

**CHALLENGES AND OPPORTUNITIES OF BORDER
SECURITY AT MUSTANG DISTRICT**



A Thesis

Submitted to APF Command and Staff College

Faculty of Humanities and Social Science

Tribhuvan University

In Partial Fulfilment of the Requirements

For Master's Degree in

Security, Development and Peace Studies

Submitted by

YUKESH UPRETI

Ninth Batch (2080-2082)

Roll Number: 123740112

TU Registration No: 7-2-468-50-2005

APF Command and Staff College

Sanogaucharan, Kathmandu, Nepal

April 2025

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DECLARATION

I, YUKESH UPRETI declared that the thesis entitled **CHALLENGES AND OPPORTUNITIES OF BORDER SECURITY AT MUSTANG DISTRICT** submitted to APF Command and Staff College is my own original work unless otherwise indicated or acknowledged in the thesis. The thesis do not contain materials which has been accepted or submitted for any other degree at the University or other institution. All sources of information have been specifically acknowledged by references to author or institution(s)

.....

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LETTER OF RECOMMENDATION

This thesis entitled **CHALLENGES AND OPPORTUNITIES OF BORDER SECURITY AT MUSTANG DISTRICT** has been prepared by **YUKESH UPRETI** under my guidance and supervision. I hereby recommend it in partial fulfilment of the requirement for the Master's Degree in Security, Development and Peace Studies, Tribhuvan University. I hereby recommend this thesis for the final evaluation and approval

.....
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Thesis Supervisor

April 2025



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LETTER OF APPROVAL

This thesis entitled **CHALLENGES AND OPPORTUNITIES OF BORDER SECURITY AT MUSTANG DISTRICT** submitted by **YUKESH UPRETI** to APF, Command and Staff College, Faculty of Humanities and Social Science, Tribhuvan University in partial fulfillment of Master Degree in Security, Development and Peace Studies has been approved by the undersigned members of the Evaluation Committee.

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Yukesh Upreti

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ABSTRACT

Border security is a fundamental aspect of national security, sovereignty and independence. Border security particularly in high altitude geographically challenging regions like Mustang district of Nepal is crucial for cross-border governance. This study explores the challenges and opportunities in securing the Nepal-China border, focusing on four key dimensions: physical security, trans-border crime, revenue support and civic action. By adopting a pragmatic world view, this research uses an exploratory sequential mixed model method design in gaining the insights to meet the objective of research from multiple perspective. Both primary and secondary data are extracted for this paper. In terms of qualitative analysis, primary data are taken from Key Informant by using purposive sampling technique and for FGD homogenous sampling are engaged. For quantitative analysis, field survey was conducted using purposive stratified sampling technique form 68 government official from Mustang district. Findings from qualitative analysis reveal 37 thematic area of challenges, opportunities and strategy under physical security, trans-border crime, revenue support and civil actions for Mustang border security. Mustang's high-altitude terrain, extreme weather and limited infrastructure create significant barriers to effective border management. Security forces face logistical difficulties in patrolling and monitoring due to the lack of road networks, harsh climatic conditions, and inadequate technological resources. The high-altitude border, coupled with limited security deployment, contributes to risks such as smuggling, illegal trade, and undocumented cross-border movements. Despite these challenges, the study identifies substantial opportunities, including cross-border trade expansion, infrastructure development, and the use of advanced surveillance technologies such as drones and biometric identification systems. Increased security coordination between Nepalese and Chinese authorities, alongside community participation in border governance, is essential for enhancing security operations. From quantitative analysis, the regression coefficient under border security challenges shows climatic factor has maximum impact with (β) value of 0.494 as a highest factor whereas geographical barrier with (β) value of 0.119 as a lowest factor. In opportunities, local support have a highest (β) value of 0.487 and International collaboration have lowest (β) value of 0.034. Similarly, in strategy use of technology have highest (β) value of 0.487 and BADP have lowest (β) value of 0.086. The study recommends strengthening border security through the establishment of additional outposts, the deployment of modern surveillance systems, and an

improved intelligence-sharing mechanism. Moreover, policy-level cooperation between Nepal and China is necessary to regulate trade, address security concerns, and facilitate controlled border movement. Mustang's border holds economic potential if security frameworks are reinforced to mitigate illicit activities while promoting lawful commerce and tourism. By providing a contextualized analysis of Mustang's border security landscape, this research contributes to policy discussions on high-altitude border governance, offering strategic insights for strengthening Nepal's northern border security.

Keywords: Border security, Nepal-China border, trans-border crime, high-altitude security, border governance.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACAP	Annapurna Conservation Area Project
AD	Anno Domini
AI	Artificial Intelligence
APF	Armed Police Force, Nepal
APFBSD	Armed Police Force, Nepal Border Security Department
Approx.	Approximately
BADP	Border Area Development Plan
BOP	Border Out post
CBS	Central Bureau of Statistics
COVID-19	Corona Virus disease of 2019
CCTV	Closed Circuit Television
Coy	Company
FGD	Focused Group Discussion
GPS	Global Positioning System
GON	Government of Nepal
HDI	Human Development Index
HQ	Headquarters
IFPRI	International Food Policy Research Institute
J.O	Junior Officer

KI	Key Informant Interview
KM	Kilo Meter
MM	Mille Meter
NTB	Nepal Tourism Board
PTRC	Physical Security, Trans-border Crime, Revenue Support and Civic Action
SD	Standard Deviation
SE	Standard Error
SF	Security Forces
Sq.	Square
S.O.	Senior Officer

CHAPTER I

INTRODUCTION

1.1 Background of study

Borders of any nations are considered as an essential elements of national integrity, sovereignty and independence. In this globalized world, the citizens of any sovereign nation want to live in peace, security and harmony without being interfered. The borders of any nations can be considered as a wall of nations as it is a first line of defense. A universally accepted definition of borders are geopolitical, legal, and social constructs that limits territorial of a state (Anderson 1996). Borders serve as markers of sovereignty, controlling the movement of people, goods, and services while also influencing economic, cultural, and security policies (Newman, 2006). According to Jones (2012) borders are not just physical demarcations but also socially constructed entities that evolve based on historical, political, and economic factors. It is a place that separate political entity but not social entity. The borders of any nation shape identities and social interactions and unique diversity within the region (Paasi 1998).

From historical evidences, borders have played a fundamental role in human civilization serving as markers for hunting territories and later for agricultural purposes (Brady 2014). However, academic interest in borders emerged much later, gaining significant attention only in the late 1990s. As Brady (2014) noted, the field of border studies has existed in a broad sense after 1920 as an argument on the importance of frontiers. Simply, borders of any nations are territorial boundaries that define the spatial extent of political, administrative, or social entities, serving as markers of sovereignty and control over land, resources, and populations (Anderson, 1996; Paasi 1998; Jones 2012).

Every nation manages its border in order to safeguard its existence. Border management refers to the plan policies and procedures by a country to regulate the movement of people, goods, and services across its borders while ensuring national security and economic development (Anderson, 1996). It covers border control, surveillance, trade facilitation, and cooperation with neighboring countries to prevent illegal activities such as smuggling and human trafficking (Jason, 2009; Bhattacharya, 2021). From this discourse, border security have been an integral part to national security for any nation.

1.1.1 Border security

Border security are the provision undertaken by states in secure the borderland by legal means. It is always a critical issue that covers the multi-dimensional aspect of economic, social, cultural, and security (Harlon & Herbert, 2019). Border security are the measures and strategies implemented by a nation to protect its territorial integrity by preventing unauthorized movement of people, goods, and illicit activities across its borders (Anderson & O'Dowd, 1999). It involves a combination of surveillance, law enforcement, intelligence gathering, and diplomatic efforts to safeguard national security and economic interests (Newman 2006). In today's world, it is crucial role in maintaining stability by addressing geopolitical conflicts, cross-border crimes, and ensuring the sovereignty of a nation. (Sharma, 2018).

The border security differs based on geographical, political, and economic factors. Nations with vast or porous borders face challenges related to illegal trade, human trafficking, and smuggling (Bhattacharya, 2021). Effective border management requires collaboration between multiple agencies, including law enforcement, customs and immigration authorities, to address evolving security threats (Polner, 2019). As highlighted by Jason (2009), border security is may differ due to geography difficulty and remoteness.

1.1.2 High altitude border security

High-altitude border security involves the deployment of specialized security forces to protect mountainous and elevated border regions. These areas pose significant challenges due to extreme weather, rugged terrain, and limited infrastructure, making surveillance and enforcement more complex (Williams, 2016). Effective border security in high-altitude regions requires well-trained personnel, advanced surveillance systems, and logistical support to address threats such as infiltration, smuggling, and territorial disputes (Hoffman, 2018). The geopolitical importance of high-altitude borders often leads to territorial disputes and military confrontations. (Anderson & O'Dowd, 1999). To enhance border security at this area, real-time monitoring are vital requirements. Hence, border security in mountainous areas remains are a critical national security concern (Dhungel et al, 2020).

1.1.3 Challenges and opportunities at high altitude Rural Border

The international borders of any country can serve as an opportunities and challenges based on the geographical, socio-economic, and political context of a country (Anderson & O'Dowd, 1999). Border areas often serve as hubs for trade and commerce, offering opportunities for economic growth and cultural exchange. These regions can act as gateways for international collaboration, tourism, and infrastructure development. Similarly, border areas are also troubled with challenges such as security concerns, illegal trade, human trafficking, and political disputes (Shrestha, 2003). Weak border management can lead to smuggling and unauthorized migration, exacerbating regional tensions (Newman, 2006). In terms of remote and underdeveloped nature of borders can result in socio-economic disparities, limiting access to essential services like healthcare and education (Jones, 2012).

1.1.4 Approaches of Border Management

The border management is more concentrated from functional approach. The theory of functionalism state inter-relation with all the sub-units in borders. Mitrany (1943) introduced the functionalist approach, a concept rooted in international relations and political science. This multidisciplinary perspective emphasizes that nations can collaborate on common issues without compromising their sovereignty, focusing on practical areas such as healthcare, transportation, and border security. Various scholars, including Rosamond (2000), Polner (2008), and Andreas (2003), have supported this approach, contributing valuable insights into both the opportunities and challenges associated with border security and management. A core principle of this theory is the exchange of information and intelligence to strengthen security measures and facilitate effective border governance (Fukuyama, 2013).

Functionalism stresses the importance of creating effective frameworks for cross-border collaboration, focusing on the technical and operational aspects of managing borders. It argues that, rather than political integration, states can achieve greater security and efficiency through collaborative mechanisms that address specific border-related challenges (Buzan et al., 1998). The approach is especially useful in managing complex, issues like border security, where coordinated efforts among multiple stakeholders, such as neighboring countries and international organizations, are critical for success (Fukuyama, 2013). Others approach as border security management framework and border governance framework also fall under this

approach. The detail on theories of border management are discussed in literature review section.

1.1.5 Northern border security of Nepal

In the context of Nepal, border security have been a prime challenge due to its geography (Shrestha, 2018, p. 49). It shares a northern border of approximately 1,414 kilometers with China (Kansakar, 2000), Northern border security of Nepal is highly importance due to the location between two significant neighboring countries, China and India. This region consists of difficult terrain and harsh weather conditions, maintaining effective surveillance and border control is often complicated (Shrestha 2003). This border is vulnerable to risks such as unauthorized crossings, human trafficking, and the movement of illegal goods, particularly through remote and less-patrolled areas (Bhattacharya, 2021).

The border is secured by Armed Police Force, Nepal in order to maintain peace and security. More border outpost are prioritized to control and secure the Northern border (Sharma, 2018). Effective management of this border is necessary for preventing security threats and also for facilitating trade and maintaining peaceful relations between the two countries (Sharma, 2021).

1.1.6 Border security at Mustang district of Nepal

The research is carried out to underscore challenges and opportunities in border security at Mustang district. Covering the dimensions of both challenges and opportunities at high altitude border, this border region have a high-altitude terrain, sparse settlements, and limited infrastructure (Baral, 2019). Geopolitically, the Nepal-China border holds strategic importance, as it serves as a crucial site for cross-border trade, tourism, cultural exchange and security cooperation. However, it is also effected with difficulties such as inadequate infrastructure, smuggling, and potential border disputes. These dynamics make the Nepal-China border at Mustang district a critical for security concerns. Despite its potential, this region faces significant challenges. The rugged terrain and extreme weather conditions hinder the development of transportation and communication networks. Additionally, issues such as illegal trade, human trafficking, and security concerns complicate the effective management of the border (Sharma, 2021).

While several studies have explored Nepal-China border issues in the eastern and central regions, limited attention has been paid to Mustang district. This study aims to address this gap

by analyzing the opportunities and challenges specific to this region, drawing insights knowledge from local stakeholders and border governing agencies. By doing so, it seeks to contribute and add a value of literature on Nepal-China relations and provide actionable recommendations for policymakers. Nepal-China border offers significant potential for boosting trade and commerce. Improved border management can facilitate the movement of goods and services, particularly through key trade points like Hilsa in Humla and Rasuwagadhi (Aryal, 2018). This serve as an opportunities for Nepal and assist on border security of Nepal. Hence, this research is carried to look for both opportunities and challenges in concerning Nepal-China border security at Mustang district.

1.2 Statement of Problem

Border security is highly prioritized task of Government of Nepal (GON). The Nepal-China border at Mustang district, consists ample of challenges and opportunities for better border security management. This area is covered with rugged terrain, thin population and limited infrastructure which make it difficult for effectively border security (Baral, 2019). This area also have an opportunity for enhanced cross-border trade and tourism. Economically, trade and connectivity with China can improve border infrastructure, which can contribute to regional development. The re-opening of Korola border crossing point can facilitate cross border trade, which has the potential to uplift local livelihoods and integrate remote regions into the global economy. Similarly, the cultural ties between ethnic groups across the border can enhance bilateral relations and promote tourism. In despite of this prospects, Mustang district has often been neglected in national security strategies, which have neglected in identifying challenges and opportunities in terms of border security. By identifying challenges and opportunities, better strategies can be adopted for smooth border governance.

It crucial to investigate and come up with solutions to reveal the potentialities of this area. The socio-economic conditions in Mustang district also contribute to border security challenges. The region is among the least developed in Nepal, with high poverty rates and limited access to basic services. These conditions make the local population vulnerable to get engage criminal networks, providing access to get involved in illegal cross-border activities. Also, the lack of economic opportunities at this area is considered as a rampant problem creating vulnerabilities in border security systems. Hence, there is necessary to study on prospects of border security of Mustang. This study seeks to address these gaps by examining the challenges faced by border

security agencies in Mustang district and identifying opportunities to enhance their operational effectiveness. As district is in touch with China, numerous opportunities and challenges can be dig out in order to identify prospects of border security. Beside this, high altitudes challenges also raise a question on investing at the borders of North. Analyzing the opportunities and challenges are the first and crucial step in order understand social reality of the border of Northern Nepal.

The proper study on the prospects of border security at Mustang district, holds a significant opportunities for overall security improvement. The wealthy neighboring relationship helps in improving border security infrastructure, which can foster better bilateral relations by promoting mutual trust and cooperation at Mustang district. In order to grab these opportunities, there is a need to identify several policy, institutional and operational gaps. Addressing these gaps requires a holistic study on understanding the opportunities and challenges in border security. Also addressing these crucial problem can ensuring the security and development of Mustang district and nation security of the entire nation. Hence, this study seeks to explore these challenges and opportunities rigorously and provide with actionable findings for policymakers. The following are the research question stated for the study.

1.3. Research Question

3.1 What are the primary challenges in managing the Nepal-China border at Mustang district?

3.2 What are the opportunities to enhance border security along the Nepal-China border in Mustang district?

3.3 How the challenges can be addressed to maximize the opportunities for effective border management at Mustang district?

1.4. Objective

4.1 To identify primary challenges in managing the Nepal-China border in Mustang district.

4.2 To identify the opportunities to enhance border security along the Nepal-China border in Mustang district?

4.3 To understand the strategies in addressing the challenges to maximize the opportunities for effective border management at Mustang district.

1.5 Significant of the study

Historically, the Nepal-China border in Mustang district holds strategic importance due to its geopolitical positioning, economic potential, and security implications. This area holds a crucial role in Nepal-China border treaty of 1961 A.D. At present, this region is facing significant challenges such as difficult terrain, limited infrastructure and cross-border security concerns such as smuggling and illegal migration. Hence, this research is an attempt to understand the challenges and opportunities in Mustang border security. Identifying different variables in challenges and opportunities will be helpful in understand different strategy to be adopted to address challenges and maximize opportunities. This study will provide valuable insights and actionable findings and had envisioned on benefiting the following stakeholders.

1.5.1 Policymakers

The findings of this research will help policymakers in designing evidence-based strategies to address border security challenges in mountainous regions. By identifying gaps in operational challenges, this study can contribute to the formulation of comprehensive border management policies that will benefit Mustang district and will contribute in entire security, economic development and diplomatic considerations.

1.5.2 Border Governing Agencies

This research will assist border governing agencies in enhancing operational effectiveness by analyzing current security threats and weaknesses. Specifically, the administrative and security agencies of mustang will be facilitated by knowing the field issues which will provide recommendations on strengthening interagency coordination, improving surveillance mechanisms and deploying modern technologies to monitor cross-border activities efficiently.

1.5.3 Practitioners

Security personnel, law enforcement officers and other field practitioners will benefit from this study practical insights into managing security risks in challenging terrains. The study will highlight best strategies and innovative approaches that can be implemented to improve border monitoring, crisis response and overall security preparedness.

1.5.4 Researchers

This study will contribute to the growing body of literature on border security and governance in high-altitude, underdeveloped regions. It will provide empirical data and case-specific insights that researchers can use to analyze broader trends in border security, international relations, and regional security frameworks.

1.5.5 Academia

The study will serve as a valuable resource for scholars studying border governance, geopolitics, and security studies. As this research have highlighted on relationship of geographical, socio-economic and political factors in border security, it will encourage further academic discourse and comparative studies on border security in similar mountainous regions worldwide.

Through these contributions, the study may offer actionable recommendations to strengthen border security, enhance interagency cooperation, and optimize the use of modern technology in Mustang district and beyond.

1.6 Limitation of the study

During this research work, the researcher have faced certain limitation on theoretical, methodological, analytical and sampling limitation. Conducting research in high-altitude border in Mustang district is always challenging due to extreme weather conditions, difficult terrain, bureaucratic delays and security sensitivities. Specially, visiting to the Korola border crossing in despite of extreme cold temperature and less transportation was challenging. These factors had limit the researcher ability to conduct extensive fieldwork. In terms of major limitation, the following aspects were faced by the researcher.

1.6.1 Theoretical Limitations

The research conducted on high-altitude areas faces theoretical challenges due to the limited availability of established frameworks specifically applicable to such contexts. There are many border governance theories developed for lowland or urban border area. This had been quite difficult to fully capture the unique geopolitical, economic and security literature in terms of Border security. Also, specific area such as challenges, opportunities and strategies in border governance is a complex and multidimensional phenomenon that may not be adequately

explained by a single theoretical model. As a result, the study may require the adaptation of many theories to conceptual the major issues in high altitude in different geography.

1.6.2. Methodological Limitations

Understanding challenges and opportunities at Mustang district would be done through qualitative methods. The researcher choice of selecting sequential mixed method was conducted to valid the findings as, most of the literature have common theme on high altitude border security prospects. The use of a sequential mixed-methods approach depends on collecting and analyzing quantitative data first. The researcher was dependent to Key informant and with his direction and guidance others interview and FGD were conducted. This may negatively affect the subsequent qualitative research findings. Also, selection of only border governing agencies for survey may raise question on reliability which was a major limitation of study. Participating all the officers of government agencies, local population, private sector, academia, experts in survey was limited with lack of time.

1.6.3. Sampling Limitations

While conducting survey, selecting appropriate sample to represent the population was difficult. The researcher need to self-judge due to various reason. At border area, many local residents migrate seasonally to avoid extreme weather, so it was difficult to reach a stable sample group. Similarly, government officials and security personnel frequently change postings, it prevent their in depth knowledge and honest feedback for analysis. The use of snowball sampling was necessary to reach crucial respondents, as researcher was also new to this place. Due to which, the risk of bias may rise.

1.6.4 Ethical and Practical Constraints

While conducting this research, some ethical considerations concerning about diverse views between government officials and locals were felt. Most of the government officials gave filtered answers concerning about the security sensitivity. While local communities emphasized on social and economic hardships over governance concerns. Some participants hesitant to give interviews due to fear that they may engage in administrative hassle. This require researcher for extra effort to ensure informed consent and confidentiality. Also, practical constraints such as extreme weather, difficult terrain, and limited access to

transportation, internet, and electricity further hinder the smooth execution of research activities.

Concluding Remarks

Borders of any nation are essential elements of national integrity, sovereignty, and independence. Every citizen seek to live in peace, security, and harmony without external interference. Border security comprises legal and administrative measures undertaken by states to secure borderlands. It covers economic, social, cultural and security dimensions. Border regions present both opportunities and challenges depending on geographical, socio-economic and political factors. Border management can be viewed form different approach, most specifically form functionalism approach. Securing high-altitude border regions pose unique challenges due to extreme weather, rugged terrain, and limited infrastructure. The Northern border of Nepal is characterized by difficult terrain and extreme weather conditions, complicating surveillance and control.

This study is specially focused on examining the challenges and opportunities of border security in Mustang district. Mustang border security is a important due to its geopolitical significance and economic potential. The Korola border crossing can enhance trade and tourism by benefiting local communities. Though, inadequate infrastructure and socio-economic vulnerabilities pose security risks. The region underdevelopment has led to increased engagement in illegal activities. This study is focused to seek answers of three major questions, which are to identify challenges, explore opportunities and examine strategies for addressing challenges and maximizing opportunities for border management. The research can be significant to policy makers, border governing agencies, practitioners, researcher and academia. While conducting this research, limitation such as limited theoretical framework, methodological limitation, sampling limitation and ethical constraints were encountered. The researcher aim to provide actionable insights to enhance border security of Mustang.

CHAPTER II

REVIEW OF LITERATURE

This part of the research provides an overview of what is already known in similar literature. It identifies gaps or inconsistencies and helps to establish a theoretical framework. The goal of a literature review is to critically analyze and synthesize existing research to understand the current state of knowledge on the subject and to contextualize research within the existing body of work (Panta, 2009). The notable contribution in the field border security and Nepal-China border are as mentioned. This part is divided in two sections, the first section consists of theoretical review and second part consists of empirical review.

2.1 Theoretical Review

A theoretical review is a critical component of any thesis that involves examining and analyzing existing theories, models and conceptual frameworks related to the research topic (Creswell, 2009). It helps to establish a strong foundation for the study by identifying the concepts on how different theories interconnect. In this thesis, the researcher have conducted theoretical review to generate the concept on topic and avoid redundancy upon previous findings. There are major four theories contributing to the topic which are as described.

2.1.1 Functionalism Theory of Border Security

The functionalism theory is the oldest concept in border management procedure. Mitrany (1943) conceptualized about the functionalism approach which is rooted in the discipline of international relations and political science. It is a multi-disciplinary approach which asserts that states can work together on shared problems without jeopardizing their sovereignty, focusing on functional areas of mutual interest like health, transportation and border security. Scholars such as, Rosamond (2000), Polner (2008) and Andreas (2003) supported this approach and contributed on numerous findings on opportunities and challenges in border security and management. The essence of this theory is information sharing and intelligence exchange for robust security to manage human affairs at border area. Similarly, Buzan et al (1998) also discusses functionalist approaches to security and their application in cooperative frameworks for border management. This stands for well-functioning of borders and it have opportunities and challenges as well.

Scholars like Anderson and Paasi (1996) suggests that borders should not be viewed merely as territorial divisions but as zones of cooperation that facilitate economic, social, and security integration between neighboring states. This perspective emphasizes the importance of joint border management to address common challenges such as illegal migration, smuggling, and security threats (Anderson & O'Dowd, 1999). This approach presents opportunities for enhancing cross-border trade and infrastructure development, particularly through economic activities and it turn borders into gateways for regional development, fostering better diplomatic relations with both its neighbors while ensuring sustainable security management (Newman, 2006).

However, scholars such as Willams (2016) & Roberts (2017) emphasis that functionalist approach also faces significant challenges in these regions with unresolved territorial disputes and security concerns Despite these challenges, applying functionalist principles through diplomatic engagement, technological advancements in border management, and structured trade agreements can help Nepal transform its borders from areas of conflict into zones of opportunity (Scott, 2012).

2.1.2 Border Security Management Framework

This theory of border security that examines opportunities and challenges is often rooted in the Border Security Management Framework, which integrates aspects of sovereignty, transnational cooperation, and human security. Andreas (2003) focused that borders are not merely lines of defense but dynamic zones of interaction that present both risks and opportunities. Newman (2006) highlights that effective border security lies in the interplay between physical infrastructure, legal frameworks, and community engagement.

Balibar (1998) argues that borders are no longer just physical barriers but multifunctional spaces that impact governance, security and economic integration. He focused on physical security, trans-border crime, revenue support and civic action, all of which are interconnected dimensions of modern border security. The interrelation between opportunities, challenges, and strategies highlights the evolving nature of borders as areas requiring dynamic governance and security strategies.

Newman (2006) suggests that borders function through a combination of enforcement, cooperation and socio-economic exchanges. Borders remain significant both as physical

demarcations and as social constructs. Newman (2006) highlighted the complex and evolving nature of borders, which are not just physical demarcations but also processes of inclusion and exclusion. He focused on cross border cooperation, adaptive border management and cultural exchange and identity formation. His this view can be regarded as opportunities in border management. In challenges, he focused on securitization, borderland marginalization, uneven economic development and competing interests of agencies in making border governance difficult.

The idea of Balibar (1998) aligned with the concept of border security. His argument on borders, not just physical barriers but multifunctional spaces that impact governance, security and economic integration focuses on physical security, trans-border crime, revenue support and civic action, as a dimensions of modern border security. The idea is practicable implemented by many nations of worlds. This idea is taken by the researcher under border security domain. Similarly, Newman (2006) stressed on both challenges and opportunities in border management as both factors are indispensable for any nation.

2.1.3 Traditional Border management Model

Traditional border management theory focuses on the control and regulation of borders to ensure national security, economic stability, and territorial integrity. This approach often emphasizes the need for strict enforcement measures, including physical barriers, surveillance systems, and legal frameworks to manage the flow of people, goods, and information across borders (Anderson M. , 1996). According to Andreas (2003), traditional border management relies heavily on state sovereignty and the idea that borders are fixed, clearly defined lines that need to be protected from external threats. Furthermore, this model prioritizes the prevention of illegal immigration, smuggling, and other cross-border crimes, which are seen as primary threats to national security (Harlon, 2019). These perspectives highlight the conventional view that effective border management requires robust state control mechanisms and international cooperation to address transnational challenges.

Anderson (1996) supported this model as it offers several opportunities for border security, such as ensuring national sovereignty by controlling the movement of people and goods, preventing cross-border crimes like smuggling and human trafficking, and generating customs revenue through regulated trade. This model also faces significant challenges, including difficulties in securing porous borders due to complex terrains, technological limitations that

make manual surveillance inefficient, and the persistent threats of cross-border crimes that exploit weak enforcement mechanisms (Harlon, 2019).

2.1.4 Border Governance Theory

Scholars like Aniszewski (2009) and Andreas (2003) focus on Border governance which refers to the frameworks, policies and institutions that regulate the movement of people, goods, and services across national borders as it is a tool for ensuring security, economic stability, and international cooperation (Aniszewski, 2009). It presents several opportunities for border security, such as enhancing cross-border collaboration, intelligence-sharing, and the adoption of advanced technologies like biometrics and surveillance systems to improve monitoring and enforcement (Andreas, 2003). However, challenges persist, including bureaucratic inefficiencies, corruption, and the difficulty of balancing security with humanitarian concerns, particularly in conflict-prone regions (Heyman, 2012). Without proper coordination and modernized approaches, border governance may struggle to address emerging threats such as transnational crime, terrorism, and cyber-enabled smuggling networks (Harlon, 2019).

2.2 Empirical Review

There have been multiple research conducted in Nepal-China border management in different domain. Most significantly, research on cross border trade and its prospects are studied by many researcher. Bhattari (2017) explored trade relations between Nepal and China, focusing on the volume, types of goods exchanged, and infrastructure challenges. These challenges are due to geographical situation and security lapses. Aryal (2018) mentioned that cross-border trade facilitation is impacted by bilateral trade agreements. It emphasized issues like poor road connectivity and customs delays at key border points like Rasuwagadhi and Tatopani. Both the research have common findings on insufficient infrastructure at border points. Nepal is dependent on China for manufactured goods and technology. And the Nepal-China border is filled with challenges of harsh geographical terrain.

Similarly, in Nepal-China border security and management, multiple author have stress on key factors. Shrestha (2018) mention Nepal-China border as a regulated border and have less functional approach. In comparison, this border is silent than Nepal- India border, even though the security part cannot be neglected. Similarly, Adhikari, (2020) considered Nepal-China border security management as less prioritized and need to concentrate on illegal trade, and minor border disputes. It emphasized the need for technological upgrades and bilateral

cooperation. Poudel (2019) focused on the role of security agencies in controlling illicit activities and ensuring safe border passage prioritizing coordination among security agencies in Nepal by adopting surveillance technologies like drones and CCTV.

In geopolitical and strategic concerns, scholars like Thapa (2019) and Bista (2021) analyzed the geopolitical dynamics of Nepal-China border relations, considering China Belt and Road Initiative and its influence on Nepal. They also raise a concern on China growing presence and influence on Nepal's foreign policy and ultimately have an effect on border security. The researcher considers Nepal position as a strategic buffer state and increasing Chinese investments in infrastructure, such as highways and railways may raise a geopolitical concerns from India and Western countries over Nepal-China relations.

Lama (2018) explored the cultural exchanges between border communities in Nepal and Tibet stating a shared traditions, religious practices, and the role of tourism in strengthening people-to-people ties. Similarly, Gurung (2017) focused on the economic dependence of Himalayan communities on cross-border trade and seasonal migration. These all the findings are interconnected with the security concerns and the government of Nepal need to be more active in identifying the opportunities and challenges of Nepal- China border relations.

According to Andreas (2003), physical infrastructure serves as the first line of defense against unauthorized crossings and smuggling. However, underdeveloped border regions, such as those in Nepal, often face significant infrastructural gaps, making them vulnerable to illicit activities. Johnson (2016) highlight that smart borders leveraging modern technologies can balance security needs with the facilitation of trade and mobility.

Murton (2017) mentions the complex and vital role of infrastructure development along the Nepal-China border where he focus on infrastructure projects such as roads and aid systems are intertwined and influence on the border area development. His findings reveals the geography and terrain at high- altitude act as a major hindrance for development. Murton argued that local project has expanded into a component of international transportation networks and influencing border regimes, trade policies, and humanitarian efforts. These components indicates opportunities for border governance.

Bhattari (2021) examines Nepal norther border as a geopolitical contestation and diplomatic challenges for strategic and security concern from neighbor initiatives. He stressed that northern border access to Chinese markets, infrastructure projects, cross-border tourism and

cultural exchanges as a prospects whereas political sensitivity, climatic and geographical conditions as a major challenge.

Baral (2019) explores the complex trilateral relationship between Nepal, China, and India, emphasizing how geopolitical shifts and economic interdependencies shape their interactions. He stressed on challenges such as geopolitical rivalry, security dependency risk and security concern. Also opportunities Trade and Connectivity Energy Cooperation and tourism Development.

According to Newman (2006), human resources are essential for interpreting data, conducting inspections, and maintaining security. Newman view can be linked in Mustang district, the limited presence of border personnel due to logistical and budgetary constraints undermines security efforts. Similarly, Acharya (2001) stresses that harmonizing national laws with international agreements is vital for effective border governance. Donnan (2012) emphasize the importance of community-based initiatives, particularly in regions with historical socio-cultural ties across borders.

Dhungel et al (2020) geopolitical pressures make it difficult for Nepal to assert its sovereignty while maintaining stable relations with India and other influential global powers. Addressing these challenges requires a well-coordinated approach, including diplomatic engagement, legal reinforcements, and strategic policymaking to safeguard Nepal's territorial rights.

2.3 Summary of Review

Theme	Researcher	Focused Area	Major Findings
Functionalism	David Mitrany (1943)	International Cooperation and Integration	Functional cooperation between states shared institutions and collaborative mutual trust and interdependence., technical cooperation
Border Security Management Framework	Balibar (1998) & Newman (2006)	Comprehensive Border Management with four major	Holistic approach to border security that integrates multiple dimensions as law enforcement, immigration control, customs, and intelligence sharing,

			domain in border security.	coordination among various agencies, use of advanced technology, and international cooperation to effectively manage borders.
Traditional Border management	Anderson (1996) & Harlon (2019)	Strict enforcement measures		Conventional view that effective border management requires robust state control mechanisms and international cooperation to address transnational challenges
Border Governance	Aniszewski (2009) & Andreas (2003)	Multidimensional aspect with stakeholder driven		Movement of people, goods, and services across national borders while ensuring security, economic stability, and international cooperation
Trade and Economic Relations	Bhattarai, (2017) & Aryal, (2018)	Cross-border trade facilitation		Nepal's dependence on Chinese imports, poor infrastructure at Rasuwagadhi and Tatopani Challenges due to geographical terrain
Border Management and Security	Adhikari, (2020) & Poudel, (2019)	Role of security agencies		Limited coordination among security agencies Need for better surveillance technologies Border disputes due to unclear demarcation
Geopolitics and Strategic Interests	Bista, (2021) & Thapa, (2019)	Nepal's strategic position in South Asia		Nepal as a strategic buffer state Increased Chinese investment in infrastructure Geopolitical concerns from neighboring countries

Cultural and Societal Ties	Lama (2018) & Gurung, (2017)	Traditions and religious practices	Strong cultural and religious connections Economic dependence on cross border trade Challenges in maintaining ties during political tensions
Border Infrastructure	Andreas (2003)	Border Security and Fortification	Physical facilities such as fences, checkpoints, and surveillance systems.
Technology	Johnson (2016)	Border Security Challenge	Advanced tools like biometric systems, drones, and AI for monitoring
Human Resources	Newman (2006)	Physical Security	Trained personnel for inspections, surveillance, and enforcement.
Legal Frameworks	Acharya (2001)	Border law.	Policies and laws governing border security and cross-border activities.
Community Involvement	Wilson & Donnan (2012)	Civil action	Collaboration with local populations to enhance monitoring and trust.
Infrastructure and Development	Murton (2017)	Border area development and social-cultural Aspect	Geography and terrain at high-altitude act as a major hindrance for development.
Geopolitical contestation and diplomatic challenges	Bhattari (2021)	Political sensitivity, climatic and geographical conditions	The northern border of Nepal can have both opportunity and challenge and need to have a better strategy to mitigate the strategy.
Geopolitical and border security	Baral (2019)	Trade and Connectivity	the complex trilateral relationship between Nepal, China, and India,

	Energy Cooperation	
Geography and economy	Dhungel et al (2020) Security dependency	Geopolitical pressures make it difficult for Nepal to assert its sovereignty

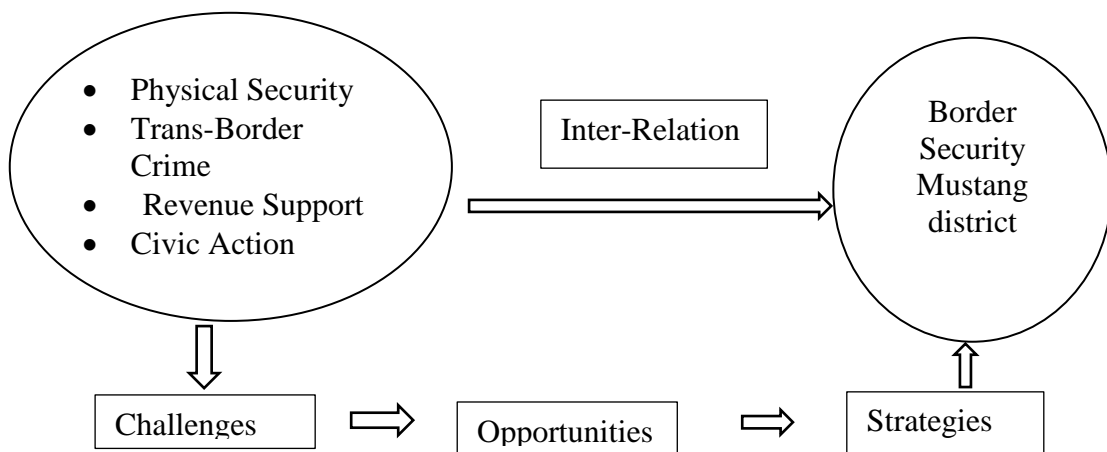
Source: Review of Literature, (2025)

2.4 Research Gap and Conceptual Framework

From these studies several gaps on border security of Nepal can be analyzed. In terms of Mustang district, few studies have explored on what are the opportunities and challenges at this area. The pertinent issue of physical security and environment challenges are unexplored domain. Limited comparative studies on Nepal-China border dynamics with other borders (e.g., Nepal-India) are discovered. Research lacks practical frameworks for enhancing coordination among Nepalese security agencies and between Nepal and China. In current scenario, APF, Nepal have define border security on four dimension. They are physical security, trans-border crime, revenue support and civil and civic action. The researcher have constructed the following conceptual framework, by adopting these four domain to identify the opportunities and challenges of border security at Mustang district for the study.

Fig 2.1

Researcher conceptual Framework



Source: Researcher conceptual Framework, Adopted and modified from Balibars (1998) and Newman (2006)

The Figure 1 shows the conceptual framework of the study. This conceptual framework connects research objective with research findings aligning with theoretical knowledge. As mentioned by Balibars (1998) border security consists of four variables. The researcher have attempted to find out challenges, opportunities and strategy in Mustang border security under this four variables. Currently, APF, Nepal have been practicing border security under these four variables so this can be practically implacable to APF, Nepal for future prospects. Similarly, as noted by Newman (2006) on challenges and opportunities exist on all the border of world, his theory was observed and tested. In quantitative analysis, challenges, opportunities and strategy will act as dependent variables for the theme generated from qualitative analysis and their relationship will be tested.

Concluding Remarks

In literature review section the researcher have reviewed four theories, relating to border management. These theory have a common ground of agreement that border are functional. The Functionalism theory emphasizes international cooperation, while border security frameworks advocate holistic border security by integrating law enforcement, technology and international collaboration. The traditional views stress strict state control. From fifteen different empirical studies, different scholar's views border as trade zone and can be consider as a prospects of economic development. Considering a high altitude border is always confronted with challenges like weather, rugged terrain and hardship. The Norther border of Nepal also follows the same difficulties. Considering the views and thought of different scholars, a gap on holistic research on Mustang border security have been a major objective of this research. The research adopted Balibars & Newman model to develop the conceptual framework.

CHAPTER III

RESEARCH METHODOLOGY

The entire processes of finding new knowledge should be based on the philosophies, principles and mechanisms of the research, through which we can solve the problems or search the answers to questions (Creswell, 2009). It is a systematic approach to investigating research questions in an organized manner. It can be described as the scientific examination of how research is systematically carried out. According to Kothari (2004), a research paradigm consists of four key elements: ontology, epistemology, methodology, and methods. Similarly, Creswell and Creswell (2018) identified four fundamental worldviews. They are post-positivism, Constructivism, Transformative and Pragmatism. This worldview have shape the underlying perspectives of research. These worldviews act as interpretive frameworks that guide the research process. All these processes are collectively known as the research methodology.

As research methodology are consider as key components that guide the systematic investigation of a research problem. The First component are research paradigm that provides the foundational philosophical framework, including ontology, epistemology, methodology, and methods (Rehman & Alharthi, 2016). Second, the research design outlines the overall approach, such as qualitative, quantitative, or mixed methods, ensuring alignment with research objectives (Creswell & Creswell, 2018). Third, the data collection methods involve techniques like interviews, surveys, observations, or document analysis, chosen based on the study's needs (Merriam & Tisdell, 2016). Fourth, the data analysis procedures define how collected data is processed and interpreted, including coding in qualitative research or statistical analysis in quantitative studies (Braun & Clarke, 2019). Finally, ethical considerations ensure research integrity, including informed consent, confidentiality, and avoiding biases (Panta, 2009). These components collectively ensure that research is conducted systematically and produces reliable, valid, and ethical findings. This section of research reveals the research methodology and tools that are adopted in this research. The information on this chapter including research design, tools and modality gives the overview of the tool, technique, sampling and data collection procedures used for the study are explained.

3.1 Research Design

Research design are the plan and the procedure for research that span the decision from broad assumption to detailed method of data collection and analysis (Panta, 2009). For the purpose acquiring the objective, exploratory sequential mixed method design are engaged to meet the objective of the research. In exploratory sequential mixed methods research, researchers often adopt a pragmatic worldview engaging inductive study, which integrates both qualitative and quantitative approaches to address research questions from multiple perspectives (Creswell, 2009). Under this approach, qualitative research will began first to explore phenomena in depth. The qualitative findings are used to develop quantitative phase, where result are tested and validated.

The researcher have selected exploratory sequential mixed model method, as it is most suitable for gaining insights on four dimension of border security to identify opportunities and challenges of different domain. By qualitative approach, the border security of Mustang district can better understood in depth exploration on field by interacting with different local communities and government officers. The generated theme are quantified by conducting a survey in order to prioritize them and validate it. The researcher is convinced on mixed model method for more comprehensive understanding of complex phenomena on challenges and opportunities could be prioritized and validated.

Qualitative research combined with a concluding survey are essential for gaining a comprehensive understanding of a research topic (Creswell & Poth, 2018). First, qualitative research provides in-depth insights by exploring participants' experiences, perceptions and thoughts which helps to uncover underlying factors that quantitative methods might overlook. Second, it allows for flexibility in data collection, enabling researchers to adjust questions and explore emerging themes as the study progresses (Merriam & Tisdell, 2016). Integrating a survey at the end enhances the reliability of findings by validating qualitative insights with structured responses, ensuring a balanced and well-rounded conclusion (Bryman, 2016). Hence this research is combination of qualitative methods and surveys, in order to strengthen the overall research credibility. The valuable theme and rich narratives from the participant are measured in order to support evidence based decision making and categorized with their importance.

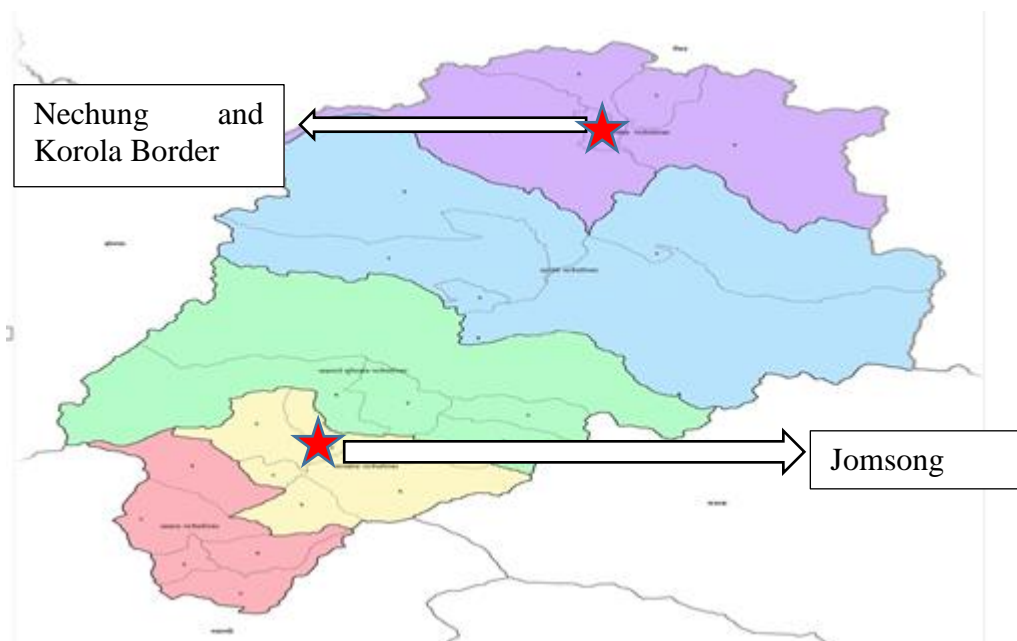
3.2 Area of study

In research, the area of study refers to the broad topic or domain that the research seeks to explore (Panta, 2009). The area of the study are the opportunities and challenges of Nepal-China border at Mustang district of Nepal. Similarly, field of study narrows down this scope, focusing on a specific sub-topic, geographic location, or context within the area of study. As Creswell (2018) noted, a well-defined field of study ensures the research is grounded and contextually relevant, facilitating focused inquiry. The researcher have selected Mustang district as an area of study. The field visit at korola border crossing helps in contextual understanding and data triangulation which strengthen the credibility of the research.

3.2.1 Map of Field Study Area

The researcher had visited to Mustang district in order to gather data. The visit was focused for three main purpose. The first one was to interact with the government officials of the district. The researcher was able to interact with the officials of security agencies along with chief district officer. The interaction was focused as per the research question. The second purpose was to reach the border area, especially the major border crossing point of Mustang in order to observe the border and duty of APF, Nepal.

During this visit lots of empirical data was extracted and different social phenomenal was also experienced. At this visit the researcher had conducted a FGD, which was a major strength of this research. And the final purpose was to visit the society of border area. This was not taken as a tool of research data collection, but researcher was interested to observe local custom and life style. The followings were the area where researcher visited in Mustang district.

Fig 3.2*Map of Mustang District*

Source: APF, Mustang Coy, Profile (2025)

3.3 Nature and Sources of Data

Data collection is a process of preparing and reviewing data to obtain information for specific purpose (Panta, 2009, p. 216). The data collection steps include setting the boundaries for the study, collecting information through questionnaires, observations and interviews, documents, and visual materials as well as establishing the protocol for recording information (Creswell, 2009). Data are the building block of this research. Both primary and secondary sources of data are extracted in construction of research. In terms of qualitative analysis, the primary data are taken from the key Informant Interview (KI), field interview and Focused Group Discussion (FGD) from the field. For quantitative analysis, a survey was conducted. The secondary sources are books, journals, reports, publication, bulletin, newspaper, website and internet.

3.4 Tool and Technique of Data collection

Tools and techniques of data collection are essential in research as they ensure the accuracy, reliability, and validity of gathered information (Creswell, 2018). They help in systematically collecting data, reducing biases, and maintaining objectivity in the study (p. 142). The right tools, such as surveys, interviews, and observations, allow researchers to capture both

quantitative and qualitative aspects, leading to a well-rounded analysis (Bryman, 2016). The prime purpose of this research is to identify key security at Mustang district. Qualitative tools like FGD and KI provide deeper insights into policy implementation challenges, stakeholder concerns, and community perspectives. Due to this aim, FGD and interviews were inherent in this research. As per research methodology guideline the following are the tool and technique used in this research.

3.4.1 Key Informant Interview and Field Interview

Conducting in depth interviews with individuals who have specialized knowledge, experience, or insights on a particular subject which are selected based on their expertise, professional role, or involvement in the area of study (Creswell, 2009). The rationality of selecting KI is to gain factual knowledge on opportunities and challenges of at Nepal-China border. In this research, the key Informant were selected as an expert on border security matters and field interview participants were selected from representative of local government, administrative officers, security officers, custom officers and border community. They have contextual knowledge on subject matter, practical and depth understanding. In areas like the Nepal-China border, where large-scale data collection is logistically challenging, Key Informant provide a viable alternative to gather valuable information. Others informants familiar with the region also offer detailed insights into local issues. To access the first hand data on attainment of research question, the research have conducted in-depth interview by taking the consent of participants (consent form in Appendix A) taking deliberation of open ended questions. The followings are the detail of Key Informants and details of participants of interview are shown in Appendix B

Table 3.1

Key Informant Details

Key Informant	Qualification	Age	Sex
KI A	Border Security Practitioner at District HQ.	40-45	M
KI B	Border Security Practitioner at Border Area	45-50	M

Source: Researcher ethical consideration (2025)

3.4.2 Focused Group Discussion

FGD with local communities provide a participatory platform to understand how Border security measures impact livelihoods, cross-border trade, and social cohesion at Mustang district. The attachment of these stakeholders is vital for capturing ground level realities that have not covered in policy of border security. The FGD was conducted with the member of border facilitation group (Shown in Appendix C) at BOP Nechung.

3.4.3 Survey

Surveys are conducted in research to analyze trends, behaviors, and opinions efficiently. They are particularly useful for gathering large-scale data, making them essential for studies that require statistical generalization design (Creswell & Creswell, 2018). In this research surveys was conducted after gathering qualitative data in order to quantify the generated theme and established their relationship after validation. Data are collected from structured Likert scaling questions , which are administered to the respondents who are the officers of border governing officers at Mustang district. The selection of sample and its analysis techniques are discussed in below sections.

3.4.4 Sample size

A sample design is a structured plan for selecting a representative sample from a given population. It encompasses the techniques and procedures used by the researcher to determine the sample selection process (Kothari, 2024). In this study, two qualitative tools was taken and choosing a best sample for those tool was important. The sample need to be well-known and an experienced in terms of security affairs. Also knowledge regarding border security of Mustang was foremost criteria. In terms of interview purposive sampling method was employed whereas for FGD Homogenous sampling was taken. In terms of survey, stratified sampling technique was taken from border governing officials of Mustang.

Table 3.2

Sample Size and Techniques

Method	Tool/Technique	Sample Size	Technique
FGD	Open-Ended Questions	1	Homogenous sampling

Interviews	Open-Ended Questions	10	Purposive sampling
KI	Open-Ended and In depth	2	Purposive sampling
Field Survey	Structured Questionnaire	68	Purposive Stratified sampling (Snow Ball Technique)

Source: Researcher ethical consideration (2025)

In terms of sample selection criteria for survey, the researcher have collected form border governing agencies officials from mustang district. The officers were selected on the basis of their field experience of at least one year in Mustang and consists of senior officers and junior officers. Since, the border governing officials are more concerned on the border security matters and are engaged in daily district governance, the researcher have selected convenient non probability sample. Under convenient sample, the researcher relied on snowball sample criteria to refer on others respondents who fit the study criteria. The government officials are chosen from major four cluster and their strata and frequency are shown in the table below.

Table No 3.3

Sample Frequency

Sector	Agency	Population	Strata	Sample
Administrative	DAO, Custom, Quarantine, Survey, Custom, Area Administration, Quarantine.	20	17	16
Security	Nepali Army, APF, Nepal, Nepal Police, NID	45	38	40
Local Government	Lomang Thang Rural Muncipal, Mukti chetra Rural Muncipal	10	8	8
Private Sector	ACAP	5	4	4
4 Sector	16 Agencies	80	67	68

Source: District Administration office, Mustang (2025)

The table shows the total respondents of survey. The sample size for the population of 80 is 67 and the total responses received was 68. The size of sample and strata was developed using the following formula, as shown below.

Determining Sample Size

As the total population is 80, using the formula of sample size

$$n = \frac{N}{1 + Ne^2}$$

Where, N= 80 and e = Margin of Error (5%, i.e 0.05)

We get, $n = 80 / 1+80 (0.0025)$

$$n = 67$$

Determining the strata

Using the formula to calculate, the strata

$$n_i = \left(\frac{N_i}{N} \right) \times n$$

Where, n_i = Sample size for strata, N_i = Population of Strata, N= Total Population (80) and n = sample (67)

By calculation we get, the strata of administrative sector = 17, security sector = 38, local government = 8 and private sector = 4.

3.4.5 Questions

A questions is a research instrument consisting of a set of structured or semi-structured questions designed to collect data from respondents systematically (Creswell, 2009). It can include open-ended or close-ended questions, depending on the research objectives. The questionnaire are constructed prior departing to the field. Open Ended questions are prepared by the researcher to gain the insights from the participants. The open ended questions and survey form are shown in Appendix D and E.

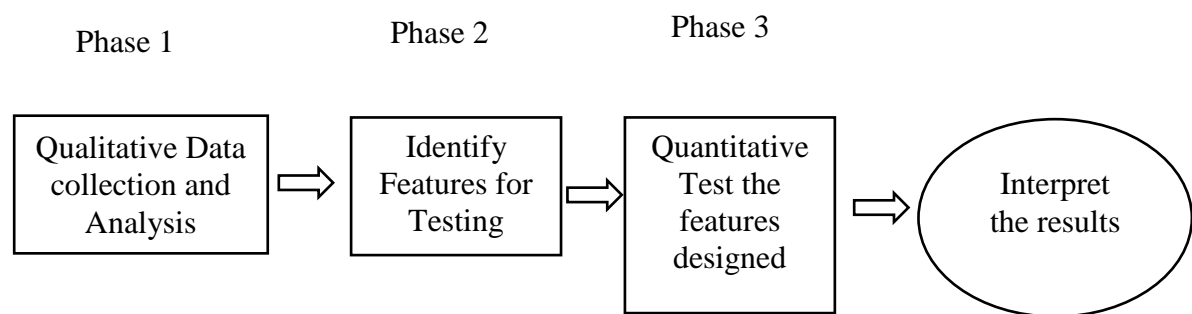
3.5 Validity and Reliability

Validity and reliability are critical concepts in research that ensure the quality and credibility of findings. Validity refers to the extent to which a research instrument or study measures what it is intended to measure, while reliability refers to the consistency and stability of the results over time or across different conditions (Creswell & Poth 2018).

In this exploratory sequential mixed method research, validity is done through triangulation consisting of qualitative and quantitative findings. At first the generated theme are analyzed and compared with multiple data sources and finally it is verified from respondents view using Likert scaling techniques survey. The following figure displays validation and reliable of this exploratory sequential mixed model method.

Fig 3.3

Exploratory Sequential Mixed Method Designs



Source: Adopted from Creswell & Creswell (2018, p.300).

The figure 3.3 shows the exploratory sequential mixed model designed developed by Creswell & Creswell (2018). The research was conducted in three phase, first qualitative data was collected on three domain of border security of Mustang district. At second phase, the theme were developed and featured for quantitative analysis. In third phase, the survey is conducted and data are collected, interpreted and analyzed. And finally, both qualitative and quantitative data are interpreted and validated.

3.6 Data processing, Analysis and Presentation

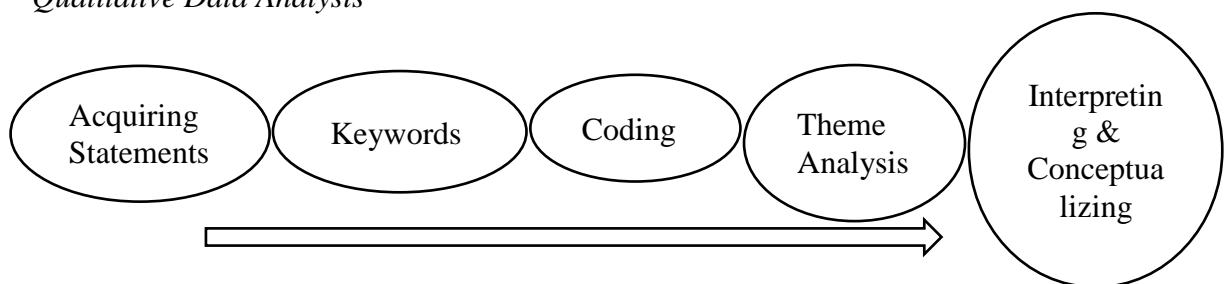
The researcher will analyzed the theme generated from the interviews and later the data are compared with border security variables. Identifying the regular themes in qualitative data

related to border security opportunities and challenges will help to identify the strength and weakness. It helps researchers uncover recurring ideas and trends that may not be immediately apparent, making it particularly useful in exploratory studies where the goal is to generate new knowledge or theories (Braun & Clarke, 2006).

In analyzing challenges and opportunities of border security of Mustang, thematic analysis is essential for making sense of qualitative data by uncovering deeper insights and presenting findings in a clear and impactful way. The discussion part will triangulate the research findings with the literature and critical explanation will be conducted to generate the thesis. After the collection of data, analysis is done in five steps by categorizing, keywords selecting, coding, and theme analysis, interpreting and conceptualizing with literature. The research flow diagram and KI details are as shown.

Figure 3.4

Qualitative Data Analysis



Source: Researcher qualitative data analysis process, Adopted from Naeem & Ozuem (2022, p. 3).

In terms of quantitative analysis, the collected data are analyzed using Statistical package for social science (SPSS) software. The entered data in the SPSS program is done through descriptive analysis and later with inferential analysis as per the stated hypothesis. The tool for analysis of the data are as described below.

3.6.1 Mean Analysis

The mean is just the average. It is the sum of all variables divided by the number of variables. This is the most common measure used to describe statistics. Mean works best if the data is distributed evenly across the range, or is distributed in the form of a normal or bell-shaped curve. The researcher uses mean to measure the average views of the participants. It helped to

know the aggregate views on challenges, opportunities and strategy to be adopted in Mustang border security.

3.6.2 Standard Deviation Analysis

The standard deviation (SD) of data is the square root of the variance. It reflects both the deviation from the mean and the frequency of this deviation. It measures the spread of the data from the mean value. Mean is the appropriate measure of central tendency, while standard deviation is the most widely used measure of dispersion (Kothari, 2004). The researcher has used standard deviation to measure the deviation in mean of data collected from survey. It helped to know the aggregate frequency of deviation of the on different variables.

3.6.3 Pearson's Correlation Coefficient

Person's correlation coefficient is one of the most common statistical tools used in quantitative data analysis in management research. Person coefficient is used to show the degree of linear relationship between independent and dependent variable. The symbol of a correlation is 'r', and its range is from -1.00 to + 1.00. The closer of measures is to 1.00; the more likely the relationship is statically significance. (Kothari, 2004). After calculation of mean and standard deviation, the correlation coefficient is measured to access the relationship between variables of challenges, opportunities and strategy.

3.6.4 Multiple Regression Analysis

Multiple regression is simply a prediction one variable on the basis of several other variables (Kothari, 2004). Multiple regression is a statistical tool that allows us to predict someone's score on one variable on the basis of their scores on several other variables (Keith, 2006). In this research, multiple regressions helps us to find the effect of variables under challenge, opportunities and strategy to explain variation in border security. Many researchers use multiple regressions identifying the predictor variables as independent variables and dependent variables in management research.

3.7 Ethical Consideration

Ethical considerations in research is needed to ensure moral principles, respects participants' rights, and avoids harm. Basic ethical and legal principle motivates all scholarly research and writings are designed to achieve ensure the accuracy of scientific knowledge and to protect

intellectual property rights. Since this study involves government officials, security personnel and local communities, ethical considerations are carefully addressed.

Firstly, the researcher have given a detailed consent form explaining about the study purpose, procedures to all the participants of government agencies, private and civil society. Before starting conversation, verbal consent was obtained to convince the participants. The researcher is more concerned on confidentiality and secrecy of participants, so the names, job positions and specific affiliations of participants is not shown in this thesis or elsewhere. The collected data is stored securely and only authorized researchers will have access. The participants were not forced or pressured to take part in interview or survey and were not obliged to speak for and against any organizations. The questions related to border security challenges, opportunities and strategies were open ended and researcher had avoided any political or personal biases and ensure findings are presented objectively. The researcher had respect the cultural norms of Mustang ethnic groups, including language and traditions. This study adhere to APA principle and follows all the necessary rules.

Concluding Remarks

This research adopts adopt a pragmatic worldview, which integrates both qualitative and quantitative approaches by following exploratory sequential mixed method design to meet the objective. The use of an exploratory sequential mixed-methods approach ensured a comprehensive analysis of border security challenges and opportunities. By integrating qualitative (Interviews and FGD) and quantitative (survey) methods, the study triangulated finding and ensure the validity and reliability of research outcomes. The sample for qualitative data collection are purposive and homogenous and for quantitative purposive stratified sample. The systematic data analysis for qualitative are theme analysis and for quantitative was done from SPSS which providing empirical insights for application to enhance border governance in Mustang district.

CHAPTER IV

FINDINGS AND DISCUSSION

4.1 Introduction

Mustang District is one of the eleven districts of Gandaki Province and one of seventy-seven districts of Nepal. It lies in remote and rugged Himalayan region with an elevation ranging from 1372 to 8167 meters (CBS, 2022). Geographically, it spans latitudes from 28°20' to 29°05' N and longitudes from 83°30' to 84°15' E (NTB, 2024). The district covers an area of 3,573 km² and had a population of 13,452 (CBS, 2022). The headquarters is located at Jomsom. Mustang is the fifth largest district of Nepal in terms of area. The district is home to Muktinath Temple. The district exhibits altitudinal variations from 2,000 meters to the towering peaks at 7,134 meters above sea level. Bordering Tibet, China in the north, Mustang holds strategic importance for Nepal due to its geographical location and cultural heritage. Historically, Mustang served as a significant trade route connecting Nepal with Tibet, by developing economic and cultural exchanges. It is renowned for its unique blend of Buddhist and Hindu traditions, with prominent communities like Gurung and Thakali residing in the region.

Mustang is the second least populated district of Nepal, divided into two sub regions, lower and Upper. The high-altitude trans-Himalayan region spread over 3,640 square kilometers and have a cold high-altitude steppe is a part of the Tibetan highlands.

Table 4.1

An overview of Mustang Geography

Aspect	Details	Remarks
Location	Gandaki Province	
Largest Point	Tilocho Pick	7134 meter
Lowest Point	Thsang VDC	
Total Area	3573 sq Km	
International Border from capital	136 km	
Accessibility and Main Trade Center	Jomsom	
Temperature/Climate	+19 to -19	
Snowfall	winter	

High range Mountains	Major 5	
Total Population	14452	2022 Census
Density	4 km per square	
Population Growth Rate	0.68%	

Source: Researcher compilation (2025)

The Table 4.1 presents key geographical and demographic details of a location in Gandaki Province, Nepal. The district topographical extremes with Tilicho Peak at the highest point of 7,134 meters and Thsang rural municipal as the lowest. The districts covers a total area of 3,573 square kilometers, with total population of 14,452 as per the 2022 census. The main occupation at this district is agriculture, animal husbandry, tourism and trade. The population growth rate is relatively low at 0.68%. The area experiences significant climatic variations, with temperatures ranging from +19°C to -19°C and snowfall occurring during winter. In Administrative division, the district have five rural municipalities with five wards each after the restructuring of Nepal administrative division in 2017 A.D. The five rural municipal as shown in the picture below

Figure 4.1

Administrative Map of Mustang

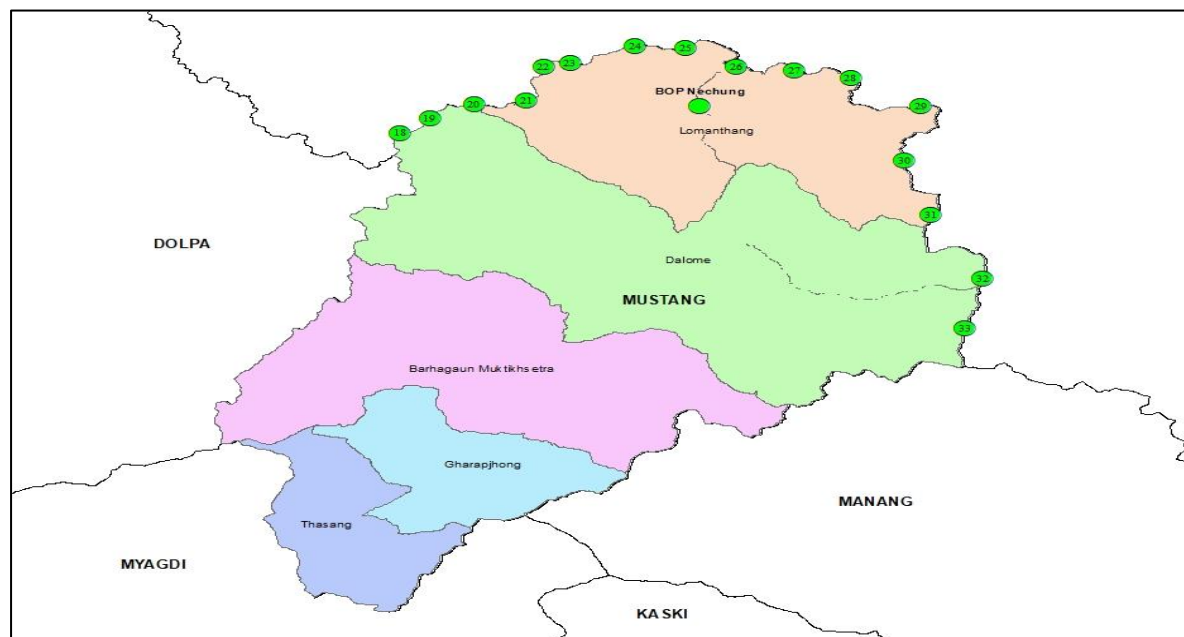


Source: District Administration Office, Mustang (2025)

The border of the Mustang district lies in northern region of Nepal along the China. The Mountain Range acts as a natural boundary with different peaks like Annapurna and Dhaulagiri. The Kali Gandaki River flows through the area which is prominent geographical markers for demarcation. Historically, the boundary between Nepal and China was arranged by treaties and informal arrangements between the local rulers of Mustang and Tibet. The Treaty of Thapathali, 1856 and Nepal-China Boundary Agreement 1961 are a significant milestone for demarcating the northern border. Joint surveys and mapping were conducted to establish border pillars. Concrete pillars with inscriptions and coordinates were erected along the border to mark specific points. Currently, the border is understood through traditional pathways, grazing areas, and landmarks known to the people of Mustang. Places like Korala Pass, a historical trade route connecting Mustang and Tibet, also act as significant demarcation points. The following picture shows the border demarcation of Mustang district

Figure 4.2

Border Demarcation of Mustang District



Source: Survey Department of Nepal (2025)

The map showing the demarcation of border area. The district is touches Manang in the east and dolpa in the west and shared area with China in the North.

Table 4.2*Details of Border Demarcation of Mustang District*

Particulars	Remarks
Villages connected to the China border	Lomanthang, Lo-Ghekar, Damodar Kunda
Border status	Open
Altitude of Korala border	4,600 meters
Distance of Nepal-China border area in Mustang district	113.6 km
Major Border crossing	Korola border crossing (4600m)

Source: Researcher compilation (2025)

The Table 4.2 reveals the features of border demarcation of Mustang district. The district shares an important border with China around 113.6 k.m. This border area is characterized by its high altitude, with the Korala border crossing situated at 4,600 meters above sea level. It one of the highest border crossings in the region. The border is a controlled border and in order to facilitate the trade, the locals are allowed for cross border movement. There is a provision of border crossing pass to the locals of Mustang district. There are a total of 16 boundary pillars, numbered from 18 to 33, to demarcate the border. These pillars are categorized into major and minor types, with 7 major and 9 minor boundary pillars in place. The villages of Lomanthang, Lo-Ghekar, and Damodar Kunda are particularly connected to the China. The Korala border crossing serves as a major point of entry and exit, playing a crucial role in the connectivity and economic activities between Nepal and China.

4.2 Current Status of Border Security

Border security in terms of physical security consists of terrain, border pillar, border villages, counter parts, border crossing points, friendly force, border governing agencies and major trading points. In order to ensuring the presence of security forces in border and safeguard the country, APF, Nepal was deployed in the year 2011 A.D. Later, an independent coy was established in the year 2017 A.D. To increase the deployment in border area, APF, Nepal have established Border outpost (BOP) at Nechung in the year 2020 A.D. The following table describes the physical security at Mustang district.

Table 4.3*Details about Mustang Border Area*

Particulars	Data
Distance of Border Area	136 km
Streams	Chinggu Stream
Rivers	Kaligandaki River
Flat Land	Around 3,000 sq. km of Korala Pass
Settlements	Nyaundo, Chhoser
Market	Lomanthang
Distance to District HQ	110 km
Number of BOP	1

Source: APF, Nepal Mustang Coy profile (2025)

The Table 4.3 highlights a total area covered by border area is located 136 km from east to west. The geographical features such as, the Chinggu Stream, Kaligandaki River lies in border area. There is a huge swath of land, approximately 3,000 sq. km around Korala Pass. The terrain includes hills and mountains, and the nearest settlements from the border are Nyaundo and Chhoser village. The nearest market is in Lomanthang and the district HQ is 110 km away and there are major five border crossing in the district which is shown in the table below.

Table No 4.4*Major Crossing Points*

VDC	Name	Distance from BOP	Remarks
Lomang Thang	Kingbok	16 Km	
Lomang Thang	Samjung	25	
Lomang Thang	Korola	14	Major Himalayas
Lomang Thang	Chumjung	25	
Lo godhar.	Ranchaghewa	80	

Source: APF, Nepal Mustang Coy profile (2025)

The table shows key border crossing points facilitate movement between Nepal and China. Among them, Korola crossing point is the major crossing point which is located 14 km from the BOP, Nechung. This crossing point is most significant due to its historical importance as a major trade route. Other crossings include Kimbok (16 km), Samjung (25 km), and Chumjung (25 km), from BOP. These crossing points are used by local traders and residents for cross-border movement. The far crossing point located at Ranchaghewa, in Lo Gadhor Rural Municipal lies at a distance of 80 km from the BOP.

Security force are the key responder in any incident at this district. In order to maintain peace and security there are four security agencies deployed along the district. At the border area, APF, Nepal and Nepal Police are deployed at performing their regular task. The table shows the deployment of security force and their strength at the district.

Table No 4.5

Deployment of SF in district

SF	Units	Strength
Nepali Army	5	894
APF, Nepal	2	145
Nepal Police	15	214
NID	1	5
Total	23	1258

Source: District Administration office, Mustang (January, 2025)

In order to maintain peace and security in the district, there are more than twelve hundred security personnel's deployed in the field. The number of Nepali Army includes the trainees from high altitude training center at Mustang. However, during interview, one of the army officer mention that the trainees are also deployed in certain events. There are altogether 23 security forces units where there are 15 units of Nepal police. In terms of border area deployment, there are very few number of security forces. During interview, one of the key informant inform that due to geographical condition, weather and logistic number of security forces cannot not be increased. The following figure illustrations the deployment of security force in border area of Mustang.

Figure 4.3*SF deployed in Border Area*

Source: APF, Nepal Mustang Coy profile (2025)

The picture shows the deployment of security force at border area. APF, Nepal being a first line of defense is deployed at choser which is 14 k.m. from the border. The BOP is commanded by Inspector with a strength of 35. At the same location, Area Police Station is located which is commanded by Sub- Inspector with a strength of 10. There is another station of Police, located at Lomangthan but this station does not fall under border security duty. Similarly, a Coy of Nepali Army is located 60 k.m. from border. This unit is commanded by Major of Nepali Army.

Table No 4.6*Security Force Deployment at Border Area*

SF	Units	Strength
Nepali Army Coy	1	120
APF, Nepal, BOP	1	35
Nepal Police	3	10

Source: APF, Nepal Mustang Coy profile (2025)

The Table 4.6 shows the deployment of Security forces at border area. Currently, 35 APF, Nepal personnel are deployed at Nechung BOP and 10 Police personnel are deployed. The deployment of Army is quite far from Border area. However, there is good coordination within local commanders. The deployment of counterparts security force is essential for maintaining effective border security in Mustang District. The presence of security forces from both sides ensures better coordination, surveillance, control over movement, and rapid response to any suspicious activities. Especially at Korola Pass of proper security coordination is required to curb any issues that could hamper border security. The following table show the deployment of counterparts at Mustang border.

Table No 4.7

Counter parts security force

Unit	Strength	Distance from border (Km.)	Commander
People Liberation Army, Camp	165	5	Captain
Armed Police Frontier Crops	258	30.	Dsp
Peoples Armed Police Frontier Crop	70	30	Inspector
Chinese Police	45	30	Dsp
Chinese Police	35	1	Insp
Peoples Armed Police Frontier Crop	20	8	

Source: APF, Nepal Mustang Coy profile (2025)

The table shows a deployment pattern from 1 km to 30 k.m. The regular coordination to conduct operations such as joint patrols, joint inspections, and information-sharing are crucial in maintaining a secure and peaceful border. The deployment of security personnel on both sides also helps in humanitarian situations, such as providing assistance to travelers or responding to natural disasters in this high-altitude region. As per the data provided by APF, Nepal Coy, there were 2 joint patrol and 15 single patrol conducted in this fiscal year. Due to these proactive activities, major criminal activities such as illegal crossing from China to Nepal, Tibet refugee movement, smuggling of goods, small arms, contraband goods, and counterfeit have reduced at mustang district of Nepal.

Qualitative Analysis

Qualitative analysis in this research is used to explore and interpret non-numerical data, such as interviews, observations, and focus group discussion. The researcher have visited the border area of mustang to understand border security procedure, practices and field experiences. In this section thematic analysis are conducted to extract insights from collected data. Researchers have conducted key Informant interview, field interview and focused group discussion to understand subjective aspects of challenges and opportunities of border security at mustang district. Also relevant data are analyzed to validate depth of theme making them more relevant and applicable.

4.3 Existing Challenges in Managing Border Security

The first research question stated by researcher was about the primary challenges in managing the borders of Mustang district. In order to identify field challenges, four questions were asked in four domain. Physical security, trans-border crime, revenue security and civil support. Under this four domain, the followings are the major theme generated from interviews and FGD.

4.3.1 Challenges under Physical security

Physical security is the protection of people, property, and assets at border area from physical threats. They include unauthorized access, theft, vandalism and natural disasters. The procedure of physical security are installation of barriers, availability of surveillance systems, and access control of a location. Effective physical security is essential for border areas to prevent illegal crossings, smuggling, and other security threats. The participants were very serious in current physical security condition of mustang border. The first theme in terms of physical security is as described.

a. Geographical barrier (Rugged Terrain)

All participants, mention geographical barrier as a major challenge of border security of Mustang district. The rugged terrain of Mustang district presents a significant challenge to border security by reducing effective surveillance, patrolling, and infrastructure development difficult. The availability of mountains, deep gorges, and high-altitude passes create natural obstacles for security forces. All the member of FGD, agreed on factors like limited road networks harsh weather conditions, heavy snowfall in winter effects on border security. One

of the Key Informant stationed in Mustang highlighted the difficulties posed by the terrain, stating,

“The biggest challenge we face is the difficult landscape. Unlike other border areas, Mustang have high-altitude passes and remote valleys, which make our operations impossible to set up continuous monitoring systems. We have not been able to locate Number 33 pillar yet. Patrolling requires significant effort, and response time to any incident is often delayed”

This statement clarify the operational difficulties security personnel encounter and the need for alternative security measures, such as better technology and cooperation with local communities. The following table on geographical barriers makes clear on geographical barriers of Mustang district.

Table No 4.8

Geographical barriers of Mustang district

Features	Area covered	Percentage
Total Land	3639.6 Sq. km	100
Trans-Himalayan	2904.4 Sq.km	79.8
Cultivate land	40.3	1.1
Total Forest	123.2	3.38
Buildup area	3.2	0.08
Snow Area	305	8.4
Pasture Land	1476	40.57

Source: District coordination committee, Mustang, (2025)

The Table 4.8 provides an overview of land distribution of Mustang district covering 3639.6 square kilometers. The majority of the land, 79.8%, is classified as Trans-Himalayan, spanning 2904.4 square kilometers at elevations between 3000-6000 meters. Cultivable land is minimal, accounting for only 1.1%, while forests cover 3.38%. Built-up areas are even smaller, at just 0.08%. Snow-covered areas make up 8.4% and pasture land is the second-largest category, covering 40.57%. This shows the area is mostly high-altitude and pastoral characteristics and have limited agricultural and urban development.

b. Geopolitical concern

All the participants' emphasis on geopolitical factors plays a major role in shaping border security in Mustang District. Due to historical relation with Tibet and cross border cultural connections, the security can be at volatile. The foreign nation's investment in many sectors are the factors influencing geopolitical concern which have been impacting in border security. The following are the joint statements from the participants.

“We [need] have to focus on the project constructed in Mustang. This issue is sensitive as it can hamper our trade. We [need] have to manage border security while ensuring that our diplomatic relations with China remain stable. Any security decision must align with international agreements and bilateral discussions restrictions and new border policies from the Chinese side sometimes affect our livelihoods, and security personnel have to manage local concerns along with enforcing regulations.”

This statement aligns with the statistical data sourced from DAO which shows the currently running projects in different parts of district funded from foreign nations.

Table 4.9

Construction from Foreign Aid

Project	Construction area	Donor
Resident of Nifung Narbuling Ghumba	Lomangthan	India
Dibya Dip Secondary School	Lomangthan	India
Recreation center	Mukti chetra	USA
Health post	Mukti chetra	China

Source: District Administration office, Mustang (2025)

As shown in the Table 4.9 investment from different nations, the participants viewed this investment from foreign nations can effect on cross border trade which will impact on border security.

c. Human Sensitivity

Human sensitivity is a major challenge in border security at Mustang District due to the close cultural, economic, and social ties between the communities on both sides of the Nepal-China

border. Many ethnic Tibetan and indigenous Nepali communities have traditionally relied on cross-border trade, pilgrimage routes and family gatherings. The existing procedure can pose a threat to security and the members of FGD have stressed on Tibetan refugee as a human sensitivity in border security. Both KI and three FGD members highlighted the challenge of human sensitivity in border security. The KI stated that,

“We have been trading with Tibet for generations. We are afraid of Tibetan refugee, we don’t know when it may act as a threat. Mustang border security depend on strong cross-border ties of local communities. Any enforcement action that disrupts their livelihoods can lead to distrust and resistance.”

The participants express displeasure in terms of refugee influx and considered it as a human sensitive factor. There are Tibetan refugee in the district which is closely monitored by SF. The following data shows the number of Tibetan refugee settled.

Table 4.10

Refuge Data

Particulars	Details	Remarks
Camp Site	Jahrpong-9	Tibet Refuge camp
Camp Head	Tashi Tendup	
Total House	50	
Male	90	
Female	113	Total: 203

Source: District Administration office, Mustang (2025)

The Table 4.10 shows the refuge data being in number of 203. In terms of border security refugee can act as a serious problem. The fear of refugee entering into China can ignite tension. However, there is no any criminal record of refugee and till date no any brawl between authority and refugee is recorded.

d. Climatic Factor

All the participant sought about the disadvantage of climate in mustang. Especially at the border area there is an extreme cold temperature. There is no human settlement at border area.

And especially at cold season most of the population are migrated. In winter season, it is very difficult to reach at the border as temperature reaches up to -20 degree Celsius. The joint statement from FGD members.

“Due to extreme cold, we have less food to eat, it is very difficult to transport food and also we fell sick we don’t have adequate medicines. Problems such as logistic, transportation and health impact our life. Our security personnel’s are also impacted from such problems”

This statement can be verified from the temperature details given by weather forecast in Mustang district.

Table 4.11

Temperature Details

Temperature	Spring Daytime: 15–21°C, Nighttime: -6 to 2°C Summer Daytime: 18–28°C, Nighttime: -2 to 0°C Autumn Daytime: 12–20°C, Nighttime: -8 to -4°C Winter Daytime: 0–5°C, Nighttime: -25 to -20°C
Rainfall	Less than 300 mm/year
Wind	Strong winds, especially in the afternoons during spring and summer each up to 30-40 km/h
Sunlight	High sunshine hours, leading to dry conditions.

Source: Weather forecast of Mustang district (2025)

The table show climate challenges, especially the winters seasons are more difficult in terms of border security. APF, Nepal personnel are facing problems in terms of health and hygiene. Most of the people get sick in winters seasons and this hampers operational achievements. This data confirms the statements said by participants in terms of climatic factor.

e. Resources constraints

Both KI, mentions that due to high-altitude terrain at border area over 4,600 meters, infrastructure development and maintenance are extremely difficult and costly. There is limited

financial resources in government pocket which hinder the construction of proper roads, communication networks and border outposts, which are essential for effective surveillance and rapid response. Five member of FGD mentions on lack manpower of APF, Nepal as compared to counter parts. The comparison of manpower is as follows.

Table No 4.12

Human Resources comparison

Country	Security Agency	Total Strength	Unit	Border area per Personnel
Nepal	APF, Nepal	135	2	1 km (Approx.)
China	Chinese Police	593	6	0.22 km (Approx.)

Source: APF, Nepal Mustang Coy profile (2025)

The Table 4.12 shows a disparity in border security resources and personnel density between Nepal and China. APF, Nepal has a total strength of 135 personnel at 2 units, which translates to approximately 1 kilometer of border area per personnel. China deploys 593 personnel across 6 units, resulting in a much higher density of security forces, with each personnel responsible for only 0.22 kilometers of border area. With fewer personnel covering larger areas, there is a possibility of border-related issues, such as illegal crossings or smuggling. Due to this low availability of resources, there is low coordination among the stakeholders. In despite of manpower resources, physical resources such as road transportation were also insisted by FGD members. The table shows the road condition to get access to the border area.

Table No 4.13

Road Details

Particulars	Details
Name of Road Transport	Kaligandaki Corridor
Type of Road	Off-road
Public Vehicle	Allowed
Bus station	Jomsom (Capital)
Distance from Border	142 K.m.
Distance form BOP	128

Source: District Administration office, Mustang (2025)

The Table 4.13 reveal the condition of road and district capital distance from BOP. This far distance and off road has been a major challenge in terms of logistic transportation and physical transportation. In terms of ration transportation to APF, Nepal personnel, this is a major challenge.

4.3.2 Challenges under Trans border Crime

Trans-border crime in Mustang District of Nepal refers to illegal activities that occur across or in proximity to the Nepal-China border. This crime are smugglings of goods, illegal trade and parching of animals which can occur by taking advantage of the remote and rugged terrain, limited security infrastructure, and resource constraints in the region. The followings are the theme generated from KI, field interview and FGD

a. Isolate border

The district of mustang is considered as an isolate place. Especially northern part is very thin populated as life is extremely difficult. Due to lower agriculture, facilities and opportunities, the population at this area is least. As one KI stated, that

“The geographical isolation of Mustang is combined with its high-altitude and rugged landscape, [So] it extremely difficult to establish effective border security measures. The fewer population results on lack of proper roads, communication networks. No human settlement at high altitude reduces intelligence collection procedure effecting on poor monitoring and response efforts, leaving the border vulnerable to trans-border crimes such as smuggling and illegal crossings”

The isolate border reduces on real time information causing chances for cross border illegal trade. The following data shows the population parameters of Mustang district.

Table No. 4.14

Border Area Population

Particulars	Details
Local level	Lo Manthangand Lo-Ghekar Damodarkunda

Total Area	727 sq. km (281 sq m)
Total Population	1,430 (2021 Census)
Number of Wards	5
Population Density	1.975/km ²

Source: Central Bureau of Statistics Nepal, 2021

As said by participants, the Table 4.14 provides details about the local level of Lo Manthang and Lo-Ghekar Damodarkunda, covering a total area of 727 square kilometers. As of the 2021 Census the total population is 1,430 which is low population density of approximately 1.975 people per square kilometer. The area is divided into 5 wards. This low population and administrative structure within a relatively large geographic area effect in intelligence capability.

b. Limited Agencies

Border governing agencies plays a crucial role in promoting good governance. Since, the trade and crossing point of China are in operation. It is adamant to establish all agencies favoring border control and management. Border governing agencies are necessary in Mustang District many several reasons. In order to facilitate crossings, trade, security and civic actions its strategic location is highly important. As one KI explained,

“The presence of border governing agencies is essential to ensure national security, regulate cross-border movements, and prevent illegal activities such as smuggling, human trafficking, and unauthorized crossings. Mustang is a remote and rugged terrain which combined with its proximity to China. Many agencies such as custom, Immigration and quarantine area dire necessary as the requires dedicated oversight and management”

Similarly, FGD members also agreed to the role of agencies in maintaining sovereignty, facilitating legal trade and travel and fostering bilateral cooperation with neighboring countries. Without such agencies, the region would be more vulnerable to trans-border crimes, security threats and unregulated activities, which could undermine both local and national stability. These border agencies help implement and enforce international agreements, ensuring that the border is managed in a way that benefits both Nepal and its neighbors.

Table 4.15*Number of border governing agencies*

Agency	Status	Distance from border (K. m)	Remarks
Custom Office	Open	14	Only 1 staff at border
Immigration office	Closed	0	8 staff
APF,BOP	Open	14.	
Area police Station	Open	14	

Source: APF, Nepal Mustang Coy profile (2025)

As informed by participants, the Table 4.16 proves about limited agencies and their limited access to border. All the agencies are 14 K. m. far from the border area whereas counter parts are stationed enacted at the border. This is a serious and significant problem in terms of border security.

c. Social cultural Aspects

The social and cultural aspects of border security in Mustang District also have significant and complex role in border management. Mustang is home to diverse ethnic communities, such as the Thakali, Gurung, and Tibetan-origin populations. The livelihoods, traditions, and social structures are deeply tangled with the border region. These communities often rely on cross-border trade, seasonal migration, and cultural exchanges with China for their economic and cultural survival. This interdependence can create challenges for border security, as traditional practices may conflict with modern security protocols. As all KI noted,

“Local communities often view cross-border trade as a customary right, which can lead to unintentional violations of border regulations, such as smuggling or unauthorized crossings. This creates a tension between preserving cultural practices and enforcing security measures”

These close cultural and familial ties across the border can make it difficult for security agencies to monitor and control movements effectively, as locals may prioritize community loyalty over compliance with border laws.

Table 4.16*Religious status of Mustang district*

Religion	Percentage
Buddhist	60.17%
Hindu	37.46%
Christian	1.13%
Others	1.10%
Muslim	0.14%
Total	100%

Source: National Census (2021)

The Table 4.16 shows the religious status with Buddhism being the predominant faith, followed by Hinduism, Christianity, and other minority religions. According to the data, 60.17% of the population identifies as Buddhist, reflecting the strong influence of Tibetan culture and traditions in the region. Major Buddhist festivals such as Tamu Lhosar, Phagu Purnima, and Tiji are widely celebrated, showcasing the community's deep spiritual and cultural connections. Hinduism, practiced by 37.46% of the population, whereas Christianity, Islam, and other religions make up smaller percentages with 1.13%, 0.14%, and 1.10%, respectively.

Table 4.17*Caste Structure*

Ethnic Group	Percentage
Gurung	60.17%
Thakali	37.46%
Magar	1.13%
Thakuri	1.10%
Dalit	0.14%
Total	100%

Source: National Census (2021)

The Table 4.17 shows the ethnic composition of a population. The Gurung community being the majority at 60.17%, thakali group follows at 37.46%, while smaller percentages include

Magar 1.13%, Thakuri 1.10%, and Dalit 0.14%. This distribution highlights the dominance of the Gurung and Thakali ethnic groups in the region and minimal representation from other communities.

d. Border Market

The Korola market is significant in socio-economic aspect in the people of Mustang. Due to its importance, certain challenges to border security exists. As a participant from Nechung said,

“The Korola market has developed as a vital hub for trade and economic activity at this region. This development have created vulnerabilities in border security due to the high volume of cross-border movement and the potential for illegal activities such as smuggling, unauthorized crossings. It difficult for [us] security forces to monitor and regulate activities effectively.”

4.3.3 Challenges under Revenue support

Revenue security refers to the measures and strategies implemented by governments to ensure the proper collection, management, and protection of public revenue. APF, Nepal is involves in safeguarding country revenue sources from generated from taxes, customs duties, tariffs, and other sources to prevent revenue leakage. The followings are the theme under revenue security.

a. Informal Trade

Informal trade means illegal trade operated at border which poses significant challenges to border security in Mustang District. As it is unregulated in nature, which often bypasses legal and administrative frameworks. As five participants and three member of FGD explained,

“Informal trade, while deeply rooted in local traditions and economic practices, undermines border security by creating opportunities for smuggling, tax evasion, and unauthorized cross-border movements. This not only results in revenue loss for the government but also complicates efforts to monitor and regulate activities in the region”

This statement can be verified from the following table.

Table 4.18*Informal trade in Mustang*

Category	Goods Traded	Mode of Transport
Agricultural Goods	Barley, Buckwheat, Apples, Medicinal Herbs	Porters, Trucks, Mules,
Textiles	Wool, Yak Wool Products, Tibetan Carpets	Traders, Small Shops
Electronics	Chinese Electronics, Clothing, Household Items	Trucks, Small Vehicles
Animal Products	Yak, Chyangra (Mountain Goat), Dairy Products	Traders, Pack Animals
Precious Herbs and Spices	Yarsagumba, Himalayan Spices	Porters, Smugglers

Source: IFPRI report on Nepal informal trade (2020)

The Table 4.18 shows different category of good traded from China to Nepal. Due to COVID-19, the border were closed and trade activities were halted. This data is taken from IFPRI records, which do not mention the amount of goods. The shown items are the good being transported from China to Nepal.

b. Lack of technology

The lack of technology has severely hampered border security in Mustang District. Without advanced tools such as surveillance systems, drones, and real-time communication networks, security forces struggle to monitor the vast and inaccessible border areas effectively. The joint statement from the participants on lack of technology is as follow.

“Due to lack of technology we are being blind. We operate manual patrols and traditional monitoring methods are time-consuming and inefficient. The absence of reliable communication networks also have hinders our coordination by creating delaying response times during emergencies. Not only in border security but also it has impact local communities by restricting their access to information and tools that could enhance their participation in security efforts.”

Table 4.19*Technological Comparison at Border Area*

Lacking devices	Functions	Remarks
Automated Tax Collection Systems	Fully automated, AI-based tax collection	Used by counter parts
CCTV Surveillance Systems	Facial recognition cameras at borders	Used by counter parts
Biometric Authentication Devices	Widely used in tax and banking systems	Used by counter parts
GPS Tracking Systems	Logistics & tax monitoring	Used by counter parts

Source: APF, Nepal BOP Nechung (2025)

The Table 4.19 shows disparity in technological usages at border crossing point. Most of the highly sophisticated devices such as CCTV, biometric authentication, GPS, automated tax collection system are used by counter parts. The usages of these technological usages will enhance all the aspect of Mustang border security.

4.3.4 Challenges under Civic Action

Civil support in border security refers to the involvement of local communities, non-governmental organizations and other civilian stakeholders in enhancing border management and security efforts. This collaborative approach recognizes that civilians living in border areas possess valuable local knowledge, such as familiarity with the terrain, weather patterns, and traditional routes, which can significantly aid in monitoring and preventing illegal activities. The followings are the theme generated in terms of civil support in border security challenges at Mustang district of Nepal.

a. Custom differences

Most of the participants have highlighted on custom indifference at mustang district. People at this area favor their unique custom and tradition. A member of FGD stress that,

“We have a different set of practice in birth, marriage and death. These practices are our identities and our identities are being famous in world. Hence, this set of practice need to be preserved.”

Table 4.20

Spoken Language

Language	Percentage
Nepali	39.4
Lhopa	22.8
Gurung	17.9
Thakali	13.6
Magar	2.2
Tamang	1.0
Sherpa	0.5
Rai	0.4
Others	2.2
Total	100

Source: National Census (2021)

The Table 4.20 shows on Nepali language being mostly spoken. At border area, the counterpart speak Tibetan language, and the linguistic from APF, Nepal is trained on Chinese language. This is also observed to be one of the challenge in terms of language.

b. Lower Population

The lower population in Mustang District also poses a t challenge to border security. Due to low availability of human resources at the villages’ areas, many operations can be hampered. During a FGD, one participant stated,

“With fewer people living in the border regions, there are not enough locals to assist in surveillance or report suspicious activities, which make it difficult to maintain a strong security presence”

Supporting to this statement, one KI highlighted,

“The sparse population means that security forces are stretched thin, and there is limited community support for border management efforts. This creates vulnerabilities that can be exploited by criminals and unauthorized cross-border movements”

The low population density also affects the economic viability of establishing infrastructure and services in the region which reduces infrastructural development and effects on border security.

Table 4.21

Population parameters of Mustang

Particulars	Number	Remarks
Population	14452	Male:54% & Female:46%
Density	3.8 / km ²	
Households	3305	
Median Age	32 years	
HDI	0.5626	

Source: National Census (2021)

The Table 4.21 provides demographic and socio-economic data. The total population is 14,452, with a gender distribution of 54% male and 46% female. The population density is relatively low with 3.8 people per square kilometer, indicating a sparse distribution across the area. There are 3,305 households, suggesting an average household size of about 4.37 people. The median age of the population is 32 years, reflecting a relatively young demographic. The HDI is 0.5626, which indicates a moderate level of human development, considering factors such as life expectancy, education, and income. Overall, the data suggests a young, thinly populated community with moderate socio-economic development.

4.4 Opportunities to Enhance Border Security

Despite its challenges, the Mustang border region presents several opportunities that can be leveraged for economic, cultural, and strategic benefits. These opportunities can be taken from its unique geographical location, cultural heritage and potential for cross-border collaboration. Below are some key opportunities theme generated and discussed.

4.4.1 Opportunities under Physical security

As discussed earlier, physical security is the protection of people, property, and assets at border area from physical threats. They include unauthorized access, theft, vandalism and natural disasters. The procedure of physical security are installation of barriers, availability of surveillance systems, and access control of a location.

a. Geographical Advantage

The geographical advantage of Mustang border also have an s opportunities for economic, cultural, and strategic development. During interaction, all participant emphasized,

“The geographic location as a gateway between Nepal and China offers huge potential for cross-border trade, tourism, and regional connectivity. Lots of Chinese tourist are willing to visit Lomangthan and pokhara. Its proximity to Tibet and the historical trade routes can be revitalized to boost local economies and strengthen bilateral ties”

The high-altitude deserts, cliffs, and narrow passes make unauthorized movement difficult, thereby reducing the likelihood of infiltration. The challenging topography itself acts as a first line of defense, limiting routes that can be used for illegal activities. Unlike open borders in the plains, the Mustang region has few accessible routes, allowing authorities to enforce regulations more efficiently. Hence, geographical advantage can facilitate the development of infrastructure, such as roads and communication networks, enhancing connectivity and trade.

b. Counter parts cooperation

Cooperation among the counter parts are harmonized in joint task in border management procedure. The cooperation between security counterparts along the Mustang border of Nepal can enhance border security by trade facilitation, and local community wellbeing. Both KI stressed on cross-border collaboration with Chinese counterparts to improved intelligence sharing. This procedure can reduce incidents of smuggling and illegal border crossings. One senior officer stated on regular communication and joint patrolling to deter criminal activities for more secure and controlled border environment. Similarly, a member of FGD highlighted the economic benefits of such cooperation. Such cooperation improves coordination between security forces for smooth border trade, reducing unnecessary delays and enhancing trust among traders. The local communities have expressed confidence in the stability brought by

security cooperation, fostering economic growth and people-to-people exchanges. Increase in coordination through information-sharing, joint training exercises and diplomatic dialogues strengthen Mustang border security. The following are the number of Joints meetings conducted between Nepal and China

Table 4.22

Number of Joint meetings

Fiscal Year	Number	Remarks
079/80	2	Cross border patrolling and Information sharing
080/81	2	
081/82	1	

Source: APF, Nepal Mustang Coy profile (2025)

c. Strategic surveillance points

The Mustang border also acts as a crucial strategic surveillance point due to its geographical location. Due to its rugged terrain and high-altitude, natural advantage point for monitoring cross-border movements can be conducted. Both KI, the elevation allows for long-range visibility and early detection of unauthorized activities. They emphasized right surveillance equipment need to be monitor deep into the territory in order to identifying potential threats before they materialize. Also, the narrow passes and distinct trails create natural choke points, which makes easier to focus surveillance efforts on a few key locations rather than a vast open border. Some strategic point of surveillance can be korola pass, lomangthan, choser, ghami and samar. The joint statement from KI and FGD are as mentioned

“The security forces stationed in Mustang are need to be well aware of movement patterns of the people and [traders] as surveillance can make it difficult for illicit trade or unauthorized crossings to go unnoticed. The local communities can play an essential role in intelligence gathering, as they are familiar with unusual activities in the region”

d. Tourism Prospects

Tourism in Mustang have become as a major profession which helps to boosts the local economy. Due to prospects of tourism, it has contributed in strengthening border security as

well. The influx of tourists from both domestic and international area, increases regular human activity in the region. According to KI the presence of tourists has led to an increase in security infrastructure including checkpoints and patrolling units. FGD emphasis that tourism creates employment opportunities by reducing the economic vulnerability that often drives illicit border activities,

“With more tourists, local communities are engaged in businesses, making them less likely to engage in smuggling or illegal border crossings. The local community plays a crucial role in border surveillance by reporting suspicious activities. [Since] we are familiar with the terrain and movements in the area, we often assist security forces by providing information on unusual activities.”

Table 4.23

Touristic Destination

Particulars	Location	Remarks
Muktinath temple	Muktichetra	One of the oldest sacred Buddhist and Hindu pilgrimage sites
Damodar Kunda	Damodar Kunda	Religious and Adventurous place
Kagbeni		Ritual place of Hindu
Marpha	Garpong	Tourist Village for apple juice
Lomangthang Palace	Lomangthang	Historical forbidden palace
Sky caves	Lomangthang	
Dhumba Lake	Gharpong	
Chema lake	Gharpong	
Korola Pass		
Thubchan Gompa		

Source: APF, Nepal Mustang Coy profile (2025)

The Table 4.23 shows the major touristic destination. This can be taken as an opportunity in terms of border security as it enhance the prospects of revenue .As said by participants, tourism also compel security force for deployments and provision to construct surveillances. Hence, they are regarded as opportunities.

e. **Infrastructural development potential**

The infrastructural development in Mustang is on developmental phase. Currently, hydroelectricity, roads, bridges, communication networks, schools and health post are in top priority. The infrastructural development is an opportunity to enhance border security simultaneously by promoting regional development. According to KI, the improved infrastructure facilitates faster response times and effective monitoring of cross-border movements. The expansion of roads and the establishment of security outposts in Mustang have significantly improved our ability to patrol remote areas and respond to security threats promptly.

With better road connectivity, security forces can reach border areas quickly, ensuring a safer environment for trade and tourism. Improved communication networks, such as mobile towers and internet access, have enabled better coordination between security agencies and local communities. One of the FGD participant, pointed out,

“Before, it was difficult to report suspicious activities due to poor communication, but with improved network coverage, authorities can now be alerted immediately.”

The theme on infrastructural development can be verified from the following data provided by DAO, Mustang.

Table 4.24

Number of Hydroelectricity constructed in Mustang

Projects	Capacity(K.W.)	Status
Chokhopani Hydro	240	Running
Charang Micro Hydro	16	Running
Thapa khola Hydro	13.6	Running
Marang Micro Hydro	25	Running
Lomangthan Solar Power station	70	Running

Source: District Administration office, Mustang (2025)

The Table 4.24 shows the prospects of hydroelectricity in district. This investment would bring prosper in road linkage by assisting in connectivity in terms of border security. Other facilities are also expected from these investment which have direct impact on border security. Similarly, the increased in hydroelectricity also had brought improvement in road linkage. The following data show the current status of road linkage in the district.

Table 4.25

Road linkage of Mustang

Particulars	Kilometer	Remarks
Jomsong-Ghasa	37	Pitched and Rough
Jomsong- kagbeni	10	Pitch
Kagbeni- chusang	14	Off-Road
Chusang-Korola	86	Off-Road

Source: District Administration office, Mustang (2025)

The Table 4.25 shows the road network of district. In terms of border connevity, Jomsong-Ghasa road have been partially pitch whereas major highway taking to Korola is still off-road. The major hydroelectricity construction in places like Lomangthang and Charang can enhance road linkage with better facility.

4.4.2 Opportunities under Trans border Crime

In neutralizing trans-border crime at mustang district, there are ample of opportunities that can be materialized. Due to its remote location and porous border with China, the district is vulnerable to illegal activities such as smuggling, human trafficking, and wildlife poaching. The fragility and uniqueness of terrain also provides various opportunities, the theme are analyzed below.

a. International collaboration (Bilateral agreement)

The locals of Mustang district are provided with a pass to cross the border for trading purpose. This formal and legal action can facilitate and regulated cross-border trade and improve surveillance. According to KI, the formal agreements have enable structured communication between border forces by reducing misunderstandings and enhancing coordination. In FGD a

point on clear border trade policies was raised where all participants' favored bilateral agreements can reduce unnecessary restrictions, making legal trade more efficient and transparent.

b. Limited escape route (Few crossing point)

The remote and difficult terrain of Mustang make an advantage by having limited escape route to enhance border security. In plains areas the intruders can disperse easily, but the terrain here reduces easy escape. According to KI, the restricted number of crossing points allows for focused surveillance, reducing illegal activities such as smuggling and unauthorized border crossings. According to one KI,

“With only a few accessible routes, we can strategically position security personnel and checkpoints, making it difficult for criminals to evade detection. [Unlike] other border areas, where people can find multiple ways to escape, here in Mustang, authorities can easily track and intercept unauthorized movements”.

This statement was supported by five FGD. The challenging weather conditions further restrict movement by making illegal crossings riskier. Both KI and FGD participants agreed that by strengthening surveillance at key routes and utilizing modern technology like drones and CCTV cameras, Mustang's natural geography can be leveraged to enhance border security effectively.

c. Local support

Local are the indigenous and first protector of the border and their support in Mustang border security is crucial. During FGD, participants emphasized that locals possess invaluable knowledge of the terrain, weather patterns, and hidden routes, which can significantly enhance surveillance efforts. One participant stated,

“We've lived here for generations and we know every trail and every rock. If the authorities work with us, we can help them spot anything unusual. Our people are the eyes and ears of this region. Trusting us with more responsibility will make the border safer”

Similarly, KI revealed that local herders and farmers often act as the first line of defense, reporting suspicious activities long before formal patrols can detect them. By integrating local insights into security strategies, authorities can build trust, improve response times, and create a sense of shared ownership over border protection. This collaboration not only strengthens security but also empowers communities, turning them into active stakeholders in maintaining peace and stability.

4.4.3 Opportunities under Revenue security

Revenue security is one of the prime concern of any nation. Since, the borders of Mustang was closed during COVID crises, there were no cross border trade. Currently, due to resume of cross border trade, revenue is a prime concern. A revenue security can serve as a significant opportunity to enhance border security by creating a mutually beneficial relationship between economic stability and safety. When border areas are effectively managed to prevent smuggling, tax evasion, and illegal trade, it ensures a steady flow of legitimate revenue for the government. In terms of Mustang border security the following theme are generated from FGD and KI.

a. Trading opportunities

Trading opportunities in Mustang district can enhance border security by increasing economic activities among the border population. Currently, lots of local traders visit Korola border every day for shopping. This practice have built a trust between communities and authorities. By formalizing trade, the people will not be engaged in illegal smuggling and criminal activities. This creates a transparent system where goods are tracked, and revenue is properly taxed. When locals benefit from legal trade, they are more likely to cooperate with authorities to protect their income sources, acting as a natural surveillance network. All the member of FGD mention that,

“If the government allows us to trade legally, we won’t need to rely on informal trade and [...]. It will also bring more money to our villages, and we can help the authorities keep the border safe .When we have a stable income from trading, we have more to lose if illegal activities disrupt our business.

The trading opportunities in Mustang can enhance border security by creating economic incentives for the local community. The community collaboration with local authority are productive in improving infrastructure and technological advancement. Hence, by integrating

local and authority relationship and formalizing trade, authorities can build a safer and more prosperous border region.

b. Tourism Revenue

The main source of income of district is tourism sector. It can serve as an opportunity to enhance border security in Mustang by enhancing tourism revenue. During FGD, all participants emphasized that tourism has already transformed the local economy, reducing reliance on illegal activities. They mention,

“Before tourism, many people relied on smuggling to make ends meet. Now, with tourists visiting, we have a stable income and no reason to take risks. It has brought infrastructure development, like better roads and communication networks, which have made it easier for us to monitor remote areas.”

The revenue generated from tourism can be reinvested into security measures, such as surveillance systems and community training programs. Increased in tourist activity has led to better infrastructure, aiding security patrols funds security upgrades, such as CCTV cameras and border checkpoints.

c. Government approach

The government of Nepal can intervene in any circumstances to improve border security in Mustang. It can facilitate by integrating policy, infrastructure development, and community engagement. During FGD, One participant stated,

“If the government provides us with resources and training, we can play a bigger role in securing our borders. We know the terrain better than anyone. By investing in border infrastructure and involving local communities, we’ve seen a 30% reduction in illegal crossings in the past two years”

The government can focus on modern technology, such as surveillance systems and digital tracking and the using technology like drones and CCTV to make it easier for monitoring illegal trade and prevent smuggling.

4.4.4 Opportunities under Civil action

The supportive civil population is always considered as an aid in Border security. Civil support is a vital tool in border security because it enhances cooperation between security agencies and local communities. It has an enormous role to improve intelligence gathering and ensures more effective and sustainable security environment. In terms of Mustang civil support for border security role, the following theme is generated.

a. Supportive citizens

The residents of Mustang are in supporting border security through active community engagement and collaboration with security agencies. In FGD, one of the member highlighted the community proactive stance in monitoring cross-border activities and reporting suspicious movements to authorities. He said, “Our community understands the importance of maintaining secure borders to preserve our way of life”. There are different social organizations, clubs and ward development units operated to assist in border security procedure. One KI stated,

“Local clubs act as vital partners in border security by providing real-time intelligence. It is a huge support to APF personnel. This connections within border communities enable us to identify suspicious activities, unauthorized crossings, and potential threats that might otherwise go unnoticed.”

Similarly, a local participant also agreed on his views and noted the program launched by APF, Nepal such as border development program and APF, Nepal with border residents have huge impact and is considered to be an opportunity to enhance border security of Nepal. He stated that, “This sorts of coordination between security forces and local residents, ensuring a swift response in emergencies. During natural disasters or crises, local clubs play a key role in rescue operations and relief distribution, supporting the APF in maintaining order and security”

The statement given by participants and FGD can be analyzed and interpreted from the data on availability of social organizations in border area and Mustang district. The number of social organization in Mustang district are as follows.

Table 4.27*List of Social Organization in Mustang District*

Name of Organization	Address	Assist to APF, Nepal
Jomsom Women Group	Gharpajhong -4, Jomsom	Actively report suspicious activities and illegal trade.
Thini Women's Group	Gharpajhong -5, Thini	Real-time information about the movement of unknown individuals and potential threats.
Chhiring Women's Group	,Gharpajhong - 2, Chhiring	Real-time information on social affairs.
Janahit Youth Club	, Gharpajhong - 4, Jomsom	Door-to-door campaigns and search and Rescue
Janamukti Youth Club	, Gharpajhong - 5, Thini	Door-to-door campaigns and search and Rescue

Source: Research findings, (2025)

4.5 Strategies to be adopted in Addressing challenges

By identifying the facts on challenges and opportunities, the researcher also extracted useful strategy to be adopted to enhancing border security in Mustang District. As district shares an international boundary with China, it is vulnerable to illegal cross-border activities. To address these challenges the researcher had asked question to KI. Also in FGD, discussion to adopt a strategy for surveillance, enhancing community engagement, and improving inter-agency coordination was discussed. The followings are the theme generated from interview, in terms of physical security, Trans border crime, revenue security and civil support.

4.5.1 Strategies in Physical security

A physical security strategy in border security refers to the use of infrastructure, technology, and manpower to prevent unauthorized crossings, illegal trade, and other security threats. This strategy includes border fencing, checkpoints, watchtowers, and surveillance systems to control and monitor movement across borders effectively. In terms of border security in this district, all procedure are not viable. The following are the theme generated from KI and FDG.

a. Security enforcement

In order to strength border security a strict law implementation is necessary. This is done by increasing strength of APF, Nepal. Increased in border patrolling and effective coordination among security forces are the major activities to be conducted. All KI highlighted the importance of enforcement strategies in securing the border: They stated,

“[We need to] increase regular patrols, and use advanced surveillance technologies and strengthening coordination between security agencies and local communities. Establishment of additional border checkpoints [Ghami gau] and intelligence-sharing networks need to be prioritized. [Lets conduct] personnel training and joint exercise and ask more budget.”

Thus, these statement from participants are relevant as concerned to physical security concepts. A well-executed security enforcement strategy helps to combine law enforcement agencies to achieve better result in border surveillance, intelligence, fortification and community participation.

b. Infrastructure development

Infrastructure development is a strategic tool for enhancing border security in District. It enhance security by improving accessibility, surveillance, and response capabilities in remote and sensitive areas. All participants stated that

“[Firstly] investing in roads is necessary. The scary road have reduced our communication networks and connectivity. We are convince with new BOP of APF, Nepal but forward post at Korola is necessary. This not only strengthens the presence of security forces but also raises economic activities in district. “

The importance of improved infrastructure was advocated by all the member of FGD. They accept on facilitates such as faster mobilization of security personnel, real-time monitoring and builds trust with local communities. Hence infrastructure projects like highways, network and technology are only the necessity. This can enhance connectivity with neighboring regions and promoting legal trade by reducing illicit cross-border activities.

c. Inter-agency cooperation

Inter-agency cooperation can significantly enhance border security in any region. It is a universal guideline declared by world governing bodies. In terms of Mustang District a coordinated approach need to follow with all civil and security agencies. A KI stated that,

“Effective coordination among the Nepal Army, Armed Police Force, Nepal Police, and local administration ensures a seamless flow of intelligence, resources, and operational support, which is critical for securing remote and porous borders.”

By sharing information, conducting joint patrols, and coordinating response strategies, agencies can address vulnerabilities such as illegal cross-border activities, smuggling, and human trafficking more effectively. Additionally, collaboration with customs, immigration, and local community leaders can strengthen surveillance and build trust, ensuring a holistic approach to border management. This integrated strategy not only enhances operational efficiency but also ensures that security efforts are aligned with the socio-economic needs of the region, creating a more secure and stable border environment in Mustang.

4.5.2 Strategies to reduce Trans border Crime

Neutralizing trans-border crime is fundamental aspect of border security. Many nations have prioritize on different strategic action to reduce trans-border crime. In the context of mustang, the status of trans-border crime is not figured in higher number. The official border crossing point was opened in November 2023 A.D. The participant focused on following aspect in order to neutralize trans-border crime.

a. Enhance civic actions

Civic action are the collaborating action with local citizens in order to win the heart and mind of population. It plays a crucial role in reducing trans-border crime where local communities are actively engaged in governance, economic development, and awareness programs. According to one KI,

Civic actions make citizens more vigilant against illegal activities so we need to strength community-police relations. [Let’s] provide people educational and opportunities that can assists on their likelihood of being involved in cross-border criminal networks.

Collaborative efforts between security agencies, local government, and civil society enhance border security by promoting legal trade and travel while discouraging illicit activities

b. Deployment of Custom Office at Korola Crossing Point

All the member of FGD and KI insists on the deployment of a customs office at Korala border crossing. It is a crucial step in reducing trans-border crime and enhancing revenue in Mustang district. A well-functioning customs office will enable stricter monitoring of goods and individuals crossing the border, thereby curbing illegal activities such as smuggling, human trafficking, and drug trade. The presence of customs officials will also deter criminal networks that exploit the porous border. It will further enhance collaboration between customs officers and other security agencies in intelligence-sharing and enforcement measures. The joint statement of FGD is as mentioned.

“We just inaugurated immigration office at korola border but the custom office is located 14 km far from border. There are no custom officials so it is necessary to relocate custom office at border. APF, Nepal also need to be stationed at border.”

In Korola border lots of people go to visits and purchase many goods. The absence of custom office at crucial point have been a improving point. While talking with custom and immigration officials, they replied it is their official policy and they cannot so against the policy.

c. International assistance

The opening of Korola border have brought delight in the face of local people. Instead, the counter-part is insisting for logistical support to established border governing offices. International assistance have played vital role in reducing trans-border crime. The participants emphasized that,

“Foreign aid can support the deployment of advanced surveillance technology, capacity-building programs for security personnel, and the establishment of cross-border intelligence-sharing mechanisms. Due to international partnerships legal trade and economic development can take place, so we need support from international organizations.”

Especially in community-based actions, such as awareness programs and alternative livelihood opportunities are necessary to uplift the life of people. Also, technical and logistical support for border management would ensure better coordination among security agencies leading to a more effective response against cross-border threats.

d. Mobile checkpoints

A mobile checkpoint is a temporary and flexible security inspection point set up by law enforcement or security agencies to monitor and control movement in specific areas or regions prone to illegal activities. In the context of Mustang district, mobile checkpoints would help security forces monitor trans-border crime by conducting surprise inspections on vehicles. One of the KI, stressed that

“The recent incident of illegal electronic cigarettes [vep] occurred due to lack of mobile checkpoints. The mobile checkpoints allow us to conduct random inspections which make making it difficult for criminals to identify and exploit fixed security gaps. There is only one major highway so it is necessary to construct mobile checkpoints.”

Establishment of mobile checkpoints enhance real-time enforcement and intelligence gathering to disrupt trans-border crime networks. But the establishment of mobile check point require administrative decision and coordination between security agencies and local communities.

4.5.3 Strategy for Revenue support

In terms of enhancing revenue security certain action and strategies are offered by participants.. Currently, due to resume of cross border trade, revenue is a prime concern. A revenue security can serve as a significant opportunity to enhance border security by creating a mutually beneficial relationship between economic stability and safety. In terms of Mustang border security the following theme are generated from FGD and KI.

a. Use of Technological devices (Biometric, scanner)

The use of technological devices such as biometric systems and scanners is a crucial strategy in enhancing revenue security. All KI emphasized that biometric verification ensures accurate identification of individuals crossing the border and reducing the chances of illegal trade. The joint statement from FGD and KI are as mentioned.

“Our counterpart is using real-time surveillance through AI-powered cameras, motion sensors, and drones so we also need to integrate these technologies into a centralized database for customs procedure. We really need real-time intelligence sharing for quick action against any fraudulent activities.”

Adopting advanced technological devices at the Mustang border would not only enhance revenue collection but also improve overall border management by reducing smuggling. These require government interest and huge investment. There is also necessity to conduct training to use these technology

b. Risk profiling

The new strategy was indicated by participants for effective revenue security. Risk profiling identifies individuals, groups, and goods that pose a higher threat of engaging in illegal activities. Participants and FGD highlighted the following,

“We need to conduct risk profiling at border checkpoints and in district administration office. It should focus on illegal traders, frequent travelers, behavioral patterns, and characters of people. It help us risk with intelligence-sharing and investigation procedure.”

In profiling, security agencies have their own procedure and official plans. However, it is said to be confidential and is not allowed to be shared unless instructed from higher command.

c. Data sharing programs

A data sharing program can be crucial strategy for reducing trans-border crime in Mustang district. Participants emphasized that effective data sharing would help track individuals and groups involved in smuggling. Both KI were in the point of data sharing program but one KI said as impossible. The following are the joint statement for FGD and KI

“Data sharing can be done only from cross-border cooperation with counter parts. It is a great idea in sharing criminal databases and surveillance reports would further strengthen crime prevention efforts. Firstly we need to have our capacity and secondly diplomatic effort are required and it take a lot of time.”

The implementation data-sharing program would not only enhance monitoring and law enforcement capabilities but also create a more secure and transparent border management system in Mustang district.

d. Joint Trainings

Joint training programs for security agencies are essential in reducing trans-border crime in Mustang district. It enhancing coordination for improving enforcement techniques and promote information sharing among law enforcement bodies. All KI insist on the following,

“Joint trainings need to conduct among the APF, Nepal, customs officials, Nepal Police, quarantine and NID. It will standardize procedures for identifying and responding to smuggling and other illegal cross-border activities. Training on surveillance technology, risk profiling, and intelligence gathering would strengthen border security operations.”

The joint exercises and simulation-based training would improve inter-agency coordination and ensure a rapid response to emerging threats. The conduction of joint training programs also with security forces from neighboring countries could further enhance cooperation and cross-border crime prevention. This action should be witnessed and managed by district administration office.

4.5.4 Strategy for Civil support

Civil support is considered a good strategy in the border security of the Mustang district of Nepal. As unique geography, cultural, and religion also has acted as a challenges, it is necessary to work together with local communities to share deep knowledge of the area in terms of weather patterns and traditional routes. By involving civilians, security force can get grassroots intelligence. This strategy is also cost-effective and minimizing by maintaining wealthy relations. The following are the theme generated from participants.

a. BADP and awareness program

The first step in getting support from civil is enhancing awareness program. Awareness is the process in which security force and civil society can be united and have a sense of oneness. In order to promote sense of oneness for maintaining profound border security. APF, Nepal is

conducting different civic action programs and from KI and FGD following statement have been developed.

“We are happy that APF, Nepal is conducting different programs for us. This is a good tool adopted by APF, Nepal for us. Border facilitation committee have been a platform for development program. This kind of program should be enhanced and Government of Nepal should allow budget for APF, Nepal.”

The strategy of BADP is adopted by APF, Nepal which is a historic steps for maintaining the national security along with border security of Nepal. The launch of different program focusing on BADP by Armed Police Force, Nepal in the starter on proliferation of border security. In the context of Mustang, the following table reveal the efforts of BADP program.

Table 4.27

BADP at Mustang district

S.N.	Program	Total	Remarks
1	APF with border citizens	2	Program conducted in the year 2080-81 in Mustang by BOP, Nechung and Coy Hq, Jomsom.
2	Awareness Program	10	
3	Interaction with ward Chairman	5	
4	Civic Actions	5	
5	Border Facilitation Committee	5	
6	Health Camp	2	
7	Skilling Training	1	
8	Construction Support	8	
Total			

Source: APF, Nepal Mustang Coy profile (2025)

b. Enhance trust between security force and local community

Trust between security forces and the local community is crucial for effective border security in Mustang District. The local community is considered as a first line of defense and their invaluable knowledge of the terrain and local customs are assets in security force. In this regards, KI and FGD have stated following statement.

“Without trust, cooperation between security forces and locals diminishes, there will be lack of intelligence sharing and reluctance to report suspicious activities. We need to have transparent communication. It is also necessary to address local grievances respect the cultural practices in order to collaborate.”

On the other hand, if mistrust occurs, it can separate the community and border security efforts will be less effective. Therefore, fostering trust is not just a moral imperative but a strategic necessity for safeguarding borders.

c. Promote cultural and social integration

As Mustang is a land of historical importance, there are difference cultural and religious practiced here. The KI have previously identified religious and cultural of Mustang as a challenge in border security. Most of the people follow Buddhism and previously it was considered as a Lo kingdom, with different set of practice and belief. Hence, in order to strength border security, the crucial step are assimilating the cultural and social belief. One member of FGD stated that,

“In Nechung, we drink tea prepared from ghee, we eat potatoes and eat meat of changra (Mountain Goat). We have a different type of birth, marriage and death ritual and mostly we celebrate Tiji and Loshar. We speak Tibetan Language.”

Hence, all these aspect should be highly adhered by security force. Imbalance and neglect to this aspect would bring confrontation and mistrust between community and security force.

Quantitative Analysis

In quantitative analysis, the researcher have sequenced from demographic information, descriptive analysis to inferential analysis. The generated theme form participants and FGD were surveyed in order to prioritize and verify the findings. This section consists of all the findings of quantitative analysis.

4.6 Demographic Information

Demographic variables are essential in analyzing the importance of opportunities, challenges and strategy of border security in Mustang district. There were 68 respondents from four sector. The major determinant factor of selecting respondent was their experience. The researcher has

expected that both senior officer and junior officer who have worked more than one year in Mustang border governance will provide honest response in survey. The experience have overall impact as it reflect the actual phenomena of border governance. The overall information of respondents relating to rank and working experience are as shown below.

Table 4.28

Demographic Information of participating officers and their experience in Field

Sector	Experience at District		Total
	Upto1Year	More than 1 Year	
Administrative	S.O 8	S.O 2	16
	J.O 4	J.O 2	
Security	S.O 16	S.O 7	40
	J.O 10	J.O 7	
Local Government	S.O 2	S.O 4	8
	J.O -	J.O 2	
Private Sector	S.O -	S.O 4	4
	J.O -	J.O -	
Total	40	28	68

Source: Field Survey (2025)

The Table 4.28 displays the number of senior officers and junior officers and their working experience in district. In administrative sector, out of 16 officers, 8 S.O. and 4 J.O have up to 1 year of experience, while 2 S.O. and 2 J.O have more than 1 year of experience. Similarly, in the security sector, has the highest number of 40 officers, where 16 S.O. and 10 J.O. have up to 1 year of experience, whereas 7 S.O and 7 J.O. have more than 1 year of experience. The local government sector, with a total of 8 officers, has 2 S.O. with up to 1 year of experience, while 4 S.O. and 2 J.O. have more than 1 year of experience. The private sector has the lowest number of officers only of 4 S.O. having more than 1 year of experience.

In overall, the respondents were 43 S.O and 25 J.O. The working experience of overall officers having up to 1 year is 40 and more than 1 year is 28 where 26 S.O and 14 J.O have working experience of up to 1 years. Similarly, 17 S.O. and 11 J.O have experience more than 2 years.

4.7 Result of Survey

Table 4.29

Challenges of Border security (%)

Theme		Not Important	Little Important	Average	Very Important	Essential
Physical Security	Geographical Barrier	6.7	11.1	4.4	71.1	6.7
	Geopolitical Concern	6.7	24.4	11.1	24.4	33.3
	Human Sensitivity	11.1	24.4	26.7	22.2	15.6
	Climatic Factor	8.9	17.8	46.7	22.2	4.4
	Resources Constrains	2.2	20	35.6	37.8	4.4
Trans Border Crime	Isolate Border	6.7	51.1	8.9	13.3	20
	Socio-cultural Aspect	2.2	6.7	11.1	80	-
	Border Market	2.2	28.9	13.3	28.9	26.7
Revenue Support	Informal Trade	11.1	20.0	17.8	31.1	20
	Lack of Technology	11.1	15.6	35.6	31.1	6.7
Civil Action	Custom differences	6.7	20.0	37.8	31.1	4.4
	Lower Population	6.7	51.1	13.3	15.6	13.3
N=68						

Source: Field survey (2025)

The Table 4.29 shows the result of response of theme in terms of challenges in four category. They are physical security, Trans border crime, revenue support, and civil. The responses are categorized into five levels of importance: Not Important, Little Important, Average, Very Important, and Essential. In physical security, 77.8% of respondent's highlighting geographical barrier above very important. Geopolitical Concerns show a diverse range of opinions, with 57.2% considering it above very important. Human Sensitivity is mainly rated as Average 37.8% above very important. Climatic Factors are predominantly seen as average with 26.6% above very important, indicating their role in security but not as a primary concern. Resource Constraints are recognized above very important as 42.2%.

In Trans-border crime, the isolated border have only 30.3% above very important indicating a perception that it does not significantly impact security cooperation. However, the socio-cultural aspect is overwhelmingly rated as Very Important 80%, emphasizing the influence of shared culture and identity across borders. Border Markets receive mixed responses, with 28.9% considering it very Important and another 28.9% rating it little important, suggesting both opportunities and challenges in security cooperation. In revenue security, informal trade is considered have 51% above very important, demonstrating its substantial impact on revenue generation. Lack of technology is seen as average with 35.6% and very important with 31.1%, indicating a moderate concern that could hinder security cooperation and revenue collection efforts. In civil support, custom differences are primarily rated as 35.5% above very important showing their role in influencing security cooperation. Lower Population ranks Little Important 28.9% above very important indicating that demographic factors may not be a significant challenge to security collaboration.

Table 4.30

Opportunities of Border Security (%)

	Theme	Not Important	Little Important	Average	Very Important	Essential
Physical Security	Geographical Advantage	13.3	13.3	35.6	37.8	-
	Counter-parts cooperation	11.1	24.4	22.2	15.6	26.7
	Strategic Surveillance Points	6.7	37.8	42.2	4.4	8.9
	Tourism Prospects	-	11.1	17.8	44.4	26.7
	Infrastructural Development	6.7	11.1	51.1	17.8	13.3
Trans Border Crime	International collaboration	11.1	13.3	35.6	17.8	22.2
	Limited escape route	8.9	28.9	48.9	13.3	-
	Local support	4.4	22.2	42.2	22.2	8.9
Revenue Support	Trading opportunities	4.4	4.4	22.2	46.7	22.2
	Tourism Revenue	2.4	19.8	42.2	26.7	8.9
	Government Approach	4.4	13.3	22.2	20	40

Civil Action	Supportive citizens	-	12.9	28.9	57.8	-
N=68						

Source: Field survey (2025)

The Table 4.30 presents the factors influencing physical security, geographical advantage is primarily rated as Average with 35.6% and very important 37.8%, which shows significant role in security cooperation. Counterparts Cooperation receives mixed responses, with 26.7% considering it essential, while 24.4% rate it as Little Important, showing some divergence in opinions. Strategic surveillance points are seen as average with 42.2%, but only 8.9% consider them essential, suggesting that they are relevant, they are not a top priority. Tourism Prospects are viewed as very important with 44.4% and essential with 26.7%, reflecting their economic and security relevance. Infrastructural development is rated average with 51.1%, but also has very important with 17.8% and essential with 13.3% ratings, showing its key role in security enhancement. In trans-border crime, international Collaboration is mostly rated as average with 35.6%, where 22.2% consider it as essential. It shows necessity in addressing trans-border crime. Limited escape routes are perceived as average with 48.9%, showing their moderate importance in crime control. Local Support is considered average with 42.2% and very important with 22.2%, meaning that community involvement plays a role in security efforts. Trading Opportunities are recognized as Very Important with 46.7% and essential with 22.2%, showing their relevance to border security and economic stability.

In revenue support, tourism revenue is seen as Average with 42.2% and very important with 26.7%, suggesting its role in economic development and security funding. Government approach is largely rated as essential with 40%, demonstrating its critical influence on revenue support and security policies. Finally, in civil support, the supportive citizen's factor is viewed as very important with 57.8%, underscoring the significant role of public cooperation in ensuring security. Overall, the table shows that government policies, international collaboration, infrastructural development, and local support are crucial in security cooperation, while tourism prospects, trading opportunities, and supportive citizens also play vital roles in enhancing security and revenue generation.

Table 4.31*Strategy of Border Security (%)*

	Theme	Not Important	Little Important	Average	Very Important	Essential
Physical Security	Security enforcement	13.3	13.3	48.9	11.1	13.3
	Infrastructure development	4.4	-	15.6	48.9	31.1
	Inter-agency cooperation	-	4.4	8.9	73.3	13.3
Trans Border Crime	Enhance civic actions	13.3	20.0	22.2	35.6	8.9
	Deploy custom office	-	4.4	44.4	42.2	8.9
	International assistance	13.3	8.9	44.4	24.4	8.9
	Mobile checkpoints	13.3	17.8	48.9	8.9	11.1
Revenue Support	Use of Technological devices	-	4.4	13.3	46.7	35.6
	Risk profiling	2.4		10.9	75.6	11.1
	Data sharing programs	13.3	27.8	10	35.6	13.3
	Joint Trainings	4.4	20	22.2	42.2	8.9
Civil Action	BADP and awareness program	13.3	8.9	46.7	22.2	8.9
	Enhance trust	4.4	20	22.2	46.7	4.4
	Promote cultural and social integration	13.6	8.9	46.7	22.2	8.9

Source: Field survey (2025)

The Table 4.31 reveal in physical security, infrastructure development is largely rated as very important with 48.9% and essential with 31.1% which is crucial role in security enhancement. Inter-agency cooperation is considered very important with 73.3%, shows the necessity for effective security enforcement. For trans-border crime, enhancing civic actions and deploying custom offices are rated as very important above 35.6% and 42.2%, showing their significance in crime control. Mobile checkpoints receive a moderate response, with 48.9% considering them average, indicating their limited but relevant role.

Regarding revenue support, the use of technological devices is viewed as very important as 46.7% and essential 35.6%, emphasizing the role of technology in security. Risk profiling is marked very important 75.6% showing its effectiveness in security operations. Joint training Programs are also recognized as very important with 42.2%, showcasing the need for capacity building. In civil support, building trust between security forces and the local community is rated very important with 46.7%, indicating the importance of cooperation. BADP and awareness programs, along with promoting cultural and social integration, are rated average with 46.7%, showing their moderate role in security cooperation. Overall, inter-agency cooperation, infrastructure development, technology use, and community engagement are seen as key factors in improving security and border management. From this response, descriptive analysis is conducted with help in analyzing the mean responses and variances.

4.8 Descriptive Analysis

Table 4.32

Descriptive analysis Challenges of Border Security

	Theme	Mean	S.D	S.E
Physical Security	Geographical Barrier	3.23	.156	1.22
	Geopolitical Concern	3.60	.150	1.00
	Human Sensitivity	3.53	.202	1.35
	Climatic Factor	3.06	.186	1.23
	Resources Constrains	2.95	.145	.974
Trans Border Crime	Isolate Border	3.22	.134	.902
	Socio-cultural Aspect	2.88	.196	1.31
Revenue Support	Border Market	3.68	.104	.703
Civil Support	Informal Trade	3.48	.184	1.23
	Lack of Technology	3.28	.194	1.30
	Custom differences	3.06	.163	1.09
	Lower Population	3.06	.147	.986
Challenges		3.25	.163	1.01
N-68				

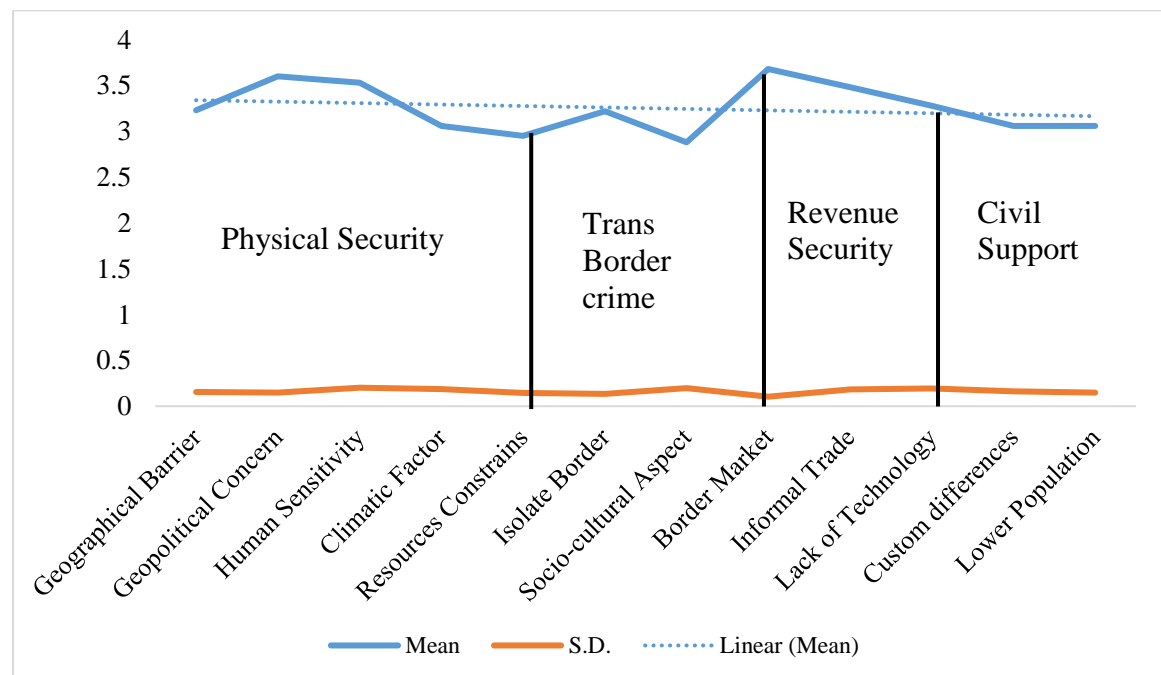
Source: Field survey (2025)

The Table 4.32 presents a descriptive analysis of the challenges of border security, categorized under physical security, trans-border crime, revenue support, and civil Support. It includes the mean, standard deviation (S.D.), and standard error (S.E.) for each factor, based on field survey data. In physical security, geopolitical concern has the highest mean with 3.6 which means that respondents consider it a significant challenge. Human sensitivity have 3.53 and climatic factors have 3.06 which present notable concerns, while resource constraints have 2.95 is perceived as a relatively lower challenge.

For trans-border crime, the border market have 3.68 which is rated the highest, suggesting its major role in security issues. Isolated Borders have 3.22 and socio-cultural aspects have 2.8889, shows moderate concerns. Under revenue support, informal trade with 3.48 and lack of technology with 3.2889 are seen as key challenges. In civil support, both custom differences and lower population have 3.06 value, indicating their relevance in border security but not as primary challenges. The S.D. and S.E. indicate variability in responses, with higher values in Human Sensitivity 0.202 and lower value in isolate border 0.134, showing diverse opinions on these issues. The following chart will make clearer on mean, variations and trend analysis.

Fig 4.4

Bar Chart of Challenges in Border Security



Source: Descriptive data from field survey (2025)

In the figure, blue line represents the mean values which shows the average significance of each factor in border security. The gray line S.D. represents the variability in responses, indicating how much individual responses deviate from the mean. The dotted blue linear trend line for the mean suggests a relatively stable trend across the factors, with no strong increasing or decreasing pattern. This indicates that the challenges influencing border security exhibit a consistent level of significance across different categories, rather than showing a clear upward or downward trend. Physical security and trans-border crime are seen as increasing trend and may have more effect than revenue security and civil support.

Table 4.33

Descriptive analysis Opportunities of Border Security

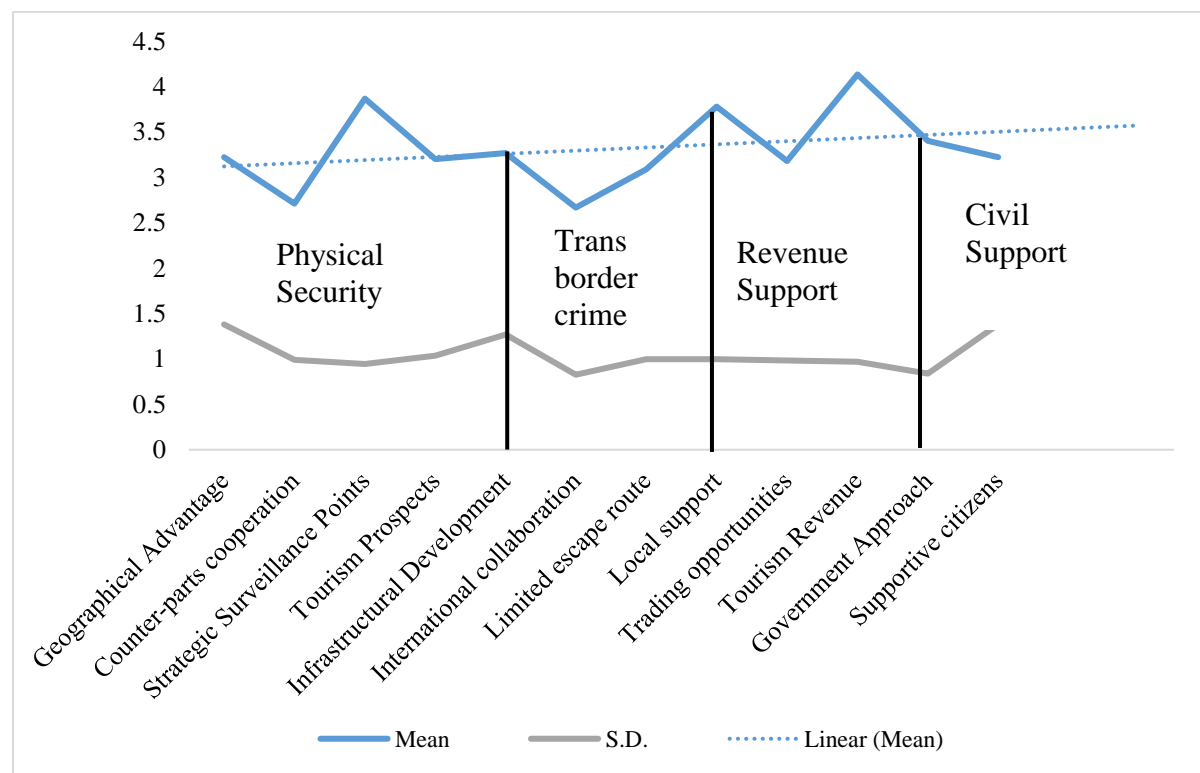
	Theme	Mean	S.E.	S.D.
Physical	Geographical Advantage	3.22	.205	1.379
Security	Counter-parts cooperation	2.71	.147	.991
	Strategic Surveillance Points	3.86	.140	.943
	Tourism Prospects	3.20	.154	1.035
	Infrastructural Development	3.26	.189	1.268
Trans	International collaboration	2.66	.123	.825
Border	Limited escape route	3.08	.148	.995
Crime	Local support	3.77	.148	.997
Revenue	Trading opportunities	3.17	.146	.983
Support	Tourism Revenue	4.13	.144	.967
	Government Approach	3.40	.124	.836
Civil Action	Supportive citizens	3.22	.205	1.379
Opportunities		3.30	.156	1.04
N=68				

Source: Field survey (2025)

The Table 4.33 provides a descriptive analysis on opportunities of border security, under physical security, trans-border crime, revenue support, and civil support. In physical security, strategic surveillance points have a mean value of 3.86 which is the highest, indicating its critical role in security operations, with relatively low variability S.D. 0.94388. Similarly, geographical advantage have mean 3.22 and infrastructural development mean 3.26 are also considered important, though responses show higher variability S.D. 1.37 and 1.26, respectively. Counterparts cooperation mean is 2.71 is rated the lowest, which means that inter-agency collaboration is seen as a moderate challenge. For trans-border crime, local support mean 3.7778 is rated as a significant factor representing the necessity of community involvement in border security. In Revenue Support, tourism revenue mean 4.13 is the most highly rated factor, emphasizing its major role in border area development. Under civil Support, supportive citizens mean 3.22 is considered moderately important but its high standard deviation S.D. 1.37987 suggests varied opinions among respondents. The following chart will make clearer on mean, variations and trend analysis.

Figure 4.5

Bar chart of Opportunities



Source: Descriptive data from field survey (2025)

In the figure, the dotted blue linear trend line for the mean shows a slight upward trend, suggesting that, on average, the significance of these factors increases slightly across the listed categories. This indicates that later factors, such as government approach and supportive citizens, may be considered increasingly important in border security and development discussions. The trend also suggests a general perception that factors towards the right side of the graph may have a greater impact on border-related opportunities than those on the left. Here, revenue support is seen as increasing trend and may have more effect than other variables.

Table 4.34

Descriptive Analysis on Strategy of Border Security

	Theme	Mean	S.E.	S.D.
Physical	Security enforcement	2.97	.172	1.157
Security	Infrastructure development	4.02	.140	.941
	Inter-agency cooperation	3.91	.118	.792
Trans	Enhance civic actions	3.26	.163	1.095
Border	Deploy custom office	3.51	.125	.842
Crime	International assistance	3.06	.166	1.116
	Mobile checkpoints	2.86	.166	1.120
Revenue	Use of Technological devices	4.08	.141	.949
Support	Risk profiling	3.88	.115	.775
	Data sharing programs	3.35	.171	1.151
	Joint Trainings	3.51	.125	.842
Civil	BADP and awareness program	3.04	.165	1.106
Action	Enhance trust	3.46	.117	.786
	Promote cultural and social integration	3.04	.165	1.106
	Strategy	3.425	0.146	0.984
N=68				

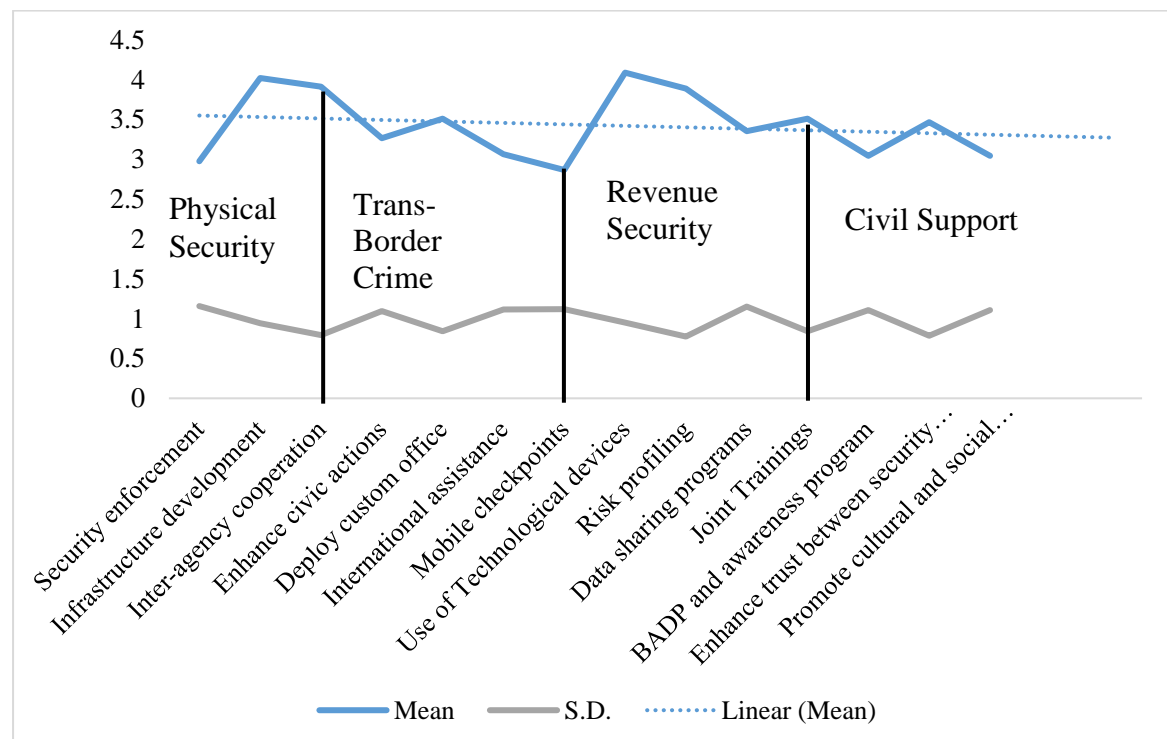
Source: Field survey (2025)

The Table 4.34 presents descriptive analysis of strategy under four domain of border security. The physical security consists infrastructure development which mean is 4.02, which is the

highest among all indicating strong agreement on its importance, with a relatively low S.D. of .941. It shows consistency in responses. For trans-border crime, deploy custom office has the highest mean of 3.51, with low S.D. with 842. International assistance and mobile checkpoints have lower means 3.06 and 2.86, respectively and higher variability, suggesting less consensus on their effectiveness. In the revenue support theme, use of technological devices scores the highest 4.088, indicating strong agreement on its importance, with low S.D. of .949. Risk profiling and joint trainings also score well 3.88 and 3.51, respectively, while data sharing programs has a lower mean 3.35 and higher variability, reflecting mixed views. Under civil Support, enhance trust between security force and local community has the highest mean 3.46 and low S.D. with.786, indicating strong agreement on its importance. BADP and awareness program and promote cultural and social integration have lower means with 3.044 and higher variability, suggesting less consensus on their effectiveness. The following chart will make clearer on mean, variations and trend analysis.

Figure 4.6

Bar chart of Strategy



Source: Descriptive data from field survey (2025)

In the Figure 4.6, the dotted blue linear trend line for the mean shows a slight upward trend, which mean that perceived importance of these factors increases slightly across the listed categories. This implies that later factors, such as infrastructural development, joint training, trust-building, use of technology and cultural promotion are increasingly being recognized as essential components of effective border security and management strategies. The trend highlights a shift towards a more integrated and collaborative approach to border security, moving beyond just enforcement and infrastructure to include education, technology, and cooperation. However, descriptive analysis only shows the classification of responses. Hence, in order to differentiate and understand relations, the correlation analysis are conducted.

4.9 Correlation Analysis

Table No 4.35

Correlation Analysis of Challenge at Border Security

Sector	Theme	Challenge	P-Value
Physical	Geographical Barrier	.329*	0.27
Security	Geopolitical Concern	.501**	0.00
	Human Sensitivity	.580**	0.00
	Climatic Factor	.477**	0.01
	Resources Constrains	.380**	0.01
	Trans-Border	Isolate Border	.289**
Crime	Socio-cultural Aspect	.403**	0.05
	Border Market	.753**	0.00
Revenue Support	Informal Trade	.581**	0.00
	Lack of Technology	.639**	0.00
Civil support	Custom differences	.350**	0.19
	Lower Population	.266**	0.77

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey (2025)

The Table 4.35 show correlation analysis showing the relationship of challenges variables. Among the factors analyzed, border market coefficient value (r) is 0.753 with P value 0.00. It shows the highest correlation, indicating that economic activities at the border significantly

impact security. Others variables like, lack of technology (r) value is 0.639, informal trade (r) value is 0.581, exhibit strong correlations, which shows the necessity of technological advancements and better regulation of cross-border trade. Geopolitical concerns (r) value is .501, shows moderate relation suggesting that political dynamics and diplomatic relations significantly affect border security. The variables such as human sensitivity (r) value is 0.580, and socio-cultural aspects (r) value is .403, which is a moderate relation, indicate that people emotions, cultural ties, and social interactions contribute to security challenges.

On the other hand, some factors show weaker or statistically insignificant correlations. Where geographical barriers (r) value is 0.329, with $P = 0.27$ shows weak relationship. Lower population (r) value 0.266, do not appear to significantly impact border security in this analysis. Similarly, isolated borders (r) value 0.289, and custom differences (r) value 0.350, also exhibit lower correlations, which means that physical and demographic factors play a lesser role in security concerns compared to economic, technological and geopolitical influences.

Table No 4.36

Correlation Analysis of Opportunities at Border Security

Sector	Theme	Opportunities	P-Value
Physical Security	Geographical Advantage	.265*	.078
	Counter-parts cooperation	.324*	.030
	Strategic Surveillance Points	.248*	.101
	Tourism Prospects	.758**	.000
	Infrastructural Development	.535**	.000
Trans-Border	International collaboration	.553**	.000
Crime	Limited escape route	.585**	.000
	Local support	.652**	.000
Revenue Support	Trading opportunities	.721**	.000
	Tourism Revenue	.589**	.000
	Government Approach	.657**	.000
Civic Action	Supportive citizens	.606**	.000

***. Correlation is significant at the 0.01 level (2-tailed).*

Source: Field survey (2025)

The Table 4.36 shows correlation analysis of opportunities at border security with different variables. Among the most strongly correlated opportunities are tourism prospects coefficient (r) value is 0.758, trading opportunities (r) value is 0.721, government approach (r) value is 0.657, and local support (r) value is 0.652, These findings indicate that economic activities, government policies, and community engagement play a crucial role in strengthening border security. Other significantly correlated factors include supportive citizens (r) value is 0.606, P, limited escape routes (r) value is 0.585, tourism revenue (r) value is 0, international collaboration (r) value is 0.553, and infrastructural development (r) value is 0.533, emphasizing the importance of economic benefits, strategic alliances, and development projects in enhancing security.

Meanwhile, counterparts' cooperation (r) value is 0.324, is statistically significant but exhibits a weaker correlation, which mean that while cooperation among security agencies is beneficial, its impact on border security opportunities is relatively lower. On the other hand, geographical advantage (r) value is 0.265, and strategic surveillance points (r) value is 0.248, show weak and statistically insignificant correlations, indicating that these factors may not significantly contribute to security improvements. Overall, the analysis suggests that economic opportunities such as trade and tourism, along with strong governmental support, local engagement, and international collaboration, are key drivers of border security improvements.

Table No 4.37

Correlation Analysis of Strategy at Border Security

Sector	Theme	Strategy	P-Value
Physical	Security enforcement	.608**	.000
Security	Infrastructure development	.560**	.000
	Inter-agency cooperation	.747**	.000
Trans-Border	Enhance civic actions	.293*	.050
Crime	Deploy custom office	.895**	.000
	International assistance	.677**	.000
	Mobile checkpoints	.529**	.000
Revenue Support	Use of Technological devices	.613**	.000
	Risk profiling	.727**	.000
	Data sharing programs	.351**	.000

	Joint Trainings	.895**	.000
Civil	BADP and awareness program	.671**	.000
Action	Enhance trust between security force and local community	.907**	.000
	Promote cultural and social integration	.671**.	.000
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Field survey (2025)

The Table 4.37 shows correlation analysis of strategies for improving border security at Mustang. The strongest correlations are observed in enhancing trust between security forces and the local community (r) value 0.907, deploying custom offices (r) value 0.895, and joint training programs (r) value 0.895. These findings suggest that fostering trust between security personnel and local communities, improving customs enforcement and enhancing training programs are crucial strategies for ensuring effective border security. Similarly, inter-agency cooperation (r) value 0.747, risk profiling (r) value 0.727, and international assistance (r) value 0.677, also show strong correlations. Other significantly correlated strategies include BADP and awareness programs (r) value 0.671, and promoting cultural and social integration (r) value 0.671 shows the role of development initiatives and social cohesion in border security.

Further, security enforcement (r) value 0.608, use of technological devices (r) value 0.613, P, mobile checkpoints (r) value 0.529 and infrastructure development (r) value 0.560, also exhibit significant correlations, signifying that strengthening law enforcement, leveraging technology and improving infrastructure are vital components of an effective border security strategy. However, enhancing civic actions (r) value 0.293, has the weakest correlation and implying that while civic engagement plays a role in security measures, its direct impact is comparatively lower than other strategies.

Overall, the analysis suggests on building trust, enhancing inter-agency and international collaboration, strengthening customs enforcement, improving risk assessment and leveraging technology are the most effective strategies for improving border security. Meanwhile, civic actions, though important, appear to have a lesser direct influence on security outcomes. The correlation only explains relations so further, regression analysis is conducted to analysis the impact of association.

4.10 Regression Analysis

Table No 4.38

Regression Analysis of Challenge at Border Security

Theme	Standardized Beta Coefficients	t	Sig.
(Constant)		.2380	.000
Geographical Barrier	.119	1.241	.078
Geopolitical Concern	.384	4.507	.030
Human Sensitivity	.172	1.665	.101
Climatic Factor	.494	4.834	.000
Resources Constrains	.437	4.409	.000
Isolate Border	.137	0.911	.000
Socio-cultural Aspect	.194	3.296	.000
Border Market	.266	3.668	.000
Informal Trade	.290	3.740	.000
Lack of Technology	.410	5.437	.000
Custom differences	.395	6.215	.000
Lower Population	.137	0.830	.000
Dependent Variable: Challenges			
R²= .909	F. Stat=63.574	Sig= 0.00	

Source: Field survey (2025)

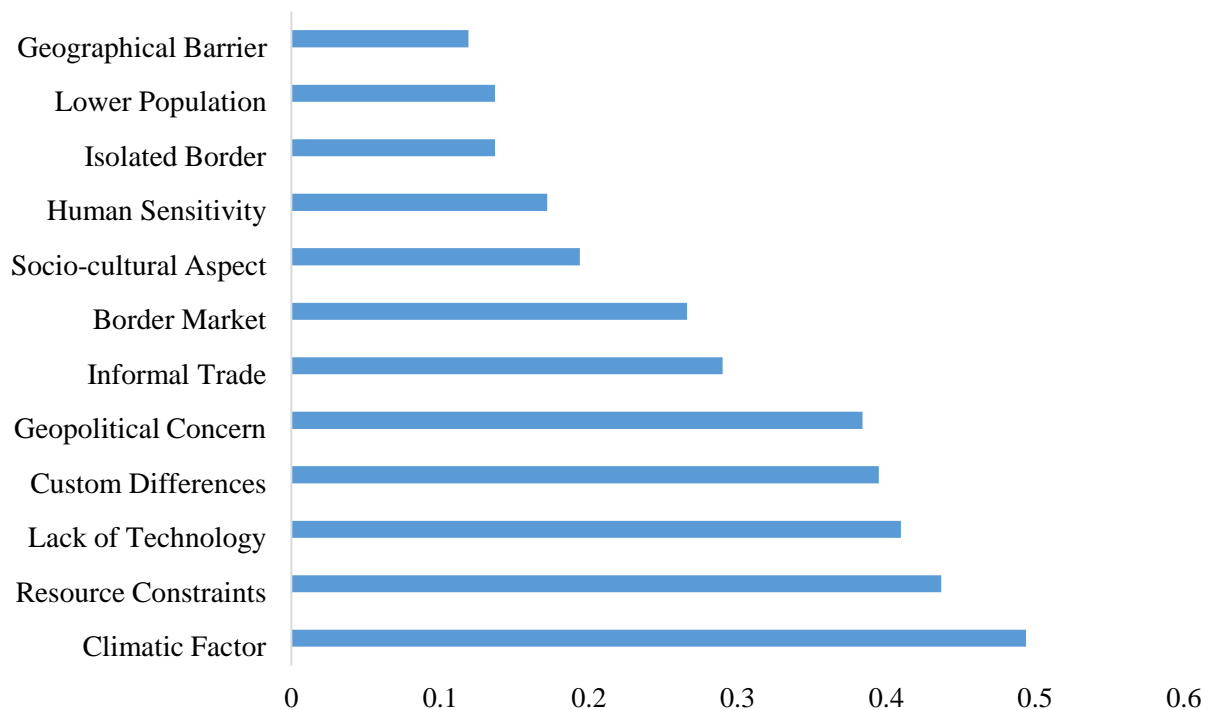
The Table 4.38 shows regression analysis and the impact of various factors on border security challenges. The R² value of 0.909 indicates that 90.9% of the variation in border security challenges is explained by the independent variables, signifying a strong model fit. The F-statistic value is 63.574 which confirms the model is statistical significance. Among the predictors, the most significant factors ($P \leq 0.05$) influencing border security challenges

include geopolitical concern (β value is 0.384), climatic factors (β value is 0.494), resource constraints (β value is 0.437), socio-cultural aspects (β value is 0.194), border market (β value is 0.266), informal trade (β value is 0.290), lack of technology (β value is 0.410) and custom differences (β value is 0.395). These variables have strong and statistically significant contributions, which means that political instability, environmental conditions, economic activities, technological gaps, and cultural differences are major challenges to border security.

Conversely, geographical barriers (β value is 0.119), human sensitivity (β value is 0.172), P = isolated borders (β value is 0.13), and lower population (β value is 0.137), do not show significant effects on border security challenges, as their P-values exceed the 0.05 threshold. This suggests that while these factors might influence security to some extent, their impact is relatively weaker.

Figure 4.7

Regression Analysis of Challenges



Source: Research Findings (2025)

The figure 4.7 shows the theme in sequential order. The significant influence of climatic factors shows the need for adaptive infrastructure and environmental risk management strategies to mitigate their effects. Other factors like investments in technology can significantly improve

border security by addressing monitoring gaps. Strengthening socio-cultural integration programs may also help reduce cross-border tensions arising from ethnic or cultural differences. Given the strong impact of geopolitical concerns, resource constraints and economic activities on border security, GON should enhance diplomatic relations, allocate more resources and implement economic policies that regulate informal trade and border markets. Since isolated borders and geographical barriers do not significantly impact security, policy efforts should focus more on economic, political and technological solutions rather than relying solely on natural barriers. Lastly, joint security collaborations, intelligence sharing and surveillance systems should be prioritized to enhance Mustang border security.

Table No 4.39

Regression Analysis of Opportunities at Border Security

Theme	Standardized Beta Coefficients	t	Sig.
(Constant)		.2134	.000
Geographical Advantage	.065	0.749	0.227
Counter-parts cooperation	.322	3.205	0.00
Strategic Surveillance Points	.350	4.339	0.00
Tourism Prospects	.474	4.441	0.01
Infrastructural Development	.409	3.632	0.00
International collaboration	.034	0.386	0.54
Limited escape route	.454	6.660	0.05
Local support	.487	4.847	0.00
Trading opportunities	.379	3.825	0.00
Tourism Revenue	.131	5.437	0.00
Government Approach	.121	1.458	0.19
Supportive citizens	.086	1.194	0.77

Dependent Variable: Opportunities

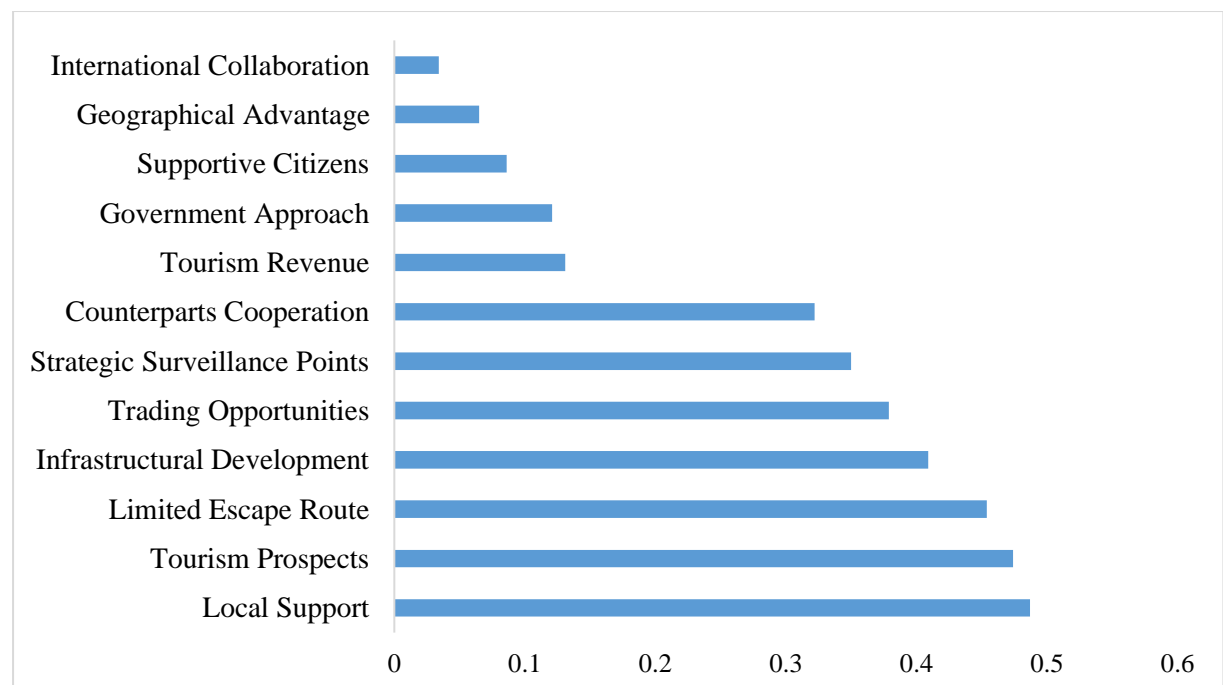
$R^2 = .85.9$

F. Stat=28.654

Sig= 0.00

Source: Field survey (2025)

The regression analysis examines the impact of various factors on border security opportunities. The R^2 value of 0.859 indicates that 85.9% of the variation in opportunities is explained by independent variables. The F-statistic value 28.65 confirms that the model is statistically significant. Several factors show strong and statistically significant contributions ($P \leq 0.05$) to border security opportunities. Local support (β) value of 0.487 is the highest value which focused on fostering community engagement. Tourism prospects (β) value of 0.474, shows the potential for tourism development contributes to economic stability and improved security infrastructure. The lowest (β) value of 0.034 showing the fewer impact to border security. All the variables within the range from 0.034 to 0.474. The following trend make more understand to regression analysis.

Figure 4.8*Regression Analysis of Opportunities**Source:* Research Findings (2025)

The figure 4.8 shows regression effect of all theme under opportunities. Theme such as strategic surveillance points (β) value of 0.350 are found to be vital in maintaining border security, while counterparts' cooperation (β) value of 0.322, is t important to cross-border collaboration between security agencies. Furthermore, trading opportunities (β) value of 0.379 contribute to border stability, while tourism revenue (β) value of 0.131 indicates that economic benefits from tourism can help sustain security efforts. Lastly, infrastructure development (β) value of 0.409 proves to be a significant factor, supporting both border security operations and economic growth.

On the other hand, some variables do not show a statistically significant impact on border security opportunities. Geographical advantage (β) value of 0.065, does not play a major role, as natural geography alone does not determine border security potential. International collaboration (β) value of 0.034 also does not have a significant effect. Similarly, government approach (β) value of 0.121, lacks statistical significance, implying that existing government policies may need review for greater effectiveness. Supportive citizens (β) value of 0.086, do not directly impact border security opportunities in a statistically measurable way.

Based on these findings, several recommendations can be made. First, enhancing local community engagement is crucial, as strong community involvement raises trust and collaboration in border management efforts. Second, strengthening border surveillance by investing in strategic surveillance points and infrastructure will improve security operations. Also, encouraging cross-border trade can contribute to long-term security by promoting economic stability and reducing illicit activities. Given the significant impact of tourism, developing tourism-related security policies is essential to ensure safe and stable tourism zones. Furthermore, improving inter-agency and bilateral cooperation can enhance security coordination and preparedness. Lastly, reviewing international collaboration efforts is necessary to determine more effective ways of integrating global partnerships into border security strategies.

Table No 4.40

Regression Analysis of Strategy at Border Security

Theme	Standardized Beta Coefficients	t	Sig.
(Constant)		.2134	.000

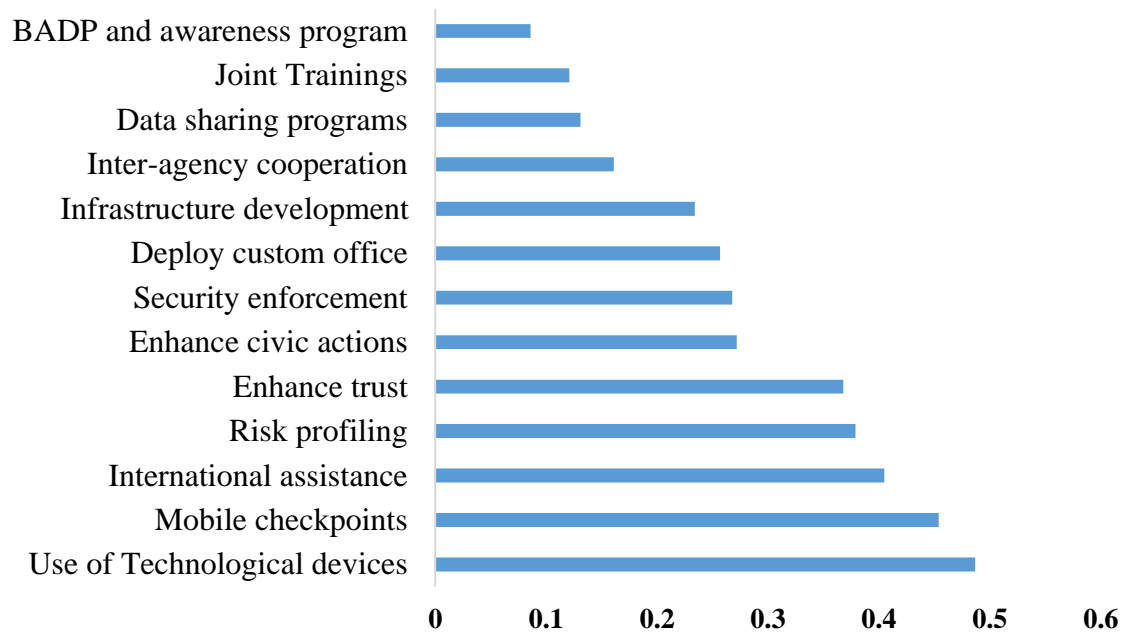
Security enforcement	.268	20.505	.000
Infrastructure development	.234	23.464	.000
Inter-agency cooperation	.161	9.916	.000
Enhance civic actions	.272	19.995	.050
Deploy custom office	.257	21.220	.000
International assistance	.405	43.863	.000
Mobile checkpoints	.454	26.660	.000
Use of Technological devices	.487	27.847	.000
Risk profiling	.379	13.825	.000
Data sharing programs	.131	24.437	.000
Joint Trainings	.121	11.458	.000
BADP and awareness program	.086	4.194	.000
Enhance trust	.368	52.618	.000

Dependent Variable: Strategy

R²= .95.9 **F. Stat=35.654** **Sig= 0.00**

Source: Field survey (2025)

The Table 4.40 shows regression analysis and the impact of various theme on border security strategies. The R² value of 0.959 indicates that 95.9% of the variation in security strategies is explained by the theme. The F-statistic value is 35.65 which confirms that the model is statistically significant, meaning that the independent variables collectively contribute significantly to explaining border security strategies. The highest influencing theme is usage in technological devices with (β) value of 0.478 and lowest influencing factor is BADP with β) value of 0.086. The following figure explain in detail about the effects and interpretation.

Figure 4.9*Regression Analysis of Strategy*

Source: Research Findings (2025)

The Figure 4.9 shows the impact in strategy from the theme. Among the most significant predictors, enhancing trust between security forces and the local community (β) value of 0.368, emerges as a critical factor. This suggests that fostering strong relationships between security personnel and local residents enhances cooperation, intelligence sharing, and overall security effectiveness. International assistance (β) value of 0.405, plays a major role, for global cooperation and support in strengthening border security of Mustang.

Several operational strategies also have a strong and significant impact. The use of technological devices (β) value of 0.487 is one of the most influential factors, indicating that modern technology significantly enhances security operations. Similarly, mobile checkpoints (β) value of 0.454 are highly effective in controlling movement across borders and preventing illegal activities. Deploying customs offices (β) value of 0.257 is another vital component, ensuring strict regulation of cross-border trade and migration.

Infrastructure development (β) value of 0.234, also has a strong positive impact, indicating that well-developed border infrastructure facilitates efficient security management. Security enforcement (β) value of 0.268, remains fundamental to maintaining border control, reinforcing

the importance of well-trained personnel and strategic enforcement policies. Risk profiling (β) value of 0.379, is also a significant predictor, suggesting that identifying high-risk individuals and threats improves security outcomes.

Other key contributors include data-sharing programs (β) value of 0.131 and joint training programs (β) value of 0.121, both of which enhance inter-agency coordination and preparedness. Inter-agency cooperation (β) value of 0.161, supports this notion, indicating that collaboration between different security forces leads to better border management. BADP programs (β) value of 0.086, also have a significant impact, though their effect size is smaller compared to other factors. This verdict also supports civic action in fewer population is difficult.

Interestingly, enhancing civic actions (β) value of 0.272, is partially related with BADP the only factor with a relatively high p-value 0.050, which means that the public engagement in security efforts is important, its direct statistical impact is comparatively lower than other strategies. It might be due to other different factors of lower population, different culture, religion, language and others different factor which might be other area of research.

4.11 Discussion

The discussion section is essential in any research because it interprets the findings, connects them to existing literature, and highlights their significance Creswell (2018, p. 215). It allows researchers to explain unexpected results, discuss limitations, and suggest future research directions. Among the various types of discussion, the researcher have followed theoretical and thematic discussion with the findings of the research. Theoretical discussion relates the results to existing theories or proposes modifications to existing theoretical models discussion (Bryman, 2016, p. 177). The thematic discussion compares the current study findings with previous research and compare similarities, differences and potential reasons for variations (Creswell, 2018, p. 220).

4.11.1 Theoretical Discussion

In the Introductory part, the prominent scholars Harlon & Herbert (2019) emphasis on the nation strategy to cover and secure multi-dimension issue of social, economic, cultural and security. This idea is related with parameters of border governance theory. This concept of security practiced in Nepal by APF, Nepal consists of four major domain which are physical

security, and trans-border crime, revenue support and civic action. Hence, the tenants of Harlon & Herbert (2019) can be considered as a major element in border security. Similarly, idea of Anderson (2012) is more related with the hard model the major which focus on surveillance, enforcement and intelligence. Others researcher and researcher like Sharma (2008) and Singh (2015) view border management from realist point of view. They also noted that border can act as both opportunities and threat. The researcher suggest that every nation need to be proactive in identifying the challenges in border management.

Functionalism approach of border management as noted by Mitrany (1943) has emphasizes international cooperation and institutional collaboration for effective border security. In the context of Mustang border management, this idea as a prime factor in operating border crossing point and entire border management. The research findings concluded that operation of Mustang korola port need a vigorous cooperation of counter parts. This approach is more aligned from social and human school of thought. Human factors continue to be exercise in any border. So, every nation need to manage its border with a good cooperation of counter parts. Mitrany (1943) idea was supported by others scholars such as Rosamond (2000), Polner (2008) and Andreas (2003). The researcher also agreed on functionalism theory as border of any country in the world are managed and governed. Even though, using coercive model as well, the strict border of the world as following the functionalism approach. In this research findings several factors such as geographical barriers, climatic factors, and resource constraints are seen to be major challenges that hinder such cooperation. But still cross border movement of people, social affinity, cultural bonding and economic activities are conducted. This concept was supported by like Anderson and Paasi (1996).

The Border Security Management Framework by Andreas (2003) and Newman (2006) advocates for a holistic approach involving law enforcement, immigration control, and intelligence sharing. This theory aligns well with findings of research in terms of challenges such as informal trade, border markets and the need for technology-driven border security at mustang district. Lack of technological infrastructure and limited resources in Mustang make the implementation of such a framework difficult and hurdles cooperation.

Traditional Border Management, as suggested by Anderson (1996) and Harlon (2019), focuses on strict enforcement mechanisms. This model focuses on realistic and practical approach. The research also observe all the parameters of traditional model followed by border governing agencies and find s numerous of challenges from this décor. While this approach may address

issues like illegal trade and cross-border crime, it may not be entirely suitable for Mustang, where socio-cultural ties between border communities play a crucial role in trade and mobility. Strict enforcement without considering the local socio-economic dynamics could disrupt the historical cross-border movement of people and goods. The idea of Harlon (2019) can be taken as a real as this model consists of more challenges which the research conclude such as resources constraints and geopolitical factors.

The Border Governance theory by Aniszewski (2009) and Andreas (2003) highlights a stakeholder-driven approach, balancing security with economic stability. This aligns with Mustang border concerns where lower population density, economic dependencies on border trade and geopolitical concerns demand a governance model that integrates multiple stakeholders. Currently, Nepal government inaugurated immigration office, APF, Nepal BOP and custom office. This show the importance of this theory and lesson from the counter parts where many agencies are stationed at border area for good governance. Researcher like Heyman, (2012) & Harlon (2019) supported this theory and define its necessity to save integrity and territory of nation.

These four border security theories provide valuable insights and content relating to border management focusing of challenges. As research find multiple of challenge in Mustang district border security. Most significantly, geographical, economic, and technological constraints that necessitate a more adaptive and localized border management strategy. From quantitative analysis, challenges such climatic factors resource constraints, socio-cultural aspects border market, informal trade, lack of technology and custom differences have strong and statistically significant contributions to the challenges. From this multiple methods of study these can be taken as a tested factor and need to be prioritize. Others challenges such as political instability, environmental conditions, economic activities, geopolitical concern, technological gaps and cultural differences are major challenges to border security. Even though there do not appear a statistical relationship this factor cannot be neglected.

Similarly, geographical barriers human sensitivity isolated borders and lower population might not influence security to some extent but this factors cannot be eliminated. The significant influence of climatic factors shows the need for adaptive infrastructure and environmental risk management strategies to mitigate their effects. Also, investments in technology can significantly improve border security by addressing monitoring gaps. Strengthening socio-

cultural integration programs may also help reduce cross-border tensions arising from ethnic or cultural differences.

The opportunity also impact of the border security of Mustang district. From the perspective of Functionalism theory by (Mitrany, 1943) factors such as international cooperation aligns with the themes of counterparts cooperation and international collaboration. The Border Security Management Framework by Andreas (2003) & Newman (2006) supports a holistic approach of integrating law enforcement, technology, and economic factors. Also, security agencies face coordination issues which lead to inefficiencies in border control (Adhikari, 2020; Poudel, 2019). As noted by a participants, limited surveillance resources make it difficult to monitor cross-border movements effectively.

The presence of strategic surveillance points along border is crucial for monitoring illegal activities and ensuring national security. The lack of advanced surveillance technology weakens border enforcement making Nepal vulnerable to transnational crimes such as smuggling and human trafficking.

The Traditional Border Management approach (Anderson, 1996; Harlon, 2019) focuses on strict enforcement measures. While this method is effective in controlling cross-border crime, Nepal's reliance on local support and trading opportunities necessitates a more flexible approach. Border Governance (Aniszewski, 2009; Andreas, 2003) emphasizes stakeholder engagement, which resonates with the importance of government approaches and supportive citizens. In terms of Mustang border, the local communities play a vital role in border security by acting as informal intelligence networks. This need to be rapid up by the authorities and cooperation between security forces and locals can enhance border management effectiveness. This are the universal findings from different scholars such as mentioned by Anderson (1996), Harlon (2019), Barlal (2018) and Aryal (2018)

4.11.2 Thematic Discussion

In this section the theme discovered in terms of challenges, opportunities and strategy are compared with the existing literature and discussed. The first theme discovered form the study in terms of challenge Border security in the Mustang district is geographical barrier. The participant's foused difficult terrain for movement of security and surveillance. Due to difficult terrain, complex relationship of geopolitical, economic and infrastructural challenges hinders in border security. The hard terrain and high-altitude conditions create significant logistical

barriers, making surveillance and infrastructure development difficult. This issue in high altitude border security was raised by Murton (2017). Participants were concerned about human sensitivity such as refugee issues, health issues and harsh climatic conditions which exacerbate these challenges and increase the cost of infrastructure projects. The academic writing conducted by Bhattari (2021) had a similar perspective. Other factors such as resource constraints, custom differences, cross-border trade were emphasized by the participants. These factors had enormous impact on border security by hindering APF, Nepal operations. Also heavy dependence on cross-border trade with China compounds these difficulties, as inadequate infrastructure at key trade points such as continues to hinder efficient trade facilitation at Korala crossing point. This factor was noted by Bhattarai, (2017 & Aryal (2018). The lack of well-developed transportation networks and logistical support further restricts economic activities, making border management more complex.

Security concerns in the region are further heightened by governance and institutional limitations. Weak coordination among security agencies poses a significant challenge to effective border management, necessitating improved inter-agency collaboration and advanced surveillance technologies (Adhikari, 2020; Poudel, 2019). Additionally, unclear demarcations in certain border areas have led to disputes, emphasizing the need for well-defined border agreements and diplomatic engagement to mitigate tensions. Nepal's geopolitical positioning further complicates border security, as the country serves as a strategic buffer between China and India (Bista, 2021; Thapa, 2019). The increasing influence of Chinese investments in Nepal's infrastructure, coupled with geopolitical sensitivities from India, underscores the necessity for Nepal to adopt a balanced diplomatic strategy that safeguards national interests while maintaining regional stability.

The theme on cultural differences indicates diverse societies and participants' views are concerned with maintaining cultural and societal exchanges. Historically, the region has shared strong religious and cultural ties with Tibet and most of the traditions and customs are followed adhering to Tibetan lifestyle. This can act as societal indifference and has been emphasized by scholars like Lama, (2018) & Gurung (2017). These relations often result in political tension by leading to economic and social uncertainties for border residents. Infrastructure development in these high-altitude regions remains a major hurdle due to extreme climatic conditions and difficult terrain, which not only delays projects but also increases costs as suggested by Murton. Similarly, lack of technology was the major theme from the participants.

They indicated APF, Nepal operating with lack of good technological apparatus. As scholars Johnson (2016) & Newman (2006) has emphasis on the implementation of modern security technologies, including biometric systems, drones, and AI. The adaptation of this was felt by the researcher.

In terms of opportunities, participants focused on geographical advantage. The geographical advantage of the region provides a natural defense, for infrastructure development and surveillance as noted by Andreas (2003). The participant emphasis on local and civil support in reporting suspicious activities to assist APF, Nepal. According to Wilson and Donnan (2012), local communities play a crucial role in border security, yet their potential remains underutilized due to a lack of government engagement. This finding suggests that nurturing collaboration between security agencies and local populations could enhance border monitoring efforts.

The theme focused on facilitating economic opportunities through trade and tourism. The region s benefited from trading opportunities and tourism revenue which contribute to Nepal overall economic growth (Dhungel et al., 2020). Hence, the tourism sector is a major revenue source, also suffers from policy inconsistencies and security concerns. Participant's arguments on local communities role in border governance is a strength and motivating factor. They provide intelligence and develop trust between authorities and residents. The supportive citizens contribute to security efforts by cooperating with enforcement agencies, as mentioned by (Wilson & Donnan, 2012). Also, government approaches to integrating community participation is a new prospects on border security and governance. The inauguration of APF, Nepal BOP, custom and quarantine office as strength and opportunities for further development. As Newman (2006) argues, infrastructure, trained personnel and community engagement strategies are crucial for effective border governance.

4.11.3 Objective Wise Discussion and Validation

The research was conducted based on three research question by using a mixed model method. In the first research question, as concerned on challenges of Mustang district border security. From KI, Interviews and FGD, there were twelve theme generated in four major sector of border security. Later a survey was conducted to check the reliability and validate the theme. The findings from qualitative analysis align with the statistical results, as most of the theme have significantly influence border security. As regression model explains 90.9% of the

variance in challenges which indicating a strong predictive relationship between the identified themes and the dependent variable. The joint display table below integrates both qualitative and quantitative findings for validation.

Table 4.41

Integration on challenges of Qualitative and Quantitative Findings

Sector	Theme	Qualitative Findings (KI, FGD, Interview)	Quantitative Findings (Survey)	Validation & Interpretation
Physical Security	Geographical Barrier	The rugged terrain creates physical challenges for S.F.	$\beta = .119, p = .078$	Moderate impact; not statistically significant but relevant for logistics.
	Geopolitical Concern	Geopolitical interests from foreign countries	$\beta = .384, p = .030$	Influence on border security due to external pressures. But statistically insignificant
	Human Sensitivity	Cross-border movement affected by human rights and security considerations	$\beta = .172, p = .101$	Moderate influence & statistically insignificant.
	Climatic Factor	Harsh weather and high-altitude conditions restrict border operations	$\beta = .494, p < .001$	Strong and significant predictor of security challenges.
	Resource Constraints	Insufficient manpower, lack of surveillance technology, and poor infrastructure	$\beta = .437, p < .001$	Highly significant; resource limitations hinder border security.
Trans border crime	Isolated Border	The remote location leads to limited security presence and challenges in monitoring	$\beta = .137, p < .001$	Significant but weaker impact compared to other factors.
	Socio-Cultural Aspect	Ethnic and cultural ties influence informal trade and border interactions	$\beta = .194, p < .001$	Significant influence on local cooperation and governance.
	Border Market	Local economy dependent on cross-border trade	$\beta = .266, p < .001$	Strong predictor, trade dependency influences border dynamics.

Revenue Security	Informal Trade	High prevalence of unofficial trade activities	$\beta = .290, p < .001$	Significant impact on security concerns and governance.
	Lack of Technology	Absence of surveillance tools, biometric systems, and border monitoring tech	$\beta = .410, p < .001$	One of the strongest predictors; tech upgrades needed.
Civil Support	Custom Differences	Border regulations differ significantly, causing trade disruptions	$\beta = .395, p < .001$	Highly significant; policy harmonization required.
	Lower Population	Sparse settlement reduces manpower for security operations	$\beta = .137, p < .001$	Moderate impact, but statistically significant.

Source: Research findings Validation (2025)

The study validates that climatic factors, resource constraints, lack of technology and custom differences have major impact in Mustang border security. The alignment between qualitative themes and statistical results suggest on improving surveillance infrastructure, enhance interagency coordination and streamline border policies to mitigate security vulnerabilities.

Table 4.42

Integration on opportunities of Qualitative and Quantitative Findings

Sector	Theme	Qualitative Findings	Quantitative Findings	Validation & Interpretation
Physical Security	Geographical Advantage	Unique location provides a strategic advantage	$\beta = .065, p = .227$	Not significant, location alone does not create direct opportunities.
	Counterparts Cooperation	Collaboration with neighboring countries enhances security	$\beta = .322, p < .001$	Strong and significant, cross-border cooperation improves security.
	Strategic Surveillance Points	The need for surveillance infrastructure for security enforcement	$\beta = .350, p < .001$	Significant predictor, monitoring and surveillance enhance security.
	Tourism Prospects	Growing tourism sector creates	$\beta = .474, p = .001$	Highly significant; tourism strengthens Mustang's economy.

		economic and security benefits		
	Infrastructural Development	Investment in roads, technology, and security facilities	$\beta = .409, p < .001$	Strong predictor; infrastructure development supports border security.
Trans border crime	International Collaboration	Border agreements and diplomatic initiatives	$\beta = .034, p = .54$	Not significant, international efforts alone have limited impact.
	Limited Escape Route	Natural barriers restrict illegal movements	$\beta = .454, p = .05$	Highly significant, geographic constraints aid security.
	Local Support	Community participation in border security	$\beta = .487, p < .001$	Highly significant, local cooperation is crucial.
Revenue Security	Trading Opportunities	Border trade increases economic interdependence	$\beta = .379, p < .001$	Strong predictor, trade creates economic incentives for stability.
	Tourism Revenue	Economic gains from increasing tourism flow	$\beta = .131, p < .001$	Significant but moderate impact on opportunities.
	Government Approach	Policy initiatives and administrative efficiency	$\beta = .121, p = .19$	Not statistically significant; governance alone may not drive opportunities.
Civil Support	Supportive Citizens	Positive public sentiment towards border governance	$\beta = .086, p = .77$	Not significant; public support does not directly influence security opportunities.

Source: Research findings Validation (2025)

In second research question, from KI, Interviews and FGD, there were twelve theme generated in four major sector of border security. The findings from qualitative analysis align with the statistical results, as most of the theme have significantly influence border security. As regression model explains 85.9% of the variance in opportunities which indicating a strong predictive relationship between the identified themes and the dependent variable. The study validates that tourism prospects, local support, infrastructural development, and cross-border cooperation are among the most crucial factors driving border security opportunities in Mustang.

Table 4.43*Integration on strategies of Qualitative and Quantitative Findings*

Sector	Theme	Qualitative Findings (KI, FGD, Interview)	Quantitative Findings (Survey)	Validation & Interpretation
Physical Security	Security Enforcement	Strengthening law enforcement presence at border points	$\beta = .268, p < .001$	Significant; law enforcement is a key security measure.
	Infrastructure Development	Building border infrastructure for security efficiency	$\beta = .234, p < .001$	Strong predictor; better infrastructure supports security.
	Inter-Agency Cooperation	Coordination between security agencies	$\beta = .161, p < .001$	Moderate significance; necessary for integrated security.
Trans border crime	Enhance Civic Actions	Community engagement in security operations	$\beta = .272, p = .050$	Significant; civic actions support sustainable security.
	Deploy Custom Offices	Establishing customs checkpoints for trade monitoring	$\beta = .257, p < .001$	Strong predictor; customs offices help regulate cross-border trade.
	International Assistance	Foreign aid and security partnerships	$\beta = .405, p < .001$	Highly significant; international cooperation strengthens security.
	Mobile Checkpoints	Deploying flexible security teams at various locations	$\beta = .454, p < .001$	Highly significant; mobile units improve border surveillance.
Revenue Security	Use of Technological Devices	Adoption of advanced tools like drones and biometrics	$\beta = .487, p < .001$	Most significant; technology enhances security effectiveness.
	Risk Profiling	Identifying potential threats through profiling	$\beta = .379, p < .001$	Strong predictor; helps in preemptive security measures.
	Data Sharing Programs	Information exchange among agencies	$\beta = .131, p < .001$	Significant but moderate; data sharing enhances coordination.

	Joint Trainings	Capacity-building programs for security personnel	$\beta = .121, p < .001$	Moderate impact; training strengthens security preparedness.
	BADP and Awareness Program	Development programs for border communities	$\beta = .086, p < .001$	Less significant; indirect effect on security.
Civil Support	Enhancing Trust Between Security Community	Building local cooperation for border security	$\beta = .368, p < .001$	Highly significant; trust-building fosters collaborative security.

Source: Research findings Validation (2025)

In third research question, from KI, Interviews and FGD, there were thirteen theme generated in four major sector of border security. The findings from qualitative analysis align with the statistical results, as most of the theme have significantly influence border security. As regression model explains 95.9% of the variance in strategies which indicating a strong predictive relationship between the identified themes and the dependent variable. The study validates that technological solutions, mobile checkpoints, inter-agency coordination and community trust are the most effective strategies for enhancing border security in Mustang. The integration of modern security tools, institutional cooperation, and infrastructure development is crucial for strengthening border governance. Future policies should focus on deploying advanced surveillance technologies, increasing inter-agency coordination, and fostering local engagement to ensure effective and sustainable border security in the Mustang region.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

This objective of this study is to examine the challenges and opportunities associated with border security in Mustang district. As a high-altitude district bordering China, the researcher had theoretical and methodological limitations. The research is guided by key research questions on challenges, opportunities and strategies that influencing border security in Mustang district. The research may be significant to policy makers, scholars, security personnel and researchers.

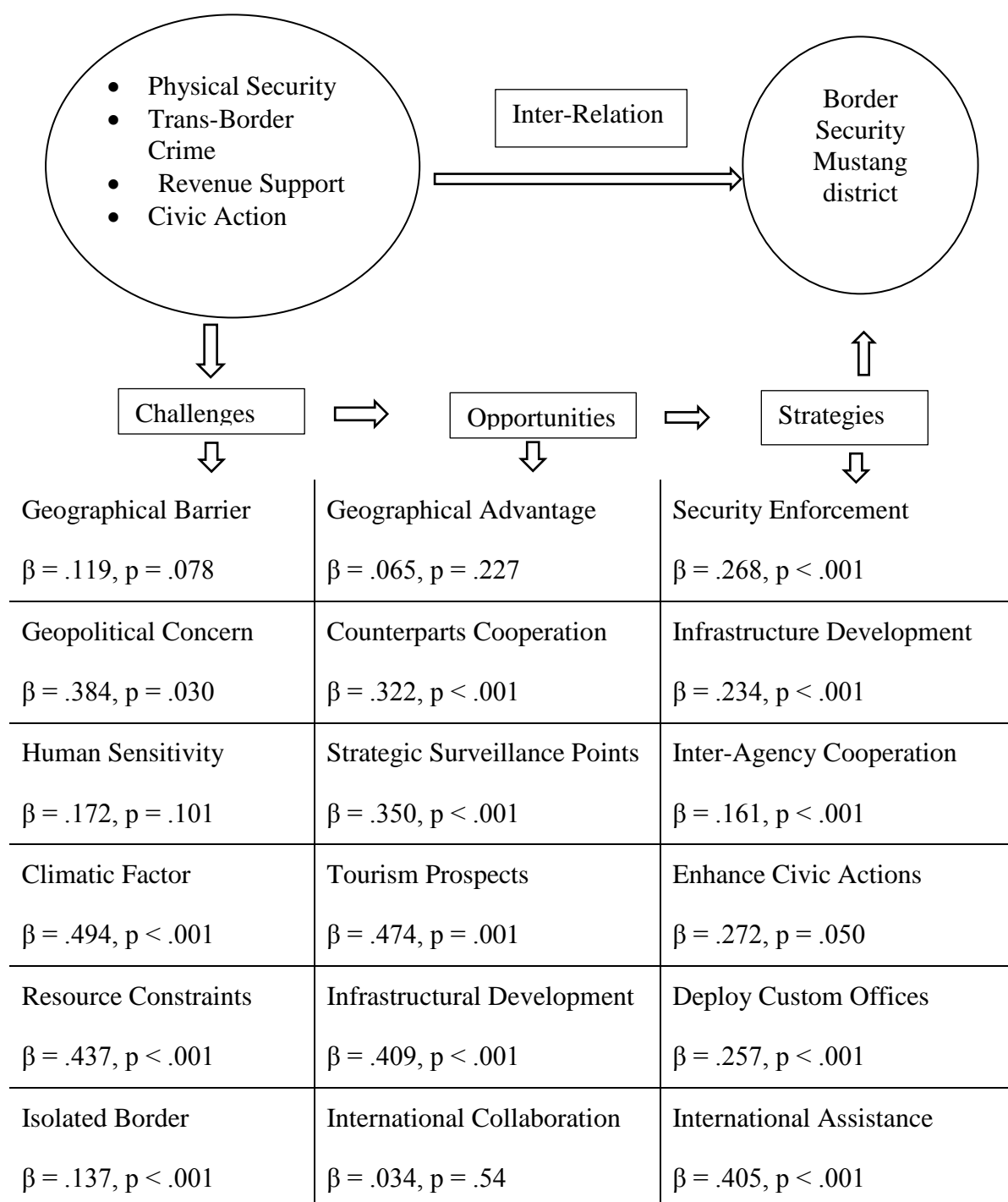
The research is guided from pragmatist worldview and employs a sequential exploratory mixed-methods approach. Initially, qualitative methods, including KI, FGD and document analysis, were used to explore border security conditions. The qualitative findings were then validated through a structured survey, ensuring a comprehensive understanding of the issues at hand. The researcher have taken two KI, ten in-depth field interview and FGD as a tool in qualitative section. The Likert scale questions consisting five point measurement were used, in order to conduct survey. The data were analyzed using SPSS software and descriptive and inferential analysis were conducted.

In findings under challenges in border security of Mustang, twelve theme were generated in four domain of border security. In opportunities also twelve theme were generated and in strategy thirteen theme were generated. These theme were analyzed, discussed and verified by different data sources. The geographical and climatic conditions pose significant obstacles to security enforcement. The district remote location, lack of infrastructure, and extreme weather conditions hinder surveillance and border control efforts. Also, border remains vulnerable to trans-border crimes such as smuggling and illegal trade due to limited security deployment and insufficient technological infrastructure. Despite these challenges, there are substantial opportunities, including economic benefits from trade and tourism, the potential for infrastructure development, and enhanced cooperation between Nepalese and Chinese security forces.

The quantitative analysis shows diverse result in validating, classifying and differentiate the theme. The blended of qualitative and quantitative convinced the researcher about the ongoing phenomena in Mustang border security. The overall summary of the research is shown below with the frame of conceptual framework.

Figure 5.1

Summary of Findings



Socio-Cultural Aspect $\beta = .194, p < .001$	Limited Escape Route $\beta = .454, p = .05$	Mobile Checkpoints $\beta = .454, p < .001$
Border Market $\beta = .266, p < .001$	Local Support $\beta = .487, p < .001$	Use of Technological Devices $\beta = .487, p < .001$
Informal Trade $\beta = .290, p < .001$	Trading Opportunities $\beta = .379, p < .001$	Risk Profiling $\beta = .379, p < .001$
Lack of Technology $\beta = .410, p < .001$	Tourism Revenue $\beta = .131, p < .001$	Data Sharing Programs $\beta = .131, p < .001$
Custom Differences $\beta = .395, p < .001$	Government Approach $\beta = .121, p = .19$	Joint Trainings $\beta = .121, p < .001$
Lower Population $\beta = .137, p < .001$	Supportive Citizens $\beta = .086, p = .77$	BADP and Awareness Program $\beta = .086, p < .001$
		Enhancing Trust $\beta = .368, p < .001$

Source: Research overall findings (2025)

Form the findings, the geographical barrier, lower population and isolate border only does not impact on border security procedure. The major challenge such as climatic factor, resources constraints and lack of technological causes more impact on border security procedure. The identification of opportunities are crucial step in enhancing border governance. The research suggests on improving local support for enhancing trust. Hence, the fourteen theme under strategy can be implemented in different phases and time, assessing its capability and prospects.

5.2 Conclusion

The research is guided from four different theory. Drawing from the Functionalism Theory of Border Security, the study supports the notion that borders should not only be viewed as territorial lines but as zones of cooperation. Functionalist principles advocate for cross-border collaboration, intelligence sharing, and integrated security frameworks, all of which are crucial

for effective border governance in Mustang district. The Border security management framework have been a guiding theory for conceptual idea on border security procedure by different states. The idea of Balibar (1998) and Newman (2006) have been proved as they have mention on borderland as a place of challenge and opportunities. In a very high altitude border, where population is very low and livelihood is harsh, there may be myriad of opportunities hidden. Managing challenges are considered as unveiling the opportunities. The notion of borderless world by Newman (2006) can be a prominent point for managing borders in order to underscore new opportunities. There is also necessity of balancing sovereignty, integrity and national security as border security is directly associated with these terms.

The findings of this study align with Balibar (1998) perspective on borders as dynamic and socially created spaces, where geopolitical concerns, climatic conditions, and socio-cultural aspects shape border governance. Similarly, Newman (2006) theoretical framework emphasizes borders as both barriers and bridges, which reflect the dual nature of challenges and opportunities, which the researcher found in Mustang border security. Due to geographical and resource constraints in high altitude border, the effective governance, strategic surveillance, infrastructural development and international collaboration is hard to achieve. This complexity have driven to transform borders from restrictive entities into spaces of cooperation and controlled mobility. The study found that inter-agency cooperation, technological advancements and civic engagement are essential to mitigating security risks and enhancing governance at Mustang border security. By integrating these theoretical insights, this research underscores the need for a balanced approach in regulating the Nepal-China border with adaptive, resilient and responsive to emerging challenges. The findings show that Mustang border security is constrained by its terrain, climate and limited resources, there is a need of strategic interventions can enhance its security landscape. These include activities such as strengthening inter-agency cooperation through structured training programs and joint security operations. The result of regression analysis have clarify the adamant necessity for Mustang border governance. So GON need to be proactive in deploying advanced surveillance technologies such as biometric systems, drones and monitoring tools. There is a need of encouraging economic activities like regulated trade and tourism to boost revenue for achieving revenue security and maintaining harmonic and diplomatic relation with China by enhancing legal frameworks for cross-border coordination will achieve prosper in all the domain of border security.

5.3 Area for Further Research

This study has significant policy implications for border governance of Nepal. For developing achieving overall security in four domain of border security, the researcher suggest on application of technological devices. This is the first tested and verified result of all the research finding which had high Beta (β) coefficient value. Future research should focus on developing a sustainable model of cross-border governance that integrates security measures with economic development. The outcomes of all the result of strategy can be area for future research. Some pertinent research on this area are as suggested.

- a. Significant of Technology adaptation in border security of Mustang.
- b. Assessing the effectiveness of BADP in Mustang Border Security
- c. Prospects of cross-border cooperation in Mustang Border Security
- d. A study of Inter-agency cooperation in Mustang border Governance.
- e. Impact of weather and climate in border security of Mustang

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APPENDICES

Appendix 'A'

(Referred to page 24)

INFORMED CONSENT FORM

CHALLENGES AND OPPORTUNITIES OF BORDER SECURITY OF MUSTANG

Date.....

I, (Mr. /Mrs. /Ms.)..... hereby have signed the consent to declare that:

1. Before signing the certificate of consent, I have been explained the objectives and methods of the study.
2. I have had the opportunity to ask questions about the study and any questions that I have asked have been answered to my satisfaction.
3. I have the right to withdraw from the study at any time if I feel uncomfortable.
4. The investigator will keep the information confidential, and my personal data will not be declared in any case except the academic purpose.
5. The investigator will provide additional necessary information about the study, if there are any.

I have read and understand the above information and I consent voluntarily to participate as a participant in this research.

Signature..... (Respondent/informant)

Signature..... (Researcher, Yukesh Upreti)

(Referred to page 26)

DETAILS OF RESPONDENTS OF FIELD INTERVIEWS

Code	Sex	Profession	Education	Expertise
Participant 1	M	Government Officer	M.A.	Engaged in District Administration and Affairs.
Participant 2	M	Government Officer	M.B.S.	Engaged in community policing and security Affairs
Participant 3	M	Government Officer	M.A.	Engaged in security affairs
Participant 4	F	Government Officer	B.A.	Engaged in immigration.
Participant 5	M	NGO officer	M.A.	Practitioner of environment development and Tourism promoter
Participant 6	F	Home maker	S.L.C.	Knowledge on socio-cultural lifestyle in border area.
Participant 7	M	Businessman	10+2	Local vender at Korola border point and language translator
Participant 8	F	Business women	Non	Knowledge on cross border business procedure.
Participant 9	M	Security Officer	Unknown	Counterpart custom police officer.
Participant 10	M	Government officer	B.A.	Custom and quarantine procedure.

COMPOSITION OF FGD

S.N.	Position	Education	Age	Gender
1	Ward Member, Ward Number 4, Lomangthang	S.L.C	40-45	M
2	Nepal police, Unit In charge	B.A	35-40	M
3	Teacher, Chonhup Secondary School	B.A.	30-45	M
4	Representative, Janahit Club	S.L.C	30-35	F
5	Business man	S.L.C	35-40	M
6	Business Women	10+2	30-35	F
7	Representative, Local Transport	10+2	30-35	M
8	Representative, Custom office	S.L.C	30-35	M
9	Representative, APF, Nepal	B.A	40-45	M

(Referred to page 26)

SURVEY FORM

Please Rate your on Importance of following Theme in Border security of Mustang.

1= Not Important, 2 = Little Important, 3 = Average, 4 = Very Important, 5 = Essential

Name of the organization:						
Rank:						
Working Experience in Mustang: () Up to 1 Year () More than 1 Year						
	Theme	1	2	3	4	5
Challenges in Border security of Mustang						
Physical Security	Geographical Barrier					
	Geopolitical Concern					
	Human Sensitivity					
	Climatic Factor					
	Resources Constrains					
Trans Border Crime	Isolate Border					
	Socio-cultural Aspect					
	Border Market					
Revenue Support	Informal Trade					
	Lack of Technology					
Civil Action	Custom differences					
	Lower Population					
Opportunities in Border Security of Mustang						
Physical Security	Geographical Advantage					
	Counter-parts cooperation					
	Strategic Surveillance Points					
	Tourism Prospects					
	Infrastructural Development					

Trans Border Crime	International collaboration					
	Limited escape route					
	Local support					
Revenue Support	Trading opportunities					
	Tourism Revenue					
	Government Approach					
Civil	Supportive Civilian					
Physical Security	Security enforcement					
	Infrastructure development					
	Inter-agency cooperation					
Trans- Border Crime	Enhance civic actions					
	Deploy custom office					
	International assistance					
	Mobile checkpoints					
Revenue Support	Use of Technological devices					
	Risk profiling					
	Data sharing programs					
	Joint Trainings					
Civil Action	BADP and awareness program					
	Enhance trust					
	Promote cultural and social integration					

INTERVIEW QUESTIONS

(KI, FIELD INTERVIEW & FGD)

The following questions are part of thesis, entitled “CHALLENGES AND OPPORTUNITIES OF BORDER SECURITY OF MUSTANG” conducted by Yukesh Upreti a student of Master in Security, Development and Peace Studies (MSDPS) at APF Command and Staff College Sanogaucharan, Kathmandu.

Your candid answer will provide invaluable information about Border Security of Mustang. I assure you that your participation in this interview is completely voluntary, if you do not want to take part in the interview, or if there are any particular questions you do not wish to answer. All personal information shared will remain secret. The confidentiality of your participation will be maintained, and your responses will not be accessible to government officials or any other entities. Please reply to every question to the best of your ability

Opportunity

- a) What is the current opportunities in terms of physical security to strength Nepal-China border in Mustang district?
- b) What is the condition of trans-border crime and what are current opportunities in neutralizing trans-border crime?
- c) What are the opportunities in generating sufficient revenue through trade and customs at border area?
- d) What are the opportunities in terms of civic actions done by security forces in strengthening border security?

Challenges

- a) What is the current challenges in terms of physical security to strength Nepal-China border in Mustang district?
- b) What are the current challenges in neutralizing trans-border crime?

- c) What are the challenges in generating the sufficient revenue through trade and customs at border area?
- d) What are the challenges to enhance civic actions conducted by security forces in strengthening border security?

Strategy

- a) What are the strategy or mitigating plans to eliminate the challenges of physical security to strength Nepal-China border in Mustang district?
- b) What are the strategy or mitigating plans to crub trans-border crime?
- c) What are the strategy or mitigating plans to counter challenges in revenue support?
- d) What are the strategy or mitigating plans to counter challenges of civic actions

GLIMPSE OF FIELD VISIT



Researcher conducting interview with Chief District Officer (Below) and other participants (up) at Mustang district H.Q.

Source: Taken by Researcher during Field Visit, (2025)



Researcher interacting with counter parts security force at Korola Border

Source: Taken by Researcher during Field Visit, (2025)



Researcher interacting with border resident at Nechung village (Above) and engaging in FGD (Below) Source: Taken by Researcher during Field Visit, (2025)