whole or as a part, is one that addresses, involves and promotes, on a regional or a global level, the minimization of negative environmental, economic, societal, and health effects generated in the use of their resources in order to fulfill its functions of teaching, research, outreach and partnership, and stewardship in a ways to help society make the transition to sustainable lifestyles.”

In this endeavor of developing a purposeful design called Green University System, the definition of Velazquez et al. (2006; in Liyanage & Netswera, 2021) is a good starting point. They define the sustainable university as “A higher educational

institution, as a whole or as a part, is one that addresses, involves and promotes, on a regional or a global level, the minimization of negative environmental, economic, societal, and health effects generated in the use of their resources in order to fulfill its functions of teaching, research, outreach and partnership, and stewardship in ways to help society make the transition to sustainable lifestyles.” This definition reflects that the sustainability prevails in a socioeconomic and environmental relationship, the three pillars of sustainability.

The institutional logics by 2030 Agenda for 17 SDGs, Paris Climate Agreement, Nationally Determined Contribution of Botswana, and the helix models empower to shift from existing isomorphism to a contemporary isomorphism by contextualizing and producing green knowledge and innovation system with the other knowledge systems, Mode 2; THMI; Quad- HMI; in particular, Mode 3; and QuinHMI. These knowledge systems evolve from the knowledge-based society, knowledge-based democracy, and knowledge-based economy to the knowledge society, knowledge democracy, and knowledge economy (Campbell & Carayannis, 2009, p.224; Liyanage & Netswera, 2021). There is a need to develop a purposeful design called Green University System for greening a university as this is a proposed model for Botswana (Liyanage & Netswera, 2021). The universities’ stakeholders in Botswana view that the production of green knowledge and innovation is vital. Therefore, the universities’ conventional structure should be reconfigured so that the universities enable producing green knowledge and innovation up to the broadest superior level of the knowledge system, Mode 3, and QuinHMI (Liyanage & Netswera, 2021).

There are eight knowledge clusters/eight requisites/eight elements of green university, green corporate governance, green corporate culture, three pillars of sustainability, green education, green research, green community outreach, green internal operations, and green reporting. The authors argue that this green university model is not only applicable to Botswana, but also can be adopted this model by any other conventional universities around the world. The model has been designed empirically. The other researcher can test the model to confirm, vary, contradict, or repudiate the model based on empirical evidence (Liyanage & Netswera, 2021).

As Liyanage and Netswera (2021) expressed that a change in universities is also inevitable in the fast-paced world. Likewise, Torraco (2005) argues that there

are two distinct theoretical frameworks to change universities i.e. “O” theory (Organization Development) and “E” theory (Beer & Nohria, 2000; in Torraco, 2005). Top management-driven change, E, is entirely different from the O theory’s participatory nature. With expert consultants’ help, the top management creates new strategies and structures to have systemic change for increasing the organization’s economic value. Beer and Noria (2000; in Torraco, 2005) argue that both theories, O theory and E theory, can achieve a planned change of the organization and mix both systems to reduce costs and increase the benefits. Hence, the transformation of traditional universities to sustainable university in a knowledge-based economy is an innovation which requires an institutional change which can be achieved by theory O or theory E.

Conclusion

“The empires of the future are the empires of the mind” (Winston Churchill, 1945; in Carayannis & Campbell, 2009, p.222; 2012, p.47)

The Triple Helix Model emphasizes the symbiotic relationship between academia, industry and government in knowledge production has become integral to driving innovation and significant progress globally. Academia serves as the foundation for knowledge creation and industry applies this knowledge to innovate new products and technologies. Likewise, government provides support, funding and regulations that help to facilitate these interactions and ensure sustainability. Understanding the importance of this model which is based on partnership and knowledge exchange, it enables stakeholders to overcome the challenges and to ensure economic and social development (Hattangadi, 2022).

All helices have emphasized on the importance of capitalization of knowledge which is considered as economic driver for overall development. The literatures show that the evolution of helix models within innovation theory has advanced from the Triple Helix to more intricate frameworks such as the Quadruple and Quintuple Helix Models developed by Carayannis and Campbell (2006; 2009; 2010; & 2012) each adding layers of complexity and interdisciplinary focus. To use metaphoric terms, the Quadruple Helix embeds and contextualizes the Triple Helix, while the Quintuple Helix embeds and contextualizes the Quadruple Helix (and

Triple Helix). The Triple Helix represents a core model for knowledge production and implication. The Quadruple Helix as a fourth helix in which the “media-based and culture-based public” and “civil society” is conceptualized (Carayannis & Campbell, 2013, p.1296). The Quintuple Helix innovation model adds as a fifth helix (and perspective) of the “natural environments of society” as a pivotal actor in decision-making processes. The Quintuple Helix refers to the socio-ecological transition of society, economy, and democracy; therefore, this helix innovation system is ecologically sensitive.

One of the major outcomes of the Quintuple Helix Model is green knowledge that incorporates green economy; green growth; and social ecology which are the major foundations for sustainability. While understanding the knowledge production related to academia in terms of universities that brought a great transformation of traditional university (Mode 1); entrepreneurial university (Mode 2); and higher education institutions including their sub-units (Mode 3) (Carayannis & Campbell, 2012, pp. 24-25).

This study has shed light on the importance of green university as a model proposed in Botswana. This is completely a new model ever came out in the academic world. Both Quadruple and Quntuple Helix focuses on Mode 3 Knowledge production. Mode 3 knowledge production as developed by Carayannis and Campbell (2006) focuses on advancement and massification of research and education. Though this study is based on two helices including N-tuple Helix through the lens of Mode 3 knowledge production, some scholars have applied this model in the field of responsible tourism as well (e.g., Kunneman, 2005; in Platenkamp, 2007; Portegies et al., 2009, p.527; Issac & Platenkamp, 2013, p.178; Isaac, 2014). Further research should be continued in this global theory of helix studies.

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