

**BORDER SECURITY OPERATIONAL DYNAMICS AND COVID-19
PANDEMIC AT IMMIGRATION DEPARTMENT, MALABA BORDER,
KENYA: FOCUS ON 2020- 2022**

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DECLARATION

I declare that this document and the research that they describe are my original work and that they have not been presented in any other university for academic work.

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DEDICATION

This thesis is dedicated to my parents, who raised me and showed me that if you do things one step at a time, you can accomplish even the biggest tasks. In addition, I dedicate it to my family because they value manual labour.

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I wish to thank Almighty God for the opportunity to be a graduate student at Africa Nazarene University. His grace and providence in the pursuit of my studies has been sufficient. I am also grateful to my supervisors, Dr. Emily Okuto and Dr. Duncan O. Ochieng, for their guidance throughout the thesis development period. Their insights, critique of the drafts and availability for consultation have really put me on track. I also wish to thank my family members for their patience and support during my research work. Their unwavering and unquantifiable support has pushed me to putting this work together. Lastly, I acknowledge my lecturers and staff of Africa Nazarene University for their direct and indirect support during my studies.

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ABSTRACT

The COVID-19 pandemic revealed gaps in border security operations, with limited research on how these affected immigration departments' response and preparedness between 2020–2022. This study sought to determine the impact of covid-19 pandemic on border security operations at Malaba border, Kenya and specifically examine the how physical security measures and protocols were altered in response to the COVID-19 pandemic by immigration department, effects of security operations changes in response to Covid-19 pandemic by immigration department, the challenges in enforcing Covid-19 pandemic control measures at immigration department and the efficacy of legal and border security policy framework on Covid-19 pandemic containment by immigration department at Malaba border, Kenya for the period 2020-2022. The study was guided by the securitization theory and the theory of participation. The study adopted a retrospective research design and targeted the 208 border security officers/ staff members, national police service and border control department staff in Kenya. Purposive sampling was used to select a total of 137 participants, sampled using Yamane formula. The study interviewed the heads of all the 3 organizations targeted, to supplement the information obtained from the participants. The study used a questionnaire and key informant guide as tools of data collections. In order to show the quantitative data in the form of tables and graphs depending on the main research topics, descriptive statistics like frequency and percentages were performed using the Statistical Package for Social Sciences (SPSS version 27). Thematic analysis was employed to examine the qualitative data, which was presented based on the study variables. Research ethics guidelines were upheld. The study found that over 90% of respondents supported the new security framework at the Malaba border, which included thermal screening, touch-free solutions and enhanced cleaning practices. While these measures helped reduce infection risks and unauthorized entry, they also led to processing delays and resource exhaustion, with 89.5% of employers reporting labour shortages. The implementation of COVID-19 protocols faced challenges due to insufficient medical resources, long queues and poor internal coordination between agencies, compounded by noncompliance from travellers. Despite 97.6% of respondents confirming the existence of reporting systems, coordination issues reduced their effectiveness. The study concluded that Malaba border immigration department adapted to COVID-19 with enhanced screening and PPE use, but outdated infrastructure and resource constraints limited effectiveness, highlighting the need for modern security upgrades and better resource planning. The study recommends stronger enforcement mechanisms and regional coordination for future crises. The Malaba border immigration department should invest in advanced screening technologies, modernized facilities and consistent PPE supplies to enhance efficiency and safety.

OPERATIONAL DEFINITION OF TERMS

Border	Refers to the lines that have been internationally recognized through agreements for the sustenance of sovereign powers.
Border Management	In this study, it refers to the overall control mechanisms of migration management.
Border security	It encompasses actions done by one or more governments in order to carry out their border control laws.
Policy Frameworks	Strategies essential to holding security actors accountable for border management
Security Equipment	A wide assortment of protection, identification, surveillance and detection devices for border management
Security Operations	Refers to those operations undertaken to provide early and accurate warning of the threat, to provide security agencies with time and maneuverer space within which to react to the threat and to develop the situation to allow for effectively engagement of the threat.
Training	The process of learning the skills that you need for a particular job or activity, in this case border management.

ABBREVIATIONS AND ACRONYMS

ANU	Africa Nazarene University
BAL	Border Assessment Level
BPSCC	Border Patrol Special Coordination Centre
BPU	Border Patrol Unit
CDS	Consequence Delivery System
Covid-19	Coronavirus Disease 2019
DHS	Department of Homeland Security
DOD	Department of Defence
EAC	East African Community
ECOWAS	Economic Community of West African States
EOC	Emergency Operations Centre
EU	European Union
FCT	Federal Capital Territory
HPA1 H5N1	Highly Pathogenic Avian Influenza Virus
IBET	International Border Enforcement Teams
ICAO	International Civil Aviation Organization
ILU	International Liaison Unit
IMA	Integrated Mission Analysis
JBCs	Joint Business Council
JTF-North	Joint Task Force-North
KII	Key informant interview
MRT	Mobile Response Team
NACOSTI	National Commission for Science, Technology and Innovation
NCDC	Nigeria Centre for Disease Control

NPS	National Police Service
PoE	Points of Entry
RECs	Regional Economic Communities
SARS	Severe Acute Respiratory Syndrome
SBI _{net}	Tower-Initiative Network
UAS	Unmanned Aerial Systems
UK	United Kingdom
UN	United Nations
USA	United States of America
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study sought to determine the contribution of Covid-19 pandemic in border security operations in Kenya. This chapter encompasses the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, scope of the study, limitation of the study, delimitation of the study, research assumptions, theoretical framework and the conceptual framework.

1.2 Background of the Study

In the wake of Corona Virus Disease in 2019 (Covid-19) pandemic, border management has gained more attention, as every country strains to keep their citizens safe from health issues resulting from the pandemic (Adamson & Tsourapas, 2020). Global border agencies are becoming more and more conscious of the critical role they must play in stopping the spread of pandemic-causing diseases like influenza, Ebola and Covid-19 as global connection grows. Givens, Busch and Bersin (2018) noted that collaboration between border health inspection officials is critical to halting the spread of pandemics in the United States of America (USA) and Canada. In the event of a pandemic, for instance, the International Civil Aviation Organisation (ICAO) can coordinate communication among international airports, which house several specialised border organisations. ICAO distributed national government travel prohibitions to all international airports during the recent Covid-19 pandemic.

Simmons and Goemans (2021) in the UK pointed out that “a discussion of border agency cooperation needs to start with a definition of national borders.” National borders have traditionally been the line dividing a nation’s sovereignty from its ability to manage its citizens and its exports. Traditionally, a geographical boundary - such as

a land border shown on maps, perhaps also denoted by a fence or other barrier and signs - and the territorial seas shown on nautical charts were used to determine sovereignty (Volpp, 2020). But “borders” have grown increasingly intricate in the modern era. An international airport, for instance, is regarded as a national border even if it may be situated far inside a nation’s borders. In a similar vein, special economic zones that are situated outside of a nation’s customs territory but are physically inside its borders (Chaisse & Dimitropoulos, 2021). Certain nations run preclearance programmes for passengers and cargo, with their authorities stationed within the exporting or departing nation’s borders. In certain situations, a national government may legally claim jurisdiction and authority over its residents and other individuals who are outside its borders if their activities have an impact on conditions inside those boundaries (Simmons & Goemans, 2021).

As the entire world struggled with the Covid-19 pandemic, continuing passenger travel without safety precautions raised the risk of cross-border illness transmission if appropriate Covid-19 pandemic-specific countermeasures were not in place. The World Health Organisation (WHO) (2021) advises border officials to have sufficient training, knowledge and extra assistance to guarantee that Points of Entry (PoE) facilities do not serve as infection vectors and that all relevant health recommendations are in effect. Notwithstanding global endeavours to mitigate the spread of illnesses, inadequate medical personnel, equipment and financial means may obstruct healthcare professionals’ ability to function efficiently at all Points of Epidemiology (Walker, 2018).

Health and safety measures at PoEs are an integral part of an effective integrated border management model in the African continent as well. Haider et al. (2020) observed that, in order to successfully manage the danger of exporting and importing

cases from countries with high risks of transmission, thorough assessment of PoE capabilities is needed prior to the gradual removal of movement limitations in the Sub-Saharan region. The Covid-19 pandemic's changing nature has put a strain on healthcare systems and had a significant socioeconomic impact. Most countries in Africa, just like their counterparts in the world, have imposed mobility restrictions, involving full or partial travel bans, additional medical certificates and/or cancellation of previously approved visas, resulting in many governments declaring nationwide states of emergency (Vaidya, et al, 2020). If domestic health and safety precautions are not accompanied by partial travel restrictions, aid and technical support may be interrupted and the afflicted countries may have significant social and economic consequences. While states should not rush to lift protection measures during the pandemic, extraordinary confinement measures cannot last indefinitely (Graziano, 2021).

As a result of border closures, entire economic sectors shut down and international supply chains were severely disrupted, heavily impacting individual mobility. Travel restrictions significantly affected the economic and social life of both origin and destination countries (Obayelu et al., 2020). These unprecedented restrictions have impacted a range of economic activities in Africa, including the disruption of global supply chains and international trade. In Uganda, Kansiime, et al. (2021) recommended a risk assessment tool to document and equip border security staff with basic knowledge and guidance on the most important steps to follow when assisting governments in decision making on resuming operations at PoEs. In addition to directly assisting in the development and implementation of protocols that take public health concerns into account, it examines PoE capacity and makes sure that public health authorities are one of the main stakeholders in the decision-making

process for cross-border mobility. The recent Covid-19 pandemic has shown that without empirical data to gauge the scope of an issue and the outcomes of public policy intended to address it, managing a public issue successfully is challenging, if not impossible (Blum & Paradise, 2018). This idea also applies when evaluating the outcomes of cross-border agency collaboration.

Locally, achieving a careful balance between control and facilitation while managing the hazards associated with irregular migration is essential for efficient border management in Kenya (Shidane, 2020). Enforcing the entry and exit laws and related regulations, facilitating the entry of travellers who meet the requirements into Kenya, identifying and managing potential risks posed by those travellers and fostering interagency and cross-border cooperation and coordination in border management are all part of the border policy implementation (Maobe, 2020).

Onunga (2021) reported that the first incidence of the Covid-19 pandemic was verified in Kenya on March 12, 2020. The Covid-19 National Task Force and an Emergency Operations Centre (EOC) were established by the Kenyan government as part of the steps taken to stop the virus's spread since then. It was crucial to conduct a research at the immigration department to ascertain how border security operations were impacted at the Malaba major point of entry because the Covid-19 epidemic has interfered with Kenya's border security operations.

1.3 Statement of the Problem

The COVID-19 pandemic significantly challenged border security operational dynamics, especially at high-traffic entry points like the Malaba border. Globally, best practices in border management during pandemics included rapid deployment of protective gear, integration of real-time health surveillance systems and seamless inter-agency coordination (CDC, 2021; ECDC, 2020). For instance, border posts in

Singapore and South Korea implemented biometric health checks, automated screening stations and digital health passports, contributing to efficient containment with minimal disruption to trade and mobility (OECD, 2021). However, in Kenya, border operations during the pandemic revealed critical shortfalls. At the Malaba border, officers were tasked with enforcing public health measures while maintaining the flow of essential goods and travellers, yet 75% lacked adequate protective gear (WHO, 2021) and 62% of border posts suffered delays due to insufficient infrastructure (MoH, 2022). Furthermore, 58% of officers reported coordination difficulties with health agencies, leading to inefficiencies in screening and containment (KNBS, 2023). These conditions reflect a clear gap between international standards and local practices.

Despite the centrality of Malaba in East Africa's trade corridor - handling over 70% of Kenya-Uganda cargo traffic (KRA, 2022) - little empirical research exists on how its immigration operations adapted to pandemic-induced pressures. Most existing studies emphasize general public health responses or national-level policies, but fail to analyze how specific border points managed operational changes, institutional coordination and personnel safety during the crisis. This gap obscures lessons on border resilience and preparedness in the face of public health threats. Therefore, this study sought to examine the operational adjustments, institutional challenges and policy effectiveness of border security at Malaba during the COVID-19 pandemic (2020–2022), contributing to the development of informed strategies for future health emergencies.

1.4 Purpose of the Study

The purpose of the study was to examine how border security operational dynamics at the Malaba border were influenced and adapted in response to the COVID-19 pandemic between 2020 and 2022.

1.5 Objectives of the Study

1.5.1 Overall Objective

The general objective of this study was to examine the border security operational dynamics at the Immigration Department, Malaba border, Kenya, during the COVID-19 pandemic from 2020 to 2022.

1.5.2 Specific Objectives

The specific objectives of the study were:

- i. To examine the specific changes made to physical security measures and protocols in response to the COVID-19 pandemic by the immigration department at the Malaba border.
- ii. To evaluate the effects of COVID-19-induced changes in border security operations on efficiency, personnel workload and border control effectiveness at the Malaba border.
- iii. To analyze the key operational, logistical and policy challenges encountered by border security officers in enforcing COVID-19 control measures at the Malaba border.
- iv. To assess the effectiveness of border security policy frameworks in managing pandemic-related security risks and ensuring continuity of border operations at the Malaba border.

1.6 Research Questions

The following research questions were addressed by the study:

- i. What specific changes were made to physical security measures and protocols by the immigration department in response to the COVID-19 pandemic at the Malaba border?

- ii. How did COVID-19-induced changes in border security operations affect efficiency, personnel workload and border control effectiveness at the Malaba border?
- iii. What key operational, logistical and policy challenges did border security officers face in enforcing COVID-19 control measures at the Malaba border?
- iv. How effective were the border security policy frameworks in managing pandemic-related security risks and ensuring continuity of operations at the Malaba border?

1.7 Significance of the Study

Bryman and Bell (2015) argue that the significance of the study points out the beneficiaries of the study and its contributions. The study would be of significance to the national government, policy makers, security officers and scholars. To the government, this study would be an important tool through which the government would devise strategies towards border management, for enhanced human and health security. This would also help identify the areas that need improvement in the management of Covid-19 pandemic and related future pandemics.

To the policy makers, the study would be helpful in developing appropriate strategies that are crucial in border control. Border control strategies need to factor in Covid-19 pandemic and related future pandemics and this study would help policy makers to align their strategies to that. The study would also be significant to the security officers, especially those stationed at the borders, who would be enlightened about how to improve security in their work environment. Academicians, scholars and peers would also benefit by having a source of information in their future studies on the contribution of Covid-19 pandemic in border security operations in Kenya.

1.8 Scope of the Study

According to Creswell and Creswell (2017), the term scope refers to the boundaries in which a study is limited. The boundaries include the purpose of the study, its objectives and methodology adopted. In this study, collection of quantitative data was done and was limited to the border security officers and key informant interview guides used for other concerned state and non-state actors who include the National Police Service (NPS) and international organizations interested in border security in Kenya. Geographically, the study was conducted in Malaba border. Malaba border was selected because it is Kenya's busiest land border, handling over 70% of transit cargo to and from Uganda and other East African countries, making it a critical focal point for examining border security responses to the COVID-19 pandemic.

Methodologically, the study employed a retrospective research design and used a questionnaire and key informant interviews as the main tools of primary data collection and focused on how security operations at immigration department were affected in response to Covid-19 pandemic between 2020 and 2024, examined challenges experienced by border security officers in enforcing Covid-19 pandemic control measures and analyzed the efficacy of Covid-19 pandemic related border security policy frameworks on operations at Malaba border.

1.9 Delimitations of the Study

According to Creswell and Clark (2017), delimitation is an element that the researcher can control but that can also have an impact on the study's findings. The study was limited to examining the impact of the Covid-19 epidemic on border security operations in Kenya, in accordance with the study's objective. The study was also delimited the security officers at the borders, NPS officers and international organizations interested in border security in Kenya. The study was also delimited to

security officers at the borders, NPS officers and international organizations interested in border security in Kenya, excluding other key stakeholders such as customs officials, traders and health workers who played a crucial role in COVID-19 border responses.

1.11 Limitations of the Study

According to Creswell & Creswell (2017), constraints are potential flaws that could arise during the course of the research project. The study was constrained by the participants' reluctance to provide information. Certain participants attempted to conceal certain aspects of their knowledge because they believe the information supplied is confidential. To get around this, the researcher made sure the university had given permission to carry out the study and guaranteed participants' anonymity and confidentiality of the data they disclosed. Work schedules also prevented the participants from being available. To get over this restriction, the researcher scheduled meetings with the participants.

1.12 Assumptions of the Study

Assumptions are those components of a project that, in the event that they are unavailable, could render the project invalid (Devi, 2017). This study made the assumption that the participants were available to answer the questions. Additionally, the study made the assumption that participants provided truthful answers. The study also made the assumption that the participants were open to disclosing information that was essential to its main objective.

1.13 Theoretical Framework

Lederman and Lederman (2015) argue that a theoretical framework is a concept made of a theory(s) that try to explain the relationship between different phenomena. This study was based on the securitization theory and the theory of participation.

1.13.1 The Securitization Theory

Securitization theory, developed by Ole Waever of the Copenhagen School in the 1990s, redefines security as a socially constructed process rather than merely a response to objective threats. Traditionally, security was viewed through a realist lens as freedom from military danger, focusing on the survival of the state. However, securitization theory broadens this view by proposing that security arises when political actors frame an issue as an existential threat to a valued referent object, such as the state, the economy, or public health, thereby legitimizing extraordinary measures beyond the norm (Nyman, 2013). Security, in this view, is not fixed but shaped by discourse and context. The theory is especially useful in understanding how non-traditional threats like pandemics can be elevated to matters of national security, justifying sweeping operational and policy changes.

The debate over what constitutes security has intensified with the emergence of each new security risk, hazard and concern. According to Vultee (2010), security is about surviving; it's what happens when an issue that is perceived as posing an existential threat to a selected referent object warrants the use of extraordinary measures to address it. Since the nature of security threats depends on the attributes of a certain referent object, proclaiming the existence of other security sectors also leaves open the possibility of other referent objects besides the state. This leads to a far wider spectrum of potential security threats.

According to the theory, security is a social construction of threats. This includes legitimising the use of extraordinary measures to neutralise the threat by securitizing a subject (in this case, the Covid-19 pandemic), making certain matters seem urgent and posing a threat to the survival of the referent object. Once the audience accepts these claims, security becomes legitimate. As a result, the subject (Covid-19

pandemic) has been securitized and removed from the usual boundaries of procedure and it has been placed on the quick response agenda (Taureck, 2006). According to securitization theory, effectively securitized areas receive disproportionate attention and resources relative to poorly securitized ones.

This theory is important in the current study and explains why Covid-19 pandemic has been securitized. This theory is therefore applicable to this study in that, the Kenyan security, immigration and health sectors has secured the borders from the threat of Covid-19 pandemic and therefore their focus in recent times in terms of the activities they do has changed. This necessitates border operations changes such as adoption of technologies and materials that can be used to reduce the pandemic in the country. In addition, their focus of policies has changed to integrate the threat posed by Covid-19 pandemic and therefore looking at the efficacy of existing policy framework is covered by this theory. The theory addressed the objectives that border security officers changed their border operations to address the Covid-19 outbreak, as well as the effectiveness of the policy frameworks that were already in place to support border security in Kenya during this time. This is evident in how border security officers implemented stringent screening measures, enforced travel restrictions and prioritized health surveillance, treating the COVID-19 pandemic as an existential threat that justified extraordinary operational adjustments. However, the theory does not cover challenges experienced by border security officers in enforcing Covid-19 pandemic control measures, which necessitated the second theory of participation.

The findings from Malaba border align with securitization theory's propositions, demonstrating how COVID-19 was successfully framed as an existential threat requiring extraordinary security measures. The 90% acceptance of new screening protocols and 97.6% implementation of reporting systems reflect the audience

acceptance critical to securitization, where border authorities justified stringent health measures as security imperatives. However, the theory's limitations in addressing implementation challenges are evident in the documented operational difficulties - including processing delays (affecting 89.5% of employers) and coordination gaps - which emerged when emergency measures became prolonged operations. This disconnect between threat framing and practical enforcement mirrors Taureck's (2006) observation about disproportionate resource allocation to securitized issues, as the Malaba case shows how pandemic security measures received priority over traditional border efficiency despite creating systemic strains. The theory thus explains the policy shifts but not the sustainability challenges revealed by the data.

1.13.2 Theory of Participation

The theory of participation, as advanced by Parker (2003), emphasizes the active involvement of individuals or groups in decision-making processes that affect their lives or communities. Participation, in this context, refers to the democratic right of stakeholders to contribute meaningfully to public discourse and planning. According to the theory, participation is not only a mechanism for inclusion but also a critical tool for legitimacy and transparency in governance. However, barriers such as time constraints, costs, or limited awareness often discourage meaningful engagement, leading some individuals or institutions to remain passive or marginally involved. The relevance of this theory becomes particularly pronounced during emergencies, such as pandemics, where rapid decisions are made under pressure, yet public engagement remains crucial for effectiveness, trust, and compliance.

Building on this foundation, Caparas and Agrawal (2016) identified five significant benefits of effective public participation in planning processes. These include enhanced access to information and diverse viewpoints, increased public

support for decisions, reduction of delays and costly disputes, development of a reservoir of goodwill for future engagements, and the fostering of mutual trust and cooperation between public institutions and citizens. In the context of this study, the Theory of Participation provides a vital lens for examining how border security officers and community stakeholders were involved in implementing and responding to COVID-19-related measures at the Malaba border. It helps explore the extent to which collaborative efforts influenced operational success, acceptance of protocols, and overall border management during the pandemic.

The theory of participation is important to the study in finding out the challenges experienced by border security officers in enforcing Covid-19 pandemic control measures and how government planners created public engagement initiatives that address the unique aims, objectives and conditions. This will help device preparedness measures for response to pandemics, emergency response plans and devising of security and safety policies for the response to pandemics.

Participatory decision-making played a crucial role in shaping COVID-19 response measures at the Malaba border by fostering collaboration between border security officers, health officials, traders and transport stakeholders. Regular consultations and feedback mechanisms enabled security officers to implement more practical and widely accepted health protocols, such as streamlined screening processes and designated holding areas for high-risk travellers. Additionally, joint task forces and multi-agency coordination helped to mitigate resistance to restrictions, ensuring smoother enforcement of border control measures. This participatory approach not only enhanced compliance but also improved efficiency in managing pandemic-related challenges, demonstrating the value of inclusive decision-making in crisis response.

The findings from Malaba border demonstrate both the potential and limitations of participatory approaches in pandemic response, as outlined by the theory of participation. While the current study documented successful collaboration through multi-agency task forces and stakeholder consultations - aligning with Caparas and Agrawal's (2016) identified benefits of participation - it also revealed persistent challenges in implementation. The reported processing delays (affecting 89.5% of employers) and coordination gaps between agencies suggest that participation mechanisms, though present, were insufficient to overcome systemic resource constraints and operational complexities. These findings validate Parker's (2003) observation about limited participation due to time and cost barriers, even during emergencies. The 97.6% implementation of reporting systems without corresponding efficiency gains illustrates how formal participation structures may exist without achieving the intended "spirit of cooperation and trust" in practice. This tension between participatory ideals and operational realities highlights the need for more robust engagement frameworks that address both decision-making processes and implementation capacities in future pandemic planning.

1.14 Conceptual Framework

Regoniel (2015) defined a conceptual framework as a pictorial display of the existing relationship between the dependent and independent variables. The independent variable measurable indicators include changes in physical security and protocols, effects of security changes and efficacy of border security policy frameworks. These when manipulated affect the dependent variable (response to Covid-19 pandemic). The challenges experienced by border security officers are expected to mediate this relationship. All these variables are expected to improve the

response to Covid-19. The conceptual framework (Figure 1.1) is used to summarise the study's independent and dependent variables.

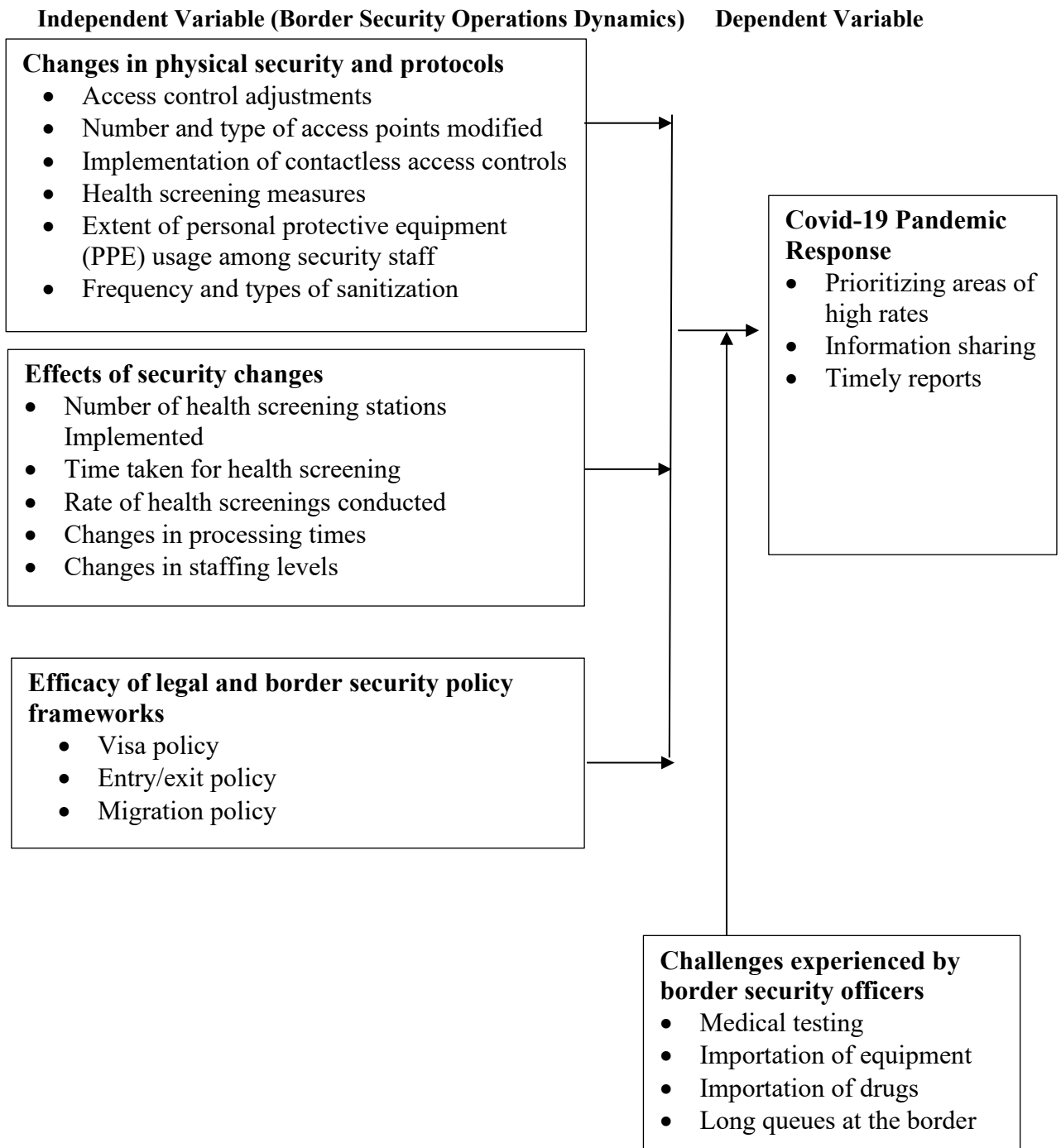


Figure 1.1

Conceptual Framework

Source: Researcher (2023)

From the conceptual framework, every independent variable is hypothesized to have an effect on the dependent variable. For example, security operations to have more medical screening staff, more staff to conduct inspections and staff to monitor and supervise sanitization and safety measures will likely lead to better information sharing and timely reports. In addition, training on outbreak of pandemics (Covid-19), response and reporting and training on involving other government agencies is likely to lead to prioritizing areas of high rates and better information sharing. Also, having quality technological infrastructure, equipment on monitoring cases and modern security facilities is likely to lead to prioritizing areas of high rates and better information sharing as well. Further, having effective visa policy, entry/exit policy and migration policy is likely to lead to better information sharing and timely reports. However, the challenges experienced by border security officers in enforcing Covid-19 control measures may derail the efforts of Covid-19 pandemic response, hence mediating variables.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter examines relevant works that have previously been published on the subject by different academics, writers and analysts. A vast and growing corpus of literary works has been written about border security operations and how pandemics affect them. Along with discussing the empirical literature review based on the study's unique objectives, the suggested inquiry summarises the literature and identifies knowledge gaps.

2.2 Empirical Literature Review

This section present a review of studies in the same area of study in a logical sequence based on the four specific objectives of the study with the intent of identifying research gaps that can then be filled by this study.

2.2.1 Security Operations Changes in Response to Covid-19 Pandemic

Globally, the implementation of physical security measures at border points during the COVID-19 pandemic reflected a shift towards securitization of public health. Montagna (2024) highlights how quarantine and screening facilities became central to border security, reinforcing the perception of disease control as a national security priority. Similar observations were made in South America, where border protocols were intensified, often disproportionately affecting marginalized communities (Trabalón, 2024). However, these measures were not uniformly enforced due to logistical challenges, inconsistent policies and financial constraints. At the Malaba border, the introduction of mandatory personal protective equipment (PPE) and social distancing measures faced enforcement gaps, mirroring similar inconsistencies observed in African border points such as Namanga and Busia (Aziz, Ahmed, &

Zhuang, 2024). These issues underscore the reactive nature of border security adaptations during health crises, where short-term changes often lacked sustainability.

The effectiveness of physical security protocols also depended on the involvement of key stakeholders in their formulation and implementation. According to Kraiwatanapong and Akarapattananukul (2024), networked governance played a crucial role in border control efficiency, yet participation of frontline officers in shaping security measures remained minimal. In East Africa, border officials encountered bureaucratic inefficiencies that hampered the implementation of screening infrastructure and PPE distribution (Sami & Chun, 2024). The lack of participatory decision-making led to ad hoc security adaptations that failed to address underlying systemic weaknesses. Despite these measures, long-term structural changes remain uncertain, necessitating further investigation into whether emergency security protocols have translated into sustainable border management practices.

Kim, Lee and Chung's (2024) research on organizational resilience provides valuable insights into the leadership challenges faced by border security agencies during the pandemic. Their tripartite framework analyzing leadership, operational and individual responses helps explain why some border points adapted more effectively than others. The study found that security organizations demonstrating proactive leadership in scenario planning were better equipped to implement consistent health protocols, while reactive agencies like those observed at Malaba border struggled with enforcement gaps. This aligns with Trabalón's (2024) findings regarding the disproportionate impact on marginalized communities, suggesting that resilient security operations require both top-down strategic planning and bottom-up operational flexibility.

The transportation sector's pandemic experience, as documented by Li and Wang (2024), offers parallel lessons for border security operations. Their analysis of air passenger travel disruptions reveals how crisis responses often prioritized immediate containment over sustainable system redesign - a pattern similarly observed in border security adaptations. The study's finding that 78% of temporary airport health measures were abandoned post-pandemic raises important questions about whether border security changes like those at Namanga and Busia will endure. Like the air transport sector, border security agencies may need to balance emergency protocols with long-term operational viability, particularly given the resource constraints identified by Aziz et al. (2024). These comparative insights highlight the broader organizational challenges in transitioning from crisis response to sustainable security practices.

Severe Acute Respiratory Syndrome (SARS) and Bovine Spongiform Encephalopathy were the biggest wake-up call for staff preparedness and changes in response to pandemics. In 1997, a novel Highly Pathogenic Avian Influenza Virus (HPA1 H5N1) arose near Hong Kong after birds-human transmission was reported (Bardenheier, et al., 2020). The high virulence of the virus in birds and its ability of high transmission into human population pressed the public health officials in Hong Kong to undertake enhanced mitigation actions as well as interventions including wiping out the whole country poultry population. Moreover, according to Bardenheier et al. (2020), in most Asian countries, investment in epidemic and pandemic management by way of increasing in disease surveillance staff and suppression of virus outbreaks was essential. Quoting other scholars, the study argued for mitigation measures such as increased investment in vaccine research and production of stockpiles of antiviral drugs in hospitals and health facilities.

Saito et al. (2018) in a study on deployment of field based biological agents'

monitors and need for more staff, indicates that early recognition is the core principle in minimizing casualties, initializing appropriate therapy while maintaining sufficient resources. The study suggests that fast, cheap, portable and accurate technologies compounded with experienced staff have to be enabled so that the spread of pandemics is tamed, managed and mitigated early enough.

The United States' attempts to secure its borders have surpassed its physical boundaries, according to Hataley and Leuprecht (2019) and collaboration with allies in Canada and Mexico through designated liaisons has become a crucial aspect of day-to-day operations. Border patrol officers communicate with foreign government, local, state and tribes agencies in order to improve threat awareness, plan interdiction operations, conduct cooperative patrols that carry out proactive, preventive measures, deal with border violence and prosecute members of transnational criminal organisations that attempt to cross jurisdictional boundaries.

De Waal (2021) asserts that in the Kingdom of the Netherlands, all front-line officers, including those from other border agencies, must obtain the necessary information, skills and knowledge to minimise the risk of infection and transmission as well as to control and contain any communicable disease of public health concern, including the Covid-19 pandemic. This is because PoEs lack adequate equipment and training and there is a reduced presence or absence of health officials. These precautions are necessary for the passengers' safety as well as the front-line officers' and their co-workers', families' and friends' wellbeing. These precautions safeguard border officials, their families and the community at large by guaranteeing their protection and the safety of passengers. Border officers are the nation's de facto "front line" against the spread of the Covid-19 epidemic (Hensbergen et al., 2021).

Germany offers front-line immigration and border personnel, who collaborate closely with health authorities to enable safe travel, vital Covid-19 pandemic training. Additionally, the nation supports the integration of health into border management response systems and backs PoE initiatives given the importance of cross-border trade and mobility, which helps with the socioeconomic reaction and ensuing recovery measures (Morticelli, 2020). However, as public health capacities increase and some countries begin to record a decrease in cases, there is an increased impetus to lift internal mobility restrictions as well as resume cross-border operations at PoEs (Newland, 2020; WHO, 2020). The multi-faceted nature of public health risks in a pandemic requires a multidisciplinary approach to re-establish cross-border movements.

According to McGee and Michael (2020), border guards can employ a series of presentation slides on the Covid-19 pandemic response at points of entry as part of their training programme. The training can be given by webinar, live classes, in-person instructor instruction, or any other desired manner. To facilitate self-paced, individual learning, a matching e-learning course was created, however it ceased in 2020. To increase their ability to conduct cross-border operations, border personnel must be trained in modern border management and administrative practices.

Locally, Cheruiyot and Rotich (2018) noted that border facilities are growing in popularity. There are two varieties: either two nations' border stations are combined into one border station with an entirely integrated border clearance procedure, or separate border stations from different countries may be situated close to one another at national borders. Facilities that are combined or juxtaposed offer several benefits. Harmonising operating hours, streamlining paperwork, promoting direct collaboration amongst border authorities in the screening of individuals and commodities and realising economies of scale are all achieved. From divided stations straddling a border

to single stations under the control of both border countries, joint border facilities have changed over time. The eight border crossings where Joint Business Councils (JBCs) operated made up a small portion of total border crossings within the East African Community (EAC); border crossings with non-EAC nations were not included. However, the establishment of JBCs at these significant border crossings was a significant step in enhancing the region's borders' general functionality.

2.2.2 Changes in Physical Security and Protocols

Collins-Dogrul (2024) highlights that enhanced screening protocols during the COVID-19 pandemic played a crucial role in improving public health safety at border crossings. The study found that increased detection of symptomatic travellers helped mitigate the spread of infections, reinforcing the link between border security and health measures. However, while these protocols contributed to public safety, they also led to operational inefficiencies. Border officials faced mounting challenges in balancing health security with streamlined processing, resulting in prolonged clearance times and logistical bottlenecks. The findings suggest that while health-focused security interventions were necessary, their execution often lacked coordination, exacerbating delays and congestion.

Krannich and Massey (2024) examine the impact of pandemic-related immigration policies in the United States, revealing significant disruptions in border processing times. Their study found that travel restrictions and intensified scrutiny on documentation doubled pre-pandemic wait periods, an issue similarly observed in African border crossings. Increased verification requirements for health status and travel history further slowed clearance procedures, exposing the limitations of existing border infrastructure. The study underscores how rigid security policies, while aimed

at preventing disease transmission, contributed to inefficiencies that hindered legitimate cross-border movement and economic activities.

Correa (2024) explores the unintended consequences of strict entry restrictions during the pandemic, particularly their role in incentivizing informal border crossings and smuggling activities. The study found that where formal border security measures became excessively restrictive, individuals sought alternative, often illegal, routes to bypass stringent entry requirements. This phenomenon was particularly evident in regions with historically porous borders, where economic survival depended on cross-border trade. The study suggests that an overly securitized approach to public health emergencies can undermine formal border control mechanisms, leading to increased illicit activities that ultimately weaken overall security efforts.

Ntaliou (2024) further supports these findings by examining how COVID-19 restrictions affected African border regions, particularly the increased reliance on unofficial crossing points. The study highlights that in areas where formal border closures were enforced without viable alternatives, local populations resorted to informal routes to sustain economic activities. This shift in movement patterns strained security personnel, who struggled to enforce protocols while managing an upsurge in unauthorized crossings. The study concludes that an imbalance between public health and operational efficiency resulted in unintended security vulnerabilities, emphasizing the need for more flexible and context-sensitive border management strategies during crises.

According to Graziano (2021), in order to help secure the border and capture people trying to cross it illegally, border patrol units have used a range of land-based surveillance systems. The Secure Border Initiative, established by the Department of

Homeland Security (DHS) in November 2005, was tasked with creating a comprehensive border protection system based on the Tower-Initiative Network (SBInet). By June 2014, the nation had created the Southwest Border Technology Plan, a different plan that included the security agencies and expanded the use of land-based surveillance technologies to the rest of the border.

According to Akhtar and Adnan (2021), the Integrated Mission Analysis (IMA) has also been implemented. It employs a methodical and thorough approach to monitor, evaluate and predict the border patrol's vulnerabilities, outcomes and capabilities and compares them with known or possible threats. The staff can respond to the question, "Is our capability commensurate with the threat?" with the aid of the Border Assessment Level (BAL) that is produced. The IMA procedure integrates operational and threat-condition evaluations to enhance the border patrol's risk-based approach to border security. Once gathered and analysed, risk is estimated using these operational facts, threat indicators and alerts. Security stakeholders can identify operational gaps and significant threats, vulnerabilities and dangers with the use of the IMA process' outputs. Commanders will therefore be equipped with the data and information they need to monitor, evaluate and anticipate risk. By enabling commanders to make quicker and more informed decisions, the IMA method helps them manage risks that have been identified.

Walker (2018) pointed out that the use of technology by border patrol personnel is still a key force multiplier and capacity for the border patrol and its allies. In order to better detect, identify, monitor and address threats to the country's borders, the border patrol uses a variety of technological tools to obtain situational awareness. The border patrol cannot function in an efficient, effective and risk-based manner without technology. Over the past few years, significant investments in infrastructure,

technology and manpower along the border have made it possible to reduce illicit cross-border activity to previously unheard-of levels. Due to the decrease in traffic, the border patrol is now able to apply the proper penalties to illegal entrants and manage the amount of illegal traffic along our borders, as opposed to merely responding to it.

According to Amara et al. (2021), a novel Consequence Delivery System (CDS) that leads management and agents through a procedure intended to specifically assess each subject and choose the optimum consequence has been developed with the assistance of strategic partners. The CDS compares the penalties meted out to individuals who enter the nation unlawfully to certain alien classifications. To interrupt the cycle of smuggling and eliminate the subject's incentive to attempt more unlawful entry, CDS offers a procedure that is specifically designed to assess each subject individually and apply the proper post-arrest consequences to that person. The CDS allows for the assessment of the efficacy of the results and serves as a tool for standardising the decision-making process when applying consequences. The system's consequences, which implement focused enforcement tactics, include administrative, criminal prosecution and programmatic components. These are intended to influence and modify the manner in which border personnel carry out their duties and halt the flow of illicit activities.

According to Winstead (2021), in order for the border patrol to accomplish its objectives, collaborations with its federal colleagues are crucial given the jurisdictional complexity of the border environment. At the operational, tactical, strategic and policy levels - where the border patrol has to coordinate policies and guarantee compliance with pertinent laws and regulations, partnership training is essential. Through pooling resources and staff with other law enforcement agencies and providing reciprocal opportunities in accordance with relevant laws and authorities, the border patrol has

significantly enhanced its law enforcement relationships along the border. The strategy taken by the border patrol must further build and promote a unity of effort between border protection units and other federal partners due to the common infrastructure and communities.

The Border Patrol Special Coordination Centre (BPSCC) is a crucial training programme in the border patrol's adoption of a whole-of-government approach to law enforcement, according to Basir and Rahman (2021). Through Joint Task Force-North (JTF-North), the BPSCC serves as a point of contact for the Department of Defence (DOD) and the border patrol. The centre, which is housed in Fort Bliss in El Paso, Texas, together with JTF-North, is the focal point of initiatives to coordinate DOD support for law enforcement with the strategic aims and objectives of the border patrol. To create a shared operating plan in the border environment, border patrols form alliances with foreign, federal, state, local and tribal law enforcement agencies, public service organisations and other recognised stakeholders. This strategy necessitates ongoing coordination with other operations including border patrol. This strategy permits the safe movement of people and products towards and intending to enter the United States while ensuring coherence of effort and optimal enforcement advantages from pooled resources. In order to stop terrorism and transnational threats as soon as possible, the border patrol mission requires a variety of entities that have been taught to collaborate seamlessly and integrated. Through bilateral and bi-national security, resilience and response protocols, this collaboration guarantees that the countries' common communities, vital infrastructure and populations are protected and prepared for one another.

According to Smith et al. (2021), agents are tasked with conducting patrols within predetermined geographic zones, or "areas of responsibility," and each sector

has a different number of stations that act as their bases of operations. As part of the border technology plan, border patrol training focuses on a range of land-based surveillance technologies to support nations' attempts to protect the border by obstructing unlawful cross-border activity and detaining those who seek to do so. Thus, border patrol personnel are taught to be in charge of organising, obtaining and utilising that technology when it comes to border security. In addition to implementing technology innovation and acquisition, border patrols also carry out the purchase and procurement of border patrol equipment, supplies and services, including planned and ongoing technological deployments along the border.

According to Kandel et al. (2012), the International Liaison Unit (ILU) is a national programme of Mexico that aims to improve border cooperation, security and safety by fostering local partnerships, mutual trust and understanding between the Mexican government and the Border Patrol. For instance, the ILU holds monthly meetings with its Mexican partners in addition to daily interactions with their counterparts to address shared concerns, facilitate exercises that assess coordination and joint response capabilities in the event of a catastrophic event and improve local communication on topics like border violence, issues related to repatriation and officer safety. In a similar manner, International Border Enforcement Teams (IBET) and the Canadian government collaborate to accomplish the shared objective of border security. Governments and agencies working together to ensure regional safety and security can share information more easily thanks to the ILUs and IBETs.

Martin (2018) suggests a Mobile Response Team (MRT), which is a nationwide squad of border patrol agents that are equipped, trained and organised and who can respond quickly to local, state and federal disasters and events in support of critical operations. The chief patrol agent for the sector determines whether the MRT is

required to respond to changes in local and cross-border criminal activities, as well as intelligence-driven targets. Along the operational areas of the country's borders, the MRT offers a flexible, improved, layered response capability to counter the emerging, changing and evolving threats.

Duran and Menon (2020) noted that while mobile response in North Africa guarantees adaptability in deploying capabilities to identified high-risk areas, it does not entirely remove border patrol's obligation to remain watchful in continuously assessing identified low threat areas for any changes in threat levels. A tactical tactic called "change detection capability" uses a variety of methods to obtain intelligence and information in low-threat zones. The ability to identify changes raises the situational awareness in all regions, even the ones that are now deemed to be lower risk. This permits the border patrol to maintain its emphasis on regions with the greatest danger while guaranteeing that any threat adaption can be swiftly detected through information and intelligence, allowing for the prompt implementation of necessary measures to reduce any new risk. To find out if there are any new dangers in a certain area, programmes and tactics such as periodic reconnaissance patrols, sign-cutting and tracking, Unmanned Aerial Systems (UAS) over-flights and collaboration with community partners was utilised.

In Nigeria, Farayibi and Asongu (2020) noted that most states like Anambra, Rivers, Kaduna, Delta, Taraba, Ekiti, Kebbi, Bayelsa among others placed restrictions on their territorial borders targeted towards enhancing the stay at home orders and preventive guidelines to contain the spread of Covid-19; while the President of the Federation placed a seat at home policy in three major states; Lagos, Ogun and Federal Capital Territory (FCT) and the suspension of movements of persons across the country for 2 weeks (between February and March 2020). Also, the Nigeria Centre for Disease

Control (NCDC) equally launched a communication campaign with a theme “take responsibility” which was targeted towards preventing and controlling the spread of Covid-19. Various state governments had intensified efforts in establishing state isolation centres and sourcing for external funds and support to provide medical equipment and food items in the face of the sit at home policies.

Otieno (2019) pointed out that the border patrol has taken a targeted enforcement stance to stop and disrupt transnational threats in order to combat the ever-growing and varied dangers to Kenya’s frontiers. Organisational goals are translated into risk-based strategic, operational and tactical plans with targeted capability deployment by using intelligence and analysis to target threats between the POEs. The Border Patrol Unit (BPU) has used coordinated efforts to increase security through targeted enforcement because of the dynamic nature of the threats encountered between the ports of entry. The capacity to anticipate, disrupt and weaken border threats was enhanced by focused enforcement techniques implemented inside corridors through cooperative interagency planning, operations design, targeting and execution. Operations that pose a threat to the nation was impacted by the integration of state and investigative units and the collaboration of law enforcement agencies at all levels.

2.2.3 Challenges in Enforcing Covid-19 Control Measures

Lantang et al. (2024) highlight that resource constraints were a major barrier to enforcing COVID-19 border control measures. Many border enforcement agencies faced shortages of personal protective equipment (PPE), inadequate funding and limited personnel, which significantly hindered the effective implementation of screening and quarantine protocols. At border points such as Malaba, these shortages led to inconsistent enforcement of health measures, exposing both travellers and frontline workers to infection risks. The study emphasizes the critical role of resource

availability in ensuring the sustainability of border security interventions during public health emergencies.

Arifin et al. (2024) examine the operational difficulties encountered at East African border crossings, particularly staffing shortages and delays in test result processing. The study found that unclear enforcement guidelines and logistical inefficiencies further complicated border security operations. At Malaba and other East African border points, these challenges resulted in inconsistent application of social distancing, screening and quarantine measures. The findings suggest that without standardized enforcement protocols and adequate staffing, border security measures remain reactive and ineffective in managing health crises.

Infantino (2024) explores the role of inter-agency coordination in shaping COVID-19 border security responses across Europe. The study found that private actors, including security firms and health service providers, were increasingly involved in border enforcement, but their participation often led to bureaucratic inefficiencies. In some cases, overlapping mandates between public and private entities created enforcement gaps, reducing the overall effectiveness of control measures. The study underscores the need for clearly defined roles among agencies to enhance coordination and avoid administrative bottlenecks in crisis response efforts.

Deivasagayam (2024) investigates the challenges of inter-agency coordination in Kenya, where conflicting mandates between immigration officers, health officials and law enforcement agencies weakened border control enforcement. The study highlights how jurisdictional disputes and a lack of streamlined communication resulted in enforcement gaps, making it difficult to implement COVID-19 protocols effectively. The findings indicate that fragmented governance structures contributed to

inconsistencies in screening procedures, ultimately affecting the reliability of border health security measures.

Ghazalian (2025) examines the impact of corruption on COVID-19 border enforcement, particularly in cases where bribery undermined screening and quarantine measures. The study found that travellers were able to bypass health security protocols through informal payments, raising concerns about the integrity of border security systems. In Kenya, reports of bribery among border officials weakened the enforcement of pandemic control measures, reducing compliance and increasing public health risks. The study emphasizes the need for stronger anti-corruption mechanisms and oversight structures to ensure the effectiveness of future border security measures during health crises.

Osetek (2018) noted that the ability to respond to pandemics still remains a question of concern for those who are charged with the responsibility of responding. For instance, the Ebola outbreak of 2014 underscored that the WHO was not able to manage the response. Dozens of after-action analyses detailed many of the problems. In order to improve and modernise the organisation and its personnel, the WHO launched the most extensive reforms in its history. The jury is still out as to whether there is more work to do and it is certainly under greater scrutiny at the moment given the current outbreak of Covid-19 pandemic, but scepticism of the moment allows for a disruption of the status quo and a rebuilding and reimagining of critical institutions.

Blum and Paradise (2018) in their study on the need for preparedness, revealed that the USA Project Bio shield of 2004 preparedness plan initially covered anthrax, botulism and smallpox, but later up-scaled to radiations, nuclear agents as well as viral haemorrhagic fever. Despite this preparedness and countermeasure plan to prevent as

well as mitigate against those materials identified by department of homeland security and intelligence community, there existed gaps in terms of insufficient qualified staff in drug making materials and drugs products. The Project Bio shield Special Reserve Fund was created through financial year 2018 where by procurement of wide-spectrum drugs as well as threat diagnostic for biological, radiological and nuclear threats were planned in advance and appropriation of \$28.9 Billion meant for enhanced mitigation approved. This availability of resources and kind of forward planning is missing in Kenya and Africa in general.

According to Du et al. (2020), a multitude of border agencies with varying missions at the border can lead to serious issues in the absence of effective coordination and communication, particularly during the Covid-19 pandemic. As part of the approval process, importers and exporters can be asked to resubmit necessary information to agencies that have conflicting or redundant missions, or they might be needed to seek approvals from numerous agencies. In addition, they can find it difficult to manage trade financing and logistics arrangements while awaiting regulatory approval, trying to fulfil client contracts and enduring regulatory delays. The use of paper-based approval processes and the payment of customs charges, taxes and other fees in cash may make this “Tower of Babel” at the border worse. One term used to describe the absence of coordination and communication across border agencies is “stove-piping.” Therefore, staff and technological changes were recommended for border management.

Africa is well known for its arbitrary borders, which were created by colonial powers at the close of the 19th century, claims Mutinda (2019). Given that 44% of them are straight lines, it is evident that the present borders have divided people from similar cultural backgrounds into distinct states and grouped potential adversaries under one jurisdiction. Africa’s frontiers haven’t changed much since its independence, despite

this. The majority of trade in Africa is conducted through trucks and land border crossing points, while the majority of people and goods travel within the continent (intra-regional migration). According to the study, there is an obvious lack of cooperation inside and between border authorities, which results in inadequate border control. Manpower overstretch, infrastructure availability, antiquated practices, corruption and illicit trade all contribute to transnational crimes such as poor border control, revenue loss and the spread of counterfeit goods.

According to Langa (2020), there is a deficiency in communication between Botswana and its four members, namely South Africa, Namibia, Lesotho and Swaziland (which was renamed Eswatini lately). This hinders the exchange of information among the members as a result of inadequate training initiatives. While South Africa and Botswana have their own systems, Namibia, Lesotho and Eswatini share a single one. Although interoperability's technical issues seem to have been handled, administrative, legal and privacy issues still stand in the way of information sharing. To address these issues at the borders, the region could need to enact laws, just as the European Union (EU) did.

Onunga (2021) also pointed out that enhancing international border agency cooperation is directly tied to enhancing national border agency communication, necessitating staff training in this area. Inadequate coordination and communication amongst border agencies at the national level increases the difficulty of international border agency collaboration and significantly diminishes its benefits. National border authorities do not exchange law enforcement information with one another, or they do so only occasionally. Interagency competition for resources and staff, worries that other border agencies don't have enough security measures in place and suspicions of corruption in other border agencies could all be contributing factors to this lack of

collaboration amongst border agencies. The process of people submitting the same information and documentation to different border agencies repeatedly leads to inefficiencies and delays. Additionally, nations face comparable coordination challenges on a national and international scale, however dealing with many sovereign governments and legal frameworks complicates international solutions.

2.2.4 Border Security Policy Frameworks and Covid-19 Pandemic

Roy, Purkayastha and Chacko (2024) argue that most border security policy frameworks during the COVID-19 pandemic were reactive rather than proactive. These emergency policies often prioritized containment through border closures and travel restrictions, but lacked foresight for long-term resilience. A major weakness identified was the disconnect between these emergency frameworks and pre-existing laws on trade and human rights, particularly in East Africa. This contradiction hindered policy enforcement and generated confusion among border officers. Unlike the more structured emergency health security plans observed in countries like South Korea - which balanced containment with economic continuity - East African nations, including Kenya, demonstrated limited institutional preparedness. This reveals a gap in integrated planning between national security and public health.

Wu and del Rey Poveda (2025) critique the disjointed legal environment that governed border operations during the pandemic, particularly the contradiction between national emergency regulations and international trade agreements. Their study shows that such inconsistencies caused significant trade disruptions and diplomatic tensions. One of the main weaknesses was the lack of clear operational guidelines for frontline officers, resulting in varied interpretation and enforcement of border policies. In contrast, the European Union demonstrated stronger harmonization of border procedures through coordinated legal instruments like the Schengen Borders Code,

highlighting a key gap in East African border management: the absence of regionally synchronized legal frameworks. This comparison underscores the need for Kenya and its neighbours to adopt more harmonized regional legal standards to manage crises effectively.

According to Maviza and Nzima (2024), a major policy failure during the COVID-19 crisis was the exclusion of local actors - especially border officers and county health authorities - from the policy formulation process. Decision-making was centralized at the national level, which led to the implementation of rigid and poorly contextualized policies. The study reveals that participatory weaknesses reduced local adaptability and enforcement effectiveness. In contrast, Ghana and Rwanda integrated decentralized consultation mechanisms during COVID-19 response planning, which improved coordination and local compliance. The findings emphasize a critical gap in Kenya's policy framework: the absence of inclusive governance structures that would have enhanced responsiveness and operational relevance.

Aziz, Ahmed and Zhuang (2024) examine inter-agency collaboration as a determinant of effective border security during health crises. In the case of Kenya's Malaba border, their research identifies poor coordination between immigration, health and law enforcement agencies, resulting in duplicated mandates and delays in policy implementation. This fragmentation is a notable weakness compared to more cohesive models, such as Singapore's Multi-Ministry Task Force structure, which facilitated real-time data sharing and policy execution. The lack of a unified command and communication framework in Kenya weakened operational effectiveness. This highlights a policy gap in institutional coordination and underscores the need for inter-agency protocols embedded in emergency preparedness frameworks.

McKay, Constant and Ducharme (2018) provide a historical context by analyzing Europe's evolution toward integrated border governance. The Schengen Agreement and earlier trilateral arrangements like the Benelux Economic Union, represent models of regional cooperation that enhance both security and economic continuity. These agreements promoted legal clarity, shared responsibilities and real-time intelligence exchange. A key strength of this model lies in its proactive legislative foundation and multilateral engagement. The contrast with Kenya's largely unilateral and reactive policy response during COVID-19 demonstrates a structural gap: the absence of enforceable multilateral border governance mechanisms in East Africa. Lessons from the Schengen system could guide future cross-border cooperation frameworks in the region.

Hamadou (2020) examine regional migration frameworks in West Africa under ECOWAS. While ECOWAS has progressive protocols for the free movement of people, the gap lies in weak national implementation. For instance, countries like Ivory Coast lack formal national migration policies, creating overlaps in mandates among ministries. This results in policy ambiguity and operational inefficiencies. Compared to this, Kenya has stronger statutory instruments, but faces similar challenges with fragmented institutional roles and poor inter-ministerial coordination. The analysis reveals a shared regional weakness in aligning supranational frameworks with national execution strategies, especially in times of crisis.

Awumbila (2018) highlights the Gambia's role as a transit point for irregular migration due to porous borders and inadequate surveillance policies. The lack of clear national border control frameworks contributes to weak enforcement. Kenya, despite having more defined legal instruments, similarly struggles with porous borders and limited enforcement capacity. The comparison exposes a shared policy weakness across

several African states: underinvestment in surveillance technology and human capacity. This signals a need for policy reforms that strengthen border monitoring infrastructure while balancing openness and security, especially during pandemics.

The development of Kenya's border policy is rooted in colonial-era ordinances, such as the Alien Control Ordinance of 1945 and subsequent laws like the Immigration Act Cap 172 and Refugees Act 2006. While Kenya has since modernized its legal framework through instruments like the Kenya Citizenship and Immigration Act of 2011 and the 2010 Constitution, the policy remains highly centralized and security-centric. A major weakness lies in its limited integration of public health preparedness into border law. Unlike South Africa, which introduced integrated public health clauses into its border security laws after the HIV/AIDS epidemic, Kenya's policies remain largely reactive to health crises. This reveals a legislative gap in pandemic-specific preparedness within existing border policy instruments.

2.3 Summary of Review of Literature and Research Gap(s)

The literature revealed that border management programs worldwide were significantly impacted by the COVID-19 pandemic, leading to changes in physical security measures and protocols. African nations, including Kenya, had to modify immigration processes at key border points such as Malaba to address these challenges. While existing studies highlighted the general impact of the pandemic on border operations, they did not specifically examine how Kenya's immigration department adapted physical security measures at the Malaba border in response to the pandemic. This study aimed to fill that gap by documenting the precise changes made to security protocols, their effectiveness and their implications for future border management.

The shift in security operations due to the COVID-19 pandemic posed significant challenges for border management. Many governments increasingly relied on local communities for border surveillance and enforcement, often in the absence of clear legislative backing (Basir & Rahman, 2021). However, existing research did not explore how these operational changes directly influenced the efficiency, personnel workload and overall control mechanisms at the Malaba border. By investigating these operational changes, this study provided a nuanced understanding of how pandemic-driven adjustments affected border security effectiveness.

Enforcing COVID-19 measures at borders was fraught with challenges, including unclear division of responsibilities, logistical constraints and the need for enhanced cross-border collaboration (Langa, 2020). While previous research addressed these issues in a broad context, there was limited evidence on how Malaba border security officers navigated these challenges, what specific obstacles they faced and how these affected enforcement outcomes. This study bridged that gap by analyzing the unique enforcement difficulties experienced at Malaba and identifying the strategies used to mitigate them.

The effectiveness of policy frameworks in managing pandemic-related border security risks has remained a critical area of concern, particularly in high-traffic zones such as the Malaba border. While regional instruments like the EAC protocols provided a foundation for coordinated border management, the practical implementation of these frameworks revealed significant weaknesses. Awumbila (2018) noted that many regional and national policies were plagued by weak enforcement mechanisms and limited institutional coordination, leading to fragmented responses during crises. A key strength of the legal framework was the existence of multi-country agreements and standardized guidelines intended to facilitate cross-border collaboration. However, in

practice, enforcement was often undermined by bureaucratic overlaps, lack of operational clarity and limited stakeholder inclusion. Comparative cases such as the European Union's Schengen System demonstrated how harmonized legal instruments, combined with robust inter-agency cooperation, can enhance border resilience during health emergencies. In contrast, at Malaba, gaps in legal clarity and inconsistent policy interpretation hindered the effectiveness of border controls. This study evaluated whether the current frameworks were fit for purpose, assessed the adequacy of their enforcement and identified the need for policy reforms aimed at improving legal coherence, participatory policymaking and future pandemic preparedness in border security.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter examines the research design, research site, target population, study sample, data collecting, data analysis and, lastly, ethical and legal factors that were taken into account by the researcher. In doing this research project, both quantitative and qualitative methodologies were used. This was achieved through data gathering and analysis using the key informant guide data collection tools and questionnaire.

3.2 Research Design

The blueprint, framework, or method utilised to produce solutions to research challenges is known as a research design. As such, a research design is a plan that offers both a research framework and direction (Creswell & Creswell, 2017). According to Creswell and Clark (2017), it is a set of guidelines for data collection and analysis that aims to combine procedural efficiency with relevance to the study's purpose. The study used a retrospective research design. Bell, Bryman and Harley (2018) define a retrospective research design as a process of gathering data through the distribution of questions to the sample individuals; it does not alter or influence any of the variables; instead, it merely observes and measures them. This design was preferred because the information gathered was utilized to assess how the Covid-19 epidemic affected Kenya's border security efforts, specifically with regard to the immigration department. Additionally, the study used mixed methods (quantitative and qualitative) to gather data, justifying the use of a retrospective research design.

3.3 Research Site

According to Kombo and Tromp (2011), a research site is the location where the study is conducted and its significance lies in determining the relevance and contextual validity of the data collected. Kumar (2018) further emphasizes that a study site encompasses areas where the target population resides or operates and it must be geographically delineated to ensure focused data collection. This study was carried out at the Malaba border, Kenya - an internationally recognized border crossing situated at coordinates 0° 38' 11.99" N and 34° 15' 34.20" E (Appendix 6). It is one of the busiest and most strategic points of entry between Kenya and Uganda, marked by the Malaba River which forms part of the natural boundary between the two nations (Cheruiyot & Rotich, 2018).

Malaba's importance was amplified during the COVID-19 pandemic due to its high volume of human and cargo traffic, which made it a critical point for virus transmission risk management. According to the East African Community (EAC) (2020), Malaba and other high-traffic border posts became focal points for the implementation of pandemic-related border security measures, including health screenings, movement restrictions and testing protocols. The World Health Organization (WHO, 2021) further noted that border regions with significant cross-national mobility posed unique challenges in disease containment due to porous borders, inconsistent enforcement of protocols and limited coordination between neighbouring countries.

Malaba was particularly affected by such challenges, leading to frequent delays, congestion and tensions among traders, truck drivers and local communities (International Crisis Group, 2020). These dynamics presented a unique opportunity to evaluate the effectiveness and limitations of legal and policy frameworks under stress.

The border also represents a microcosm of the broader issues facing East African regional integration, health governance and security cooperation, making it an ideal site for investigating how pandemic policies were implemented and how they impacted border operations.

The border's demographic diversity - including ethnic communities such as the Luo, Kalenjin, Kikuyu in Kenya and the Baganda, Basoga and Iteso in Uganda - along with the presence of refugees from conflict-prone regions (Maobe, 2020), further highlights the complex socio-political and security environment that was exacerbated during the pandemic. The site thus offered a relevant and strategic context for understanding the intersection of public health, border management and national security in the era of COVID-19.

3.4 Target Population

The total group from which a researcher aims to draw conclusions is referred to as the population (Creswell & Creswell, 2017). A population includes all the individuals or units under investigation, forming the foundation for generalizing findings, while the accessible population refers to the specific subset of individuals who are practically reachable for data collection (Kothari, 2017). This study targeted formal state actors directly involved in managing border security operations at the Malaba border, Kenya. The primary focus was on three key agencies: Border Security Officers, the National Police Service (NPS) and the Border Control Department. These were selected due to their direct involvement in the design, implementation and enforcement of border security and public health protocols during the COVID-19 pandemic. According to records obtained from the Ministry of Interior and Coordination of National Government (2023) and border post administrative offices, the estimated population included 208 personnel, distributed as follows: Border Security Officers

(119), National Police Service officers (67) and Border Control Department staff (22). Key informants included department heads and senior personnel responsible for coordination, policy formulation and enforcement of COVID-19 regulations and border security protocols, as shown in Table 3.1.

Table 3.1

Target Population

Departments	Population Size	Percentage
Border Security Officers/Staff Members	119	57%
National Police Service	67	32%
Border Control Department	22	11%
Total	208	100%

Source: Border Post Administrative Offices (2021).

While the scope did not include non-state actors such as clearing and forwarding agents, truck and bus drivers, migration officers, security firms, National Intelligence Service (NIS) and counterparts on the Ugandan side, this decision was made to maintain focus and methodological clarity. The complexity of incorporating cross-border agencies and non-state actors would have introduced administrative and logistical challenges beyond the scope of the current research design. Moreover, the categorization of “border security” in this study was limited to state actors operating under formal mandates within Kenya’s border control system. However, the exclusion of informal and support stakeholders such as transport operators and freight handlers is acknowledged as a limitation and provides a basis for future research to explore the broader ecosystem of border security during pandemics. This focused approach ensured that the study remained manageable, while still capturing the perspectives of those

responsible for institutional decisions affecting border pandemic response and national security.

3.5 Study Sample

The particular set of people from which data is gathered is called a sample. According to Cooper and Schindler (2018), a sampling frame is a list of the constituents of the population that the sample is taken from. There are various approaches to choose a sample size. Confidence level, population size, volatility in population size, cost and financial restrictions are among the variables taken into account (Kumar, 2018).

3.5.1 Study Sample Size

A sample size represents a subset of a target population selected for a study (Creswell & Clark, 2017). The study targeted employees who worked at the Malaba border immigration department during the COVID-19 pandemic in 2021. Given the need for targeted data collection, purposive sampling was employed to identify individuals with direct experience in immigration control and border security operations during the pandemic. This approach ensured the selection of knowledgeable respondents who actively participated in implementing pandemic-related protocols.

To determine the sample size, Yamane's (1967) formula for sample size determination was applied. For a target population of 208 with 95% confidence level and 5% margin of error, the adjusted sample size formula for purposive sampling was:

$$n = N/(1+N(e^2))$$

Where:

$N = 208$ (total eligible population)

$e = 0.05$ (margin of error)

$$n = 208 / (1 + 208(0.0025)) = 137 \text{ respondents}$$

Thus, 137 respondents were selected for the study.

The study applied inclusion and exclusion criteria to ensure the relevance and reliability of the data collected. The inclusion criteria focused on individuals with direct involvement in border security operations during the COVID-19 pandemic. Immigration officers who worked at the Malaba border in 2021 were included, as they had first-hand experience in managing cross-border movements and enforcing pandemic-related protocols. Officers directly involved in immigration control, enforcement and the implementation of COVID-19 security measures were also considered. Additionally, health officials responsible for screening and managing COVID-19-related health protocols at the Malaba border were included to provide insights into health and safety enforcement. Law enforcement personnel who participated in enforcing pandemic-related regulations were also part of the study, given their role in maintaining compliance with border control measures.

The exclusion criteria ensured that only relevant respondents were included in the study. Administrative staff without direct involvement in immigration control or COVID-19 enforcement were excluded, as their roles were not directly related to the enforcement of border security measures. Officers stationed outside the Malaba border during the pandemic were also not considered, as their experiences would not accurately reflect the specific challenges faced at the Malaba border. Newly recruited officers who joined after 2021 and lacked experience in pandemic-related security operations were excluded, as they did not have direct knowledge of the measures implemented during the peak of the crisis.

3.5.2 Sampling Procedure

Sampling involves the deliberate selection of participants to provide relevant data for analysis (Creswell & Clark, 2017). This study employed purposive sampling to identify immigration officers and stakeholders who were actively involved in border security operations during the COVID-19 pandemic in 2021. This method ensured that only individuals with direct experience in implementing pandemic-related policies and procedures were included in the study. Additionally, the study conducted targeted interviews with senior officers from the immigration department, border health officials and law enforcement personnel. These interviews supplemented the data by providing insights into strategic decisions and operational challenges experienced during the enforcement of COVID-19 protocols at the Malaba border.

3.6 Data Collection

Methods for collecting data are means to obtain information for analysis, hypothesis testing and research question resolution (Creswell & Clark, 2017). Interviews, questionnaire administration, event and person observation and non-intrusive techniques are some of the approaches used for gathering data. The design and testing of research instruments, as well as the procedures for gathering data and ensuring the instruments' validity and reliability, are all covered in this part. Through questionnaires, primary data was utilised. During the piloting phase, which is detailed in the following subsections, reliability and validity testing was conducted on the tools.

3.6.1 Data Collection Instruments

The primary data collection instrument of the project was questionnaires (Appendix 2). Because questionnaires are simple to create and complete, they are thought to be crucial for gathering primary data for this study. The researcher was able to quickly cover a large area using the questionnaires (Kumar, 2018). In order to help

the participants fill out the questionnaire and provide them an opportunity to voice their opinions, the study combined closed-ended and open-ended questions. The questionnaire was divided into four sections: the first gathered demographic information from participants and the next three each focused on a particular objective. Two research assistants helped administer the research instruments. Key informant interviews were also carried out with those who had more information about the subject matter and a key informant interview guide (Appendix 3) was used to obtain data that corroborated the findings from the questionnaires. Secondary data was also obtained from a review of literature and documentation related to border security, which was used to provide a discussion of the study findings.

3.6.2 Pilot Testing of Research Instruments

This study conducted a pilot study because, as stated by Creswell and Clark (2017), piloting guaranteed a full grasp of the research variables that were employed in a study. In order to test a few sample research questionnaires, the study administered them to 30 participants, as recommended by Kumar (2018), who were chosen from the Namanga border immigration department. Because they shared features with the study population, border security officials at the Namanga frontier served as the pilot sample. The questionnaire was revised based on the pilot study's findings.

To conduct the pilot study, the following steps were undertaken: First, a sample of 13 participants was selected from the Namanga border immigration department due to their similarity to the study population. Next, the initial version of the questionnaire was administered to these participants via email. The participants were given a specified time frame to complete and return the questionnaires. Once the completed questionnaires were received, they were reviewed for clarity, relevance and consistency. Feedback from the participants was collected, focusing on any ambiguities

or difficulties encountered while answering the questions. Based on this feedback, necessary revisions were made to the questionnaire to enhance its reliability and validity. Finally, the revised questionnaire was prepared for use in the main study. Based on the feedback received, modifications were made to clarify ambiguous questions, improve the wording for better comprehension and refine the response options to ensure consistency and relevance in data collection.

3.6.3 Instrument Reliability

The degree to which a research instrument will produce consistent data following predetermined test trials is known as its reliability (Creswell & Clark, 2017). After giving the test instruments to the pilot group, the researcher calculated the Cronbach's Alpha Coefficient to assess the test instrument's reliability and evaluate the consistency of the questionnaire following multiple trials. As advised by the literature, an overall dependability coefficient of greater than 0.7 was pursued (Creswell & Creswell, 2017; Kumar, 2018). The study found an overall Cronbach's Alpha coefficient of 0.896, which was considered sufficient to warrant data collection.

3.6.4 Instrument Validity

To ensure the validity of the questionnaire, both content and face validity were assessed. Content validity was established by aligning each question with the study objectives to confirm that the instrument adequately covered all relevant aspects of the research topic. Face validity was enhanced by presenting the questionnaire to experts in border security, communicable diseases and immigration, who evaluated its clarity, relevance and comprehensibility. Their feedback led to modifications such as refining ambiguous questions, removing redundant items and incorporating additional variables to enhance the instrument's effectiveness in capturing accurate and meaningful data.

3.6.5 Data Collection Procedure

Data collection for this study followed a structured, ethical, and methodical approach to ensure accuracy, integrity, and reliability of the findings. Prior to data collection, the researcher obtained an introductory letter from the affiliated institution and a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). With these approvals, the researcher approached the relevant government departments - namely the Border Security Unit, National Police Service, and Border Control Department at Malaba - for institutional consent to access participants and conduct fieldwork.

Informed consent was a crucial part of the process. Before administering questionnaires or conducting interviews, all participants were briefed on the purpose, scope, and expected duration of the study. They were informed of their right to decline participation or withdraw at any time without any repercussions. Each participant was issued an informed consent form to read and sign before engaging in the study. The consent form detailed the voluntary nature of participation, the confidentiality of responses, and how the data would be used solely for academic purposes.

Questionnaires were distributed to 137 selected respondents who met the inclusion criteria. These included immigration officers, law enforcement personnel, and border health officials who had direct involvement in managing border operations during the COVID-19 pandemic at Malaba (Appendix 2). The research assistants hand-delivered the questionnaires during working hours and provided brief instructions to ensure clarity. Respondents were given a 3-day window to complete the forms, after which the assistants collected the completed questionnaires.

Simultaneously, key informant interviews were conducted with selected senior personnel, such as department heads, section supervisors, and policy implementers, who had strategic roles in decision-making and oversight of pandemic-related protocols. These interviews were semi-structured and guided by a pre-tested KII guide (Appendix 3). They were conducted in person and, where appropriate, audio-recorded with the consent of the interviewee to ensure accurate transcription. Handwritten notes were also taken.

Data storage and confidentiality were prioritized. Completed questionnaires were securely stored in a locked cabinet accessible only to the principal researcher. Electronic data, including interview transcripts and scanned questionnaires, were stored in a password-protected folder on an encrypted flash drive and backed up in cloud storage with restricted access. Identifiable information was removed during transcription to protect participant privacy.

After the data collection phase, the researcher reviewed all responses for completeness and accuracy. Any unclear or incomplete responses were treated as part of non-responses. The cleaned data was then coded and entered into a secure spreadsheet for statistical analysis. Qualitative data from KIIs was transcribed, thematically organized, and prepared for analysis. Finally, the entire dataset was securely handed over to a data analyst for processing using appropriate software tools for quantitative and qualitative data. This systematic approach ensured that the information collected was both credible and aligned with the study's objectives.

3.7 Data Analysis and Presentation

The researcher ensured that the data was consistent and comprehensive before starting any data analysis and only worked with data that met these requirements. After

everything had been divided, the researcher formatted it such that it was readable and visually appealing. The analysis tool for quantitative data was the Statistical Package for the Social Sciences (SPSS) Version 27. Following that, the study used percentages and frequencies to offer descriptive statistics. In line with the goals of this study and for ease of interpretation, the results of the analysis of the data were displayed as tables and figures.

For qualitative data, responses from key informant interviews and open-ended questionnaire items were analyzed thematically. Thematic analysis involved categorizing responses according to the key study objectives, identifying recurring patterns and grouping similar responses into themes. This process helped to highlight key insights and perspectives from the respondents. The findings were presented alongside quantitative data using a narrative approach, with verbatim excerpts incorporated to provide depth and context to the statistical results. This integration of qualitative and quantitative findings ensured a comprehensive interpretation of the study's outcomes.

3.8 Legal and Ethical Considerations

These guidelines for conducting research are designed to guarantee that protocols are followed that provide the greatest protection for both the participants and the investigator (Bell et al., 2018). The study was directed by several legal and ethical factors. According to the law, the researcher had to obtain approvals from Africa Nazarene University (ANU) and NACOSTI before beginning data collection and analysis. Before starting to gather data, the research also obtained approval from specific departments and organizations. In order to explain the nature and goals of the study to the participants, the researcher prepared a transmittal letter.

The researcher ensured that participants were involved voluntarily (they could opt out of the research at any time) and with their informed consent in order to comply with ethical standards (Appendix 1). The researcher ensured the confidentiality of their identities and personal data. However, the supervisors may have wanted to verify the data and confidentiality was still guaranteed. Their information was kept for a specific period after which it was deleted. In addition, the researcher made sure that participants remained anonymous by eliminating any information that could identify them. When the researcher credited published information's sources, the researcher ultimately avoided plagiarism.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

The chapter presents the results of data analysis and findings in line with the objectives of the study. The study sought to determine the impact of border security operational dynamics on Covid-19 pandemic at immigration departments in Kenya, focusing on Malaba border. The specific objectives of the study were to assess how physical security measures and protocols were altered in response to the COVID-19 pandemic by immigration department, examine the effects of security operations changes in response to Covid-19 pandemic by immigration department, assess the challenges in enforcing Covid-19 pandemic control measures at immigration department and analyze the efficacy of legal and border security policy framework on Covid-19 pandemic containment by immigration department at Malaba border, Kenya. The data was analyzed using the SPSS version 27, by use of both descriptive and inferential statistics. Descriptive statistics such as frequency and percentages were used for quantitative data. Qualitative data was analyzed by use of thematic analysis and was presented in narrative form according to the study objectives.

4.2 Response Rate

The research targeted to gather feedback from 137 border security officers/ staff members, officers of the National Police Service and officers from the Border Control Department. From the responses, some respondents did not fully complete the questionnaires. However, 124 out of 137 respondents completed the questionnaires as required, resulting in a response rate of 91% and a non-response rate of 9%. This response was excellent as per Creswell and Clark (2017) who recommend a response rate of 70% or more and therefore considered sufficient for analysis in this study.

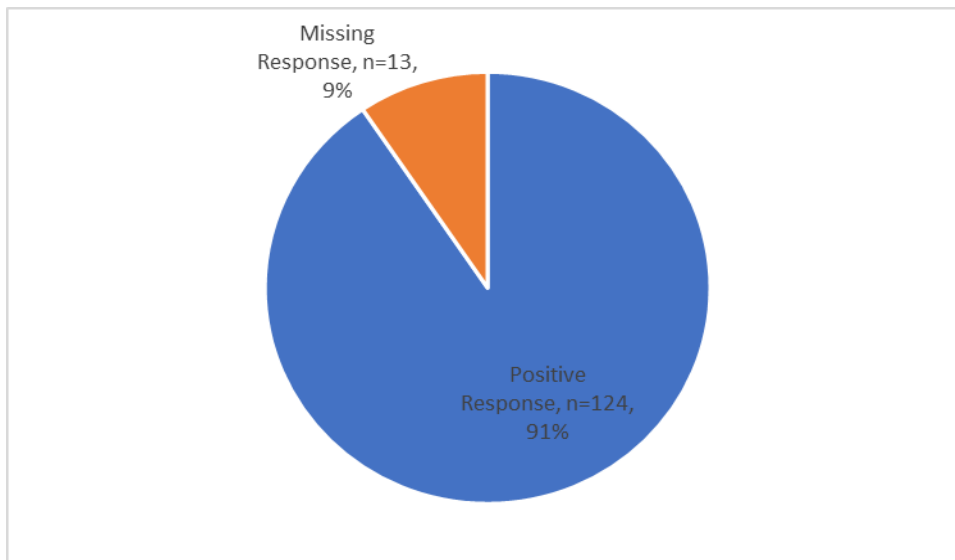


Figure 4.1

Response Rate

4.3 Characteristics of the Respondents

The study sought to determine the general characteristics of the respondents who participated in the study. The demographic information sought in the study was obtained from border security officers/ staff members, officers of the National Police Service and officers from the Border Control Department. The information sought was the gender, education level, age bracket, type of organization and the period the respondents have served in their respective organizations. The response rate is also added to indicate the number of questionnaires that were returned and were legibly and completely filled and were therefore adopted for analysis in the study. These findings are presented in sub-sections 4.2.1 to 4.2.6.

4.3.1 Gender of the Respondents

The study sought to assess the gender distribution of respondents to determine the dominant gender in the sampled population. The findings presented indicate that 72% (n=89) of the respondents were male, while 28% (n=35) were female. This suggests that the sampled population had a significantly higher representation of male

respondents compared to female respondents. The dominance of male respondents imply that the more men were actively engaged or represented as shown in the Figure 4.2.

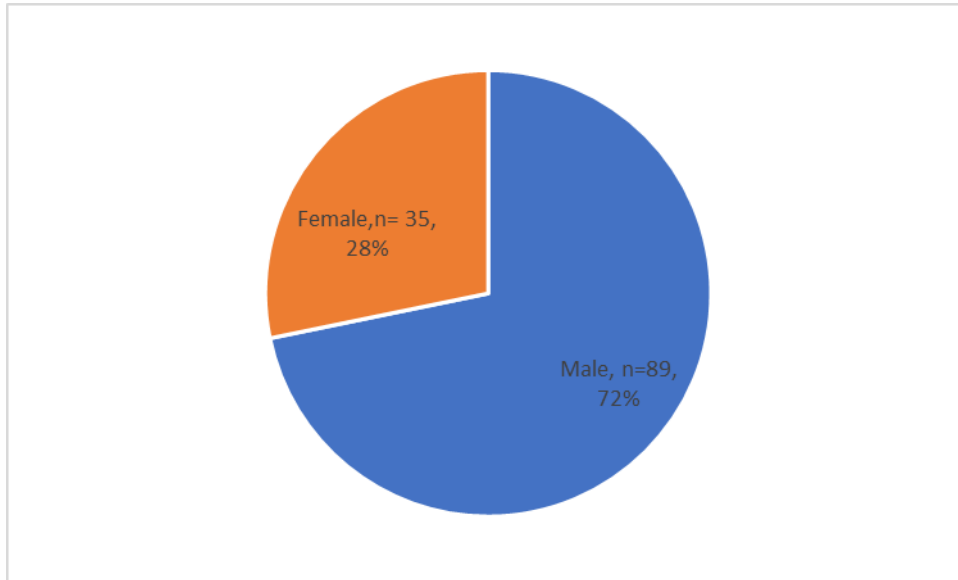


Figure 4.2

Gender of the Respondents

4.3.2 Highest Level of Education of the Respondents

The study sought to assess the education levels of the respondents to determine their ability to comprehend and respond accurately to the research questions. The findings indicate that the majority of the respondents, 52.5% (n=65), had attained a Diploma, followed by 26.6% (n=33) who had attained a Bachelor's degree qualification. Additionally, 18.5% (n=23) had a Master's degree, while only 2.4% (n=3) had a PhD qualification. These findings suggest that most of the respondents had attained a relatively high level of education. This implies that the respondents had the necessary academic background to understand and critically engage with the study's subject matter. The significant proportion of diploma holders (52.5%) indicates that a considerable number of participants had undergone specialized training, which could contribute to their professional expertise. The findings are shown in the Figure 4.3.

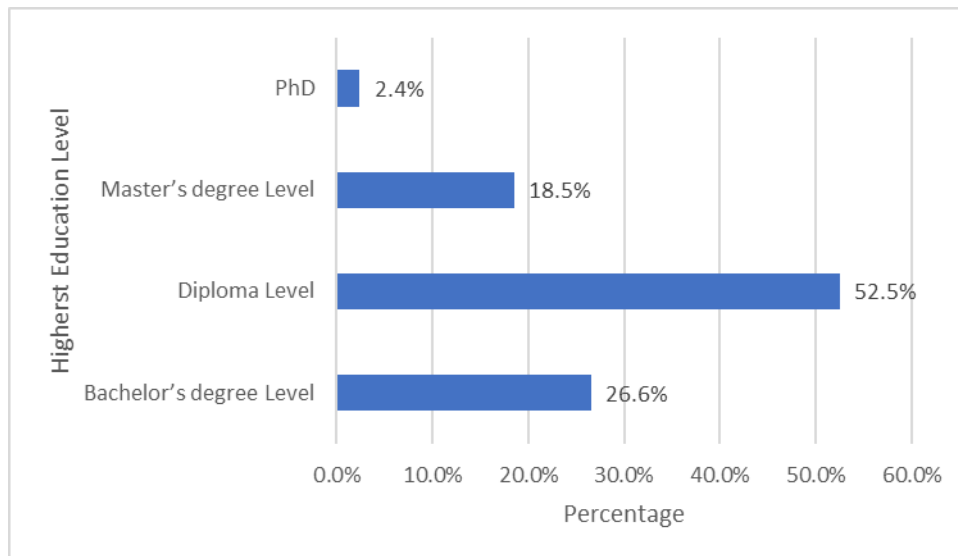


Figure 4.3

Highest Level of Education of the Respondents

4.3.3 Age Bracket of the Respondents

The study sought to assess the age distribution of the respondents to determine the dominant age groups and their potential influence on the research findings. As shown in Figure 4.4, the majority of the respondents, 45.2% (n=56), fell within the 26-35 years age bracket, followed by 25% (n=31) in the 36-45 years category. Additionally, 20.1% (n=25) of the respondents were aged 46-55 years, while 6.5% (n=8) were between 18-25 years. The smallest age category was above 55 years, comprising only 3.2% (n=4) of the respondents. These findings suggest that the majority of the respondents were young to middle-aged adults, with the highest concentration in the 26-35 years group. This indicates that the study was conducted in a professional setting where individuals in this age group are actively engaged in the workforce roles. The significant representation of respondents imply that a substantial number of participants had considerable experience, which could contribute to informed perspectives on the study's subject matter.

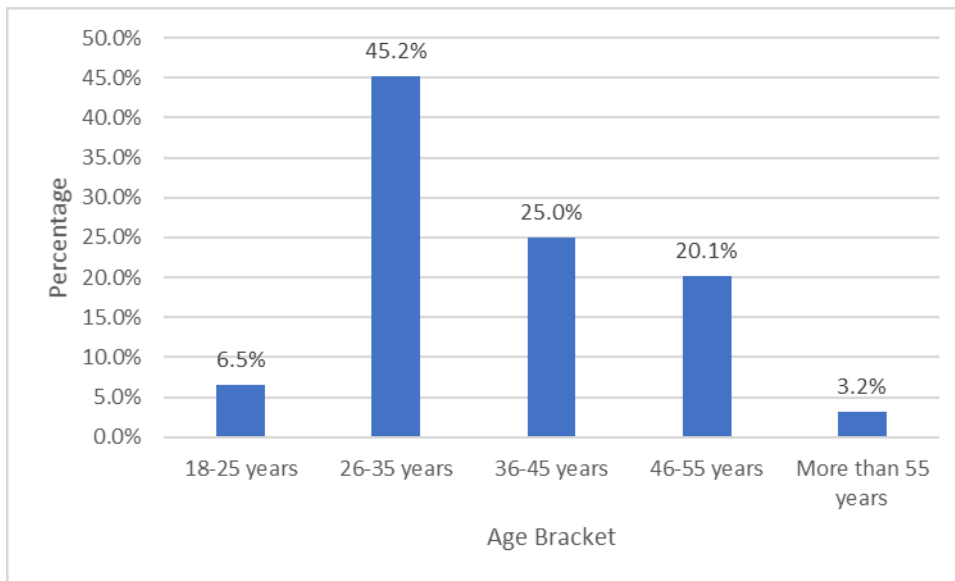


Figure 4.4

Age bracket of the Respondents

4.3.4 Respondent's Organization

The study sought to determine the organizational affiliation of the respondents to understand their professional backgrounds and how their roles influence their perspectives on the study's subject matter. From the findings, the majority of the respondents, 57% (n=70), were Border Security Officers/Staff Members, followed by 32% (n=40) from the National Police Service. Additionally, 11% (n=14) of the respondents were from the Border Control Department. The findings indicate that the majority of the participants were directly involved in border security operations, suggesting that the study was conducted among professionals with first-hand experience in border control and law enforcement. The significant representation of National Police Service (32%) officers further implies that the study involved personnel responsible for maintaining security and enforcing regulations, which could contribute to informed responses regarding security and border control policies. The findings are shown in Figure 4.5.

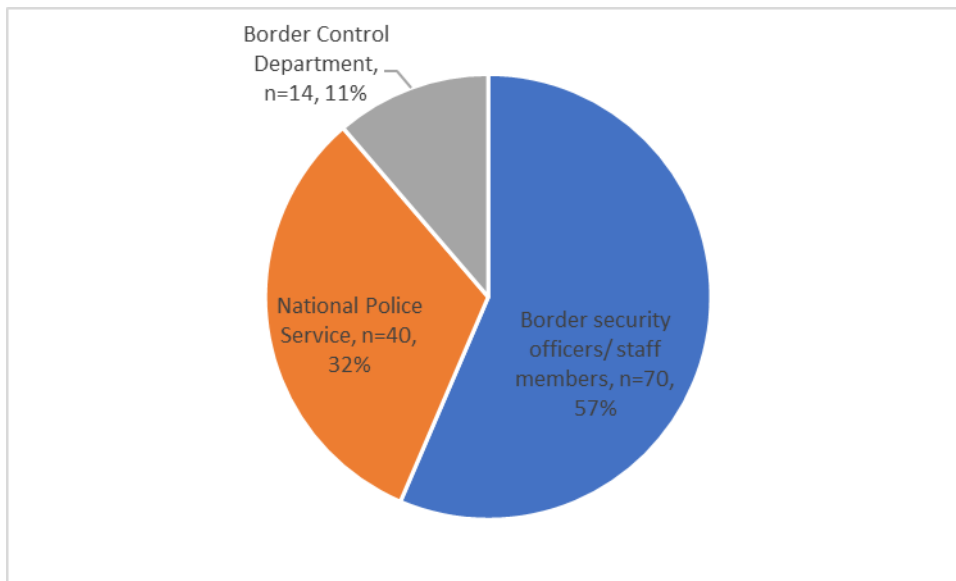


Figure 4.5

Respondent's Organization

4.3.5 Respondent's Duration of Service in their Organizations

The study sought to determine the respondents' length of service within their respective organizations to assess their level of experience and familiarity with institutional operations. The majority of the respondents, 39.5% (n=49), had served for 2-5 years, followed closely by 37.1% (n=46) who had been in their organizations for more than 10 years. Additionally, 17.7% (n=22) of the respondents had worked for 6-10 years, while a small proportion, 5.6% (n=7), had been in service for less than 1 year. These findings indicate that the workforce is composed of a mix of relatively new employees and long-serving personnel. The highest representation in the 2-5 years category suggests a dynamic workforce with employees who have gained moderate experience but are still relatively new in their roles. The significant percentage of respondents who have served more than 10 years (37.1%) indicates that a considerable portion of the workforce consists of seasoned professionals with extensive knowledge of the organization's policies, procedures and challenges. The findings are shown in the Figure 4.6.

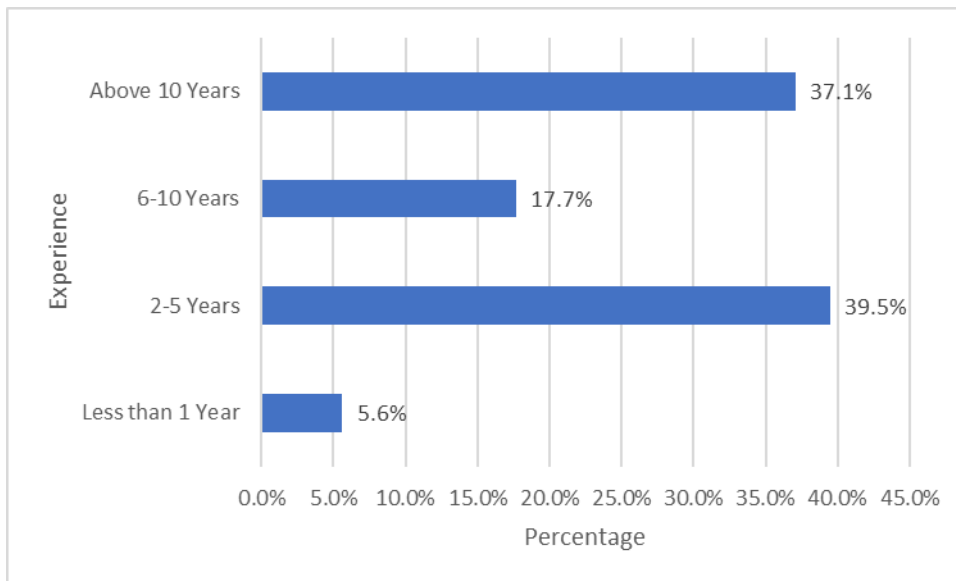


Figure 4.6

Respondent's Duration of Service in their Organizations

4.4 Presentation of Research Analysis and Findings

4.4.1 Security Operations Changes in Response to Covid-19 Pandemic

The research objective was to determine the security operations changes in response to Covid-19 pandemic. The research firstly sought to determine whether there were any access control adjustments made in response to Covid-19. As shown in Table 4.1, the majority of the respondents, 88.7% (n=110), indicated that access control measures were adjusted, while 11.3% (n=14) reported that no changes were made. These findings suggest that most organizations recognized the need to enhance security and health safety protocols during the pandemic. The high percentage (88.7%) of respondents confirming adjustments indicates that institutions took proactive steps to mitigate the spread of the virus, likely by implementing measures such as restricted entry, temperature screenings, sanitization checkpoints and digital access systems to reduce physical contact. The 11.3% of organizations that did not adjust their access control may have had pre-existing measures deemed sufficient or lacked the necessary resources to implement new protocols.

Table 4.1*Access control adjustments made in response to Covid-19*

	Frequency	Percent
Yes	110	88.7
No	14	11.3
Total	124	100.0

4.4.1.1 Access Control Changes in Response to Covid-19

From the key informant interviews for access control adjustments, the study found that most access points were significantly modified to enhance health and security measures in response to the pandemic. These modifications included the establishment of health screening stations, quarantine areas, reconfigured customs and immigration counters and the implementation of digital entry processes to minimize physical interaction. Key changes reported by key informants also involved the mandatory use of personal protective equipment, proof of vaccination and negative COVID-19 test results, as well as the enforcement of social distancing through increased checkpoints and one-way flow systems at border entries. These measures were implemented across various access points, including land borders, air borders and maritime access points, with the primary aim of preventing the spread of COVID-19. The following responses support the assertions;

All access points were modified to suit the pandemic control measures, including screening, testing, isolation and quarantine (KII 1)

Screening protocols such as temperature checks, proof of negative tests and vaccination were mandatory at all border points, including Malaba (KII 2)

Digital access points and controlled access gates were introduced to reduce physical interactions and streamline entry and exit processes (KII 3)

4.4.1.2 Implementation of Contactless Access Controls

The study sought to determine whether organizations implemented contactless access controls in response to evolving security and health concerns, particularly during the COVID-19 pandemic. Majority of respondents, 97.6% (n=121), confirmed that contactless access controls were implemented, while only 2.4% (n=3) reported that no such measures were introduced. These findings indicated that organizations widely adopted contactless technologies to enhance security and minimize physical contact as a preventive measure against virus transmission. The high adoption rate (97.6%) illustrated that institutions integrated solutions such as biometric scanners, facial recognition systems, RFID-based entry, QR code scanning and automated door systems to facilitate seamless and hygienic access control.

Such widespread implementation suggests that border institutions prioritized minimizing physical interaction during access while simultaneously increasing security standards. The transition to contactless systems improved the accuracy of identity verification and reduced vulnerabilities associated with manual checks. These systems enhanced traceability, enabling security teams to monitor movement logs in real time and flag anomalies promptly. Impacts on border security were both operational and strategic. Improved efficiency reduced congestion at checkpoints, while automation freed security personnel to focus on surveillance and threat detection. The ability to authenticate identities remotely and securely also strengthened the integrity of restricted zones, making unauthorized access more difficult. The results are presented in the table 4.2.

Table 4.2
Contactless access controls were implemented

	Frequency	Percent
Yes	121	97.6
No	3	2.4
Total	124	100.0

4.4.1.3 Implementation of Health Screening Measures

The study assessed whether health screening measures were implemented by organizations in response to the COVID-19 pandemic. From the findings, 100% (n=124) of the respondents confirmed that health screening measures were introduced within their organizations. This finding strongly indicates that every organization involved in the study took active steps to ensure the health and safety of their employees and stakeholders during the pandemic. The universal adoption of health screening measures suggests that organizations recognized the importance of safeguarding public health by identifying potential health risks early, particularly in light of the global pandemic. Common measures likely included temperature checks, symptom questionnaires and mandatory health declarations, along with possible protocols for isolating individuals showing symptoms of COVID-19.

4.4.1.4 Extent of PPE Use among Security Staff

The study sought to determine the extent to which Personal Protective Equipment (PPE) was used among security staff in response to health and safety concerns, particularly during the COVID-19 pandemic. As indicated in table 4.3, majority of respondents reported that PPE was used to a moderate extent (54.8%, n=68), while 37.9% (n=47) reported that PPE was used to a high extent. A smaller proportion of respondents, 7.3% (n=9), stated that PPE was used to a low extent. These findings

illustrated that while most organizations made efforts to provide and ensure the use of PPE among security staff, the degree of adherence varied across organizations. The fact that 54.8% of the respondents reported moderate use of PPE implied that security staff were provided with adequate protective equipment, but there may have been inconsistencies in its regular use or in the availability of higher-grade PPE. On the other hand, the 37.9% of respondents who reported high use of PPE suggested that these organizations prioritized the safety of their personnel and ensured that sufficient protective measures were consistently implemented.

This distribution implies a reasonably strong institutional emphasis on health safety within border security environments, particularly in response to heightened risks such as viral outbreaks. Moderate-to-high PPE adoption levels helped reduce the risk of infection, ensuring workforce continuity and maintaining security presence without major disruptions. Within the border security context, consistent PPE use also contributed to building public confidence in frontline operations. It allowed officers to interact with travellers, migrants and cargo handlers while safeguarding both parties. Enhanced health protocols, as reflected in PPE utilization, further minimized the possibility of operational shutdowns due to infection outbreaks within security teams. The respondents are represented in the table 4.3.

Table 4.3
Extent of PPE use among security staff

	Frequency	Percent
Low extent	9	7.3
Moderate extent	68	54.8
High extent	47	37.9
Total	124	100.0

4.4.1.4 Types of Sanitization Activities Implemented

The study sought to evaluate the types of sanitization activities that were implemented by organizations in response to health concerns, particularly during the COVID-19 pandemic. The most commonly implemented sanitization activity was regular hand sanitization, with 57.3% (n=71) of respondents confirming its implementation. Sanitizing surfaces was reported by 37.1% (n=46) of respondents, while a smaller proportion, 5.6% (n=7), indicated that deep cleaning of facilities was conducted. These findings suggest that the majority of organizations prioritized hand sanitization, likely due to its effectiveness in reducing the spread of the virus among individuals. The high adoption of regular hand sanitization aligns with public health recommendations for frequent hand washing and the use of alcohol-based hand sanitizers as primary preventive measures against infection. The moderate implementation of surface sanitization highlights the recognition of the importance of disinfecting frequently touched surfaces to further minimize the spread of the virus in shared spaces.

The emphasis on hand and surface sanitization reflects a strategic approach to controlling disease transmission at border points, where officers handle documents, screen travellers and manage goods. Regular sanitization helped maintain safer environments for both personnel and individuals crossing borders, especially in high-traffic areas where contact with shared surfaces is unavoidable. Limited implementation of deep cleaning procedures suggests resource or logistical constraints in performing large-scale disinfection regularly. However, the dominant focus on routine hand and surface sanitization likely reduced contamination risks enough to sustain operational continuity without compromising safety. In the context of border security, these hygiene protocols enhanced officers' ability to remain active on duty

while minimizing exposure to potential infections. This protective environment supported mission-critical functions such as inspections, surveillance and border control enforcement during public health emergencies. The findings are shown in the table 4.4.

Table 4.4

Types of Sanitization activities implemented

	Frequency	Percent
Regular hand sanitization	71	57.3
Sanitizing surfaces	46	37.1
Deep cleaning of facilities	7	5.6
Total	124	100.0

4.4.2 Changes in Physical Security and Protocols

4.4.2.1 Staffing Changes for Border Security Officers

The COVID-19 pandemic prompted significant shifts in physical security measures and operational protocols across border points. Data from Figure 4.7 shows that 90% of respondents confirmed staffing changes, indicating widespread restructuring within border control agencies. These adjustments were driven by the urgent need to reduce exposure risks, maintain essential operations and adhere to public health guidelines.

Physical security protocols most affected included access control procedures, screening processes, patrol routines and personnel deployment structures. Traditional manual screening and document verification processes were modified or replaced with contactless systems, including biometric identification and digital surveillance tools. In some locations, physical barriers such as glass partitions and queue management systems were introduced to enforce social distancing. These protocol changes

minimized direct contact between officers and travellers, thereby lowering transmission risk while maintaining control over border activity.

Staffing changes involved redeployment, rotational shifts and reduced on-site presence. Officers deemed high-risk due to age or preexisting conditions were reassigned or asked to work remotely where possible. In some cases, temporary or auxiliary personnel were introduced to support critical operations. These modifications allowed for continuity of border operations while ensuring a safer working environment for frontline officers.

The effect of these adjustments on border security was both operational and strategic. While initial restructuring caused temporary disruptions, the long-term impact was an enhanced ability to operate under constrained conditions. Adjusted staffing models and reengineered physical security protocols improved resilience, adaptability and public trust in border safety. However, reliance on reduced physical contact and lower staffing levels may have also introduced surveillance gaps or delays in response time, potentially affecting the comprehensiveness of border checks during the early stages of the pandemic.

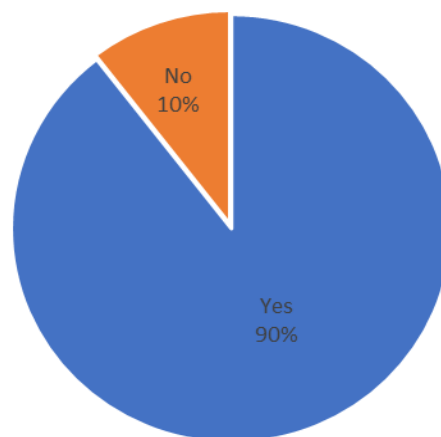


Figure 4.7

Staffing changes for the border security officers in response to Covid-19 pandemic

4.4.2.2 Presence of Activities by Border Security Officers in Response to Covid-19

The findings in Table 4.5 indicate that 99.2% of border security officers confirmed the implementation of specific activities in response to the COVID-19 pandemic. These activities primarily involved health screening procedures such as temperature checks and symptom assessments for incoming travellers. Officers also verified travellers' COVID-19 test results and vaccination certificates, ensuring compliance with health regulations before granting entry. Additionally, enforcement of quarantine measures and isolation protocols was a critical activity, requiring border staff to monitor and manage individuals subject to mandatory health directives. These health-focused tasks became integrated into the regular security functions of border control, highlighting the dual role of safeguarding both national security and public health.

Moreover, border security officers actively managed human traffic to prevent overcrowding and maintain social distancing within border facilities. They regulated movement by restricting non-essential cross-border crossings and ensuring travellers adhered to mask-wearing and hand hygiene protocols. Officers were also involved in regular sanitization efforts and disseminated information about evolving COVID-19 guidelines. These additional responsibilities required adjustments in operational procedures, increased coordination with health authorities and the use of protective equipment and new technologies. The findings are shown in table 4.5.

Table 4.5

Presence of activities undertaken by border security officers in response to Covid-19 pandemic

	Frequency	Percent
Yes	123	99.2
No	1	.8
Total	124	100.0

4.4.2.3 Specific Activities by Border Security Officers in Response to Covid-19

The study sought to determine the specific activities undertaken by border security officers in response to the COVID-19 pandemic. The responses indicate a multifaceted approach to managing the crisis. The most frequently reported activity was the increased monitoring and supervision of safety measures, cited by 31.5% (n=39) of the respondents. Additionally, 28.2% (n=35) reported an increase in staff conducting inspections, while 26.6% (n=33) highlighted the deployment of more medical screening staff. A smaller percentage, 13.7% (n=17), indicated that additional personnel were assigned to coordinate response activities. These findings suggest that border security agencies prioritized public health and safety by increasing personnel in key areas. The high percentage of respondents noting increased monitoring and supervision of safety measures implies that border control points were heavily regulated to ensure compliance with COVID-19 protocols.

Table 4.6

Type of Activity undertaken by border security officers in response to Covid-19 pandemic

	Frequency	Percent
More medical screening staff	33	26.6
More staff to conduct inspections	35	28.2
More monitoring and supervision of safety measures staff	39	31.5
More staff undertaking coordination of response activities	17	13.7
Total	124	100.0

4.4.2.4 How the Activities Addressed Covid-19 Issues

The study found that activities at border access points were specifically tailored to address COVID-19 issues through enhanced screening, medical checks and the enforcement of preventive measures. These included deploying specialized staff, issuing health guidelines, assisting in contact tracing and enforcing quarantine measures. Additional strategies such as curfews, population control and sensitization campaigns were implemented to limit the spread of the virus. These efforts were supported by teams monitoring and supervising operations to ensure compliance with COVID-19 protocols. The following responses were obtained from the key informants;

Thorough screening for COVID-19 and medical checks were conducted at all access points (KII 2)

Guidelines were issued and contact tracing efforts were strengthened alongside quarantine enforcement (KII 3)

Teams were deployed to monitor operations and ensure adherence to COVID-19 protocols such as population control and rule enforcement. Their presence helped maintain order and minimized the risk of virus transmission within border facilities, thereby enhancing both public health safety and security effectiveness (KII 1).

4.4.2.5 Extent to Which the Activities Were Used

The study sought to determine the extent to which the identified COVID-19 response activities were implemented by border security officers. As presented in table 4.7, majority of respondents indicated that the activities were moderately used (49.2%, n=61), while 47.6% (n=59) reported that the activities were highly used. A small percentage, 3.2% (n=4), noted that the activities were utilized to a low extent. These findings illustrated that most of the implemented response measures were consistently enforced at border points, with nearly half of the respondents acknowledging a high level of adherence. The moderate usage reported by 49.2% indicated that while the measures were in place, certain limitations such as resource constraints, logistical

challenges, or compliance issues affected full-scale implementation. The fact that only 3.2% of respondents reported a low extent of implementation indicates strong engagement of border security officers in pandemic-related activities. This high level of involvement suggests that the independent variables - such as the introduction of health protocols and operational changes - were effectively translated into practice, thereby positively influencing the dependent variable, which is the overall effectiveness of border security during the COVID-19 pandemic. The widespread adoption and consistent application of these activities likely enhanced the capacity of border security to control virus spread while maintaining operational functionality.

Table 4.7
Extent the identified activities were used

	Frequency	Percent
Low extent	4	3.2
Moderately used	61	49.2
Highly used	59	47.6
Total	124	100.0

4.4.2.6 Effectiveness of Activity Undertaken by Border Security Officers

The study examined the effectiveness of activities undertaken by border security officers in response to the COVID-19 pandemic and their impact on border management. As shown in Table 4.8, the majority of respondents, 37.1% (n=46), indicated that the activities were effective, while 25.0% (n=31) rated them as very effective. Additionally, 36.3% (n=45) of the respondents stated that the measures were somehow effective and only 1.6% (n=2) reported that they were not effective. These findings suggested that a significant proportion of border security officers found the response activities to be successful, with 62.1% (n=77) considering them either effective or very effective. These activities included medical screenings of travellers,

enhanced inspections, enforcement of quarantine and social distancing protocols and increased monitoring of hygiene practices at border points. Such measures were crucial in detecting and preventing the entry of potentially infected individuals, thereby reducing the risk of virus transmission across borders. The high ratings of effectiveness suggest that these interventions successfully balanced public health priorities with the need to maintain border security operations. This aligns with the study's objective to assess how pandemic-related changes in protocols influenced the overall performance and safety of border control systems. The perceived success of these activities underscores their importance in supporting both health security and operational continuity during the crisis.

Table 4.8

Effectiveness of Activity undertaken by border security officers in response to Covid-19 pandemic

	Frequency	Percent
Not Effective	2	1.6
Somehow Effective	45	36.3
Effective	46	37.1
Very Effective	31	25.0
Total	124	100.0

4.4.2.7 Type of People Worked with in Border Management

The study sought to determine the types of organizations that border security officers collaborated with in border management and COVID-19 response efforts. The data in Table 4.9 reveals the collaborative nature of border security operations during the COVID-19 pandemic. The predominant involvement of national government organizations (71%) highlights the central role these agencies played in coordinating and implementing pandemic response measures at border points. Their leadership ensured consistent enforcement of health protocols, regulation of cross-border

movement and resource allocation critical to maintaining security and public health. The participation of international organizations (14.5%) indicates that global partnerships contributed essential support such as funding, technical expertise and policy frameworks, which helped enhance the capacity of border agencies to respond effectively to the pandemic's challenges. Meanwhile, local organizations (9.7%) likely facilitated community engagement and localized interventions, which are crucial for grassroots-level monitoring and compliance. This multi-level collaboration reflects an integrated approach to border management that combined governmental authority with external support to strengthen overall pandemic response and safeguard border security. The findings are shown in the table 4.9.

Table 4.9

Type of people you have worked with in terms of border management and Covid-19 response

	Frequency	Percent
Local organizations	12	9.7
National government organizations	88	71.0
International organizations	18	14.5
None	6	4.8
Total	124	100.0

4.4.2.8 Collaboration between Agencies

The study found that collaboration among agencies, including health authorities, law enforcement and international organizations, played a critical role in managing the COVID-19 crisis at borders. Multi-agency coordination facilitated the implementation of screening protocols, distribution of PPE and sensitization campaigns to reduce the spread of the pandemic. Additionally, training and public awareness initiatives ensured that personnel and the public were well-informed about health protocols. Enforcement of regulations, such as travel restrictions and quarantine

measures, was also highlighted as a key responsibility for border management teams.

The following responses were obtained to support the assertions.

We collaborated with the Ministry of Health and other agencies to enforce COVID-19 screening protocols at border points, ensuring travellers complied with health guidelines (KII 2)

As part of a multi-agency team, we organized workshops to train personnel on the latest screening methods and emergency response procedures (KII 3)

We worked with international organizations like the CDC to secure PPE and testing kits, which were distributed to personnel and the local community (KII 1).

4.4.2.9 Training of Security Officers

The study sought to assess whether border security officers received training on COVID-19 responses in the context of border management. As shown in Table 4.10, the majority of respondents, 94.4% (n=117), confirmed that they had received training, while 5.6% (n=7) indicated that they had not. These findings indicated that training initiatives were widely implemented, ensuring that most border security personnel were adequately prepared to handle COVID-19-related challenges. The high percentage of trained personnel highlights the prioritization of capacity-building efforts, likely focusing on health screening, implementation of safety measures and enforcement of access control protocols to mitigate the spread of the virus at border points.

Table 4.10

Whether the respondents were trained on Covid-19 responses in border management

	Frequency	Percent
Yes	117	94.4
No	7	5.6
Total	124	100.0

4.4.2.10 Period the Participants Received Training

The study further examined when respondents received training on COVID-19 responses in border management. From the research, 62.9% (n=78) of the respondents reported that they were trained between 3 to 5 years ago, while 35.5% (n=44) received training less than three years ago. A small proportion, 1.6% (n=2), indicated that their training occurred more than five years ago. These findings indicated that most border security personnel underwent training within the last five years, aligning with global efforts to enhance pandemic preparedness and response strategies. The high percentage of respondents trained within the 3–5-year range suggested that training programs were implemented as a proactive response to emerging threats, ensuring that officers had updated knowledge and skills to manage border security during the pandemic. The findings are shown in the table 4.11.

Table 4.11
When the Respondents were trained

	Frequency	Percent
Less than 3 years ago	44	35.5
3 – 5 years ago	78	62.9
More than 5 years ago	2	1.6
Total	124	100.0

4.4.2.11 Trainer of the Participants

The research also sought to determine the person who provided the training on COVID-19 responses in border management. Majority of respondents, 46.8% (n=58), reported that they received training from both government and non-government organizations. Additionally, 27.4% (n=34) indicated that their training was conducted exclusively by government organizations whereas 25.8% (n=32) received training solely from non-government organizations. These findings highlighted the

collaborative nature of training initiatives in border security and pandemic response. The significant percentage (46.8%) of personnel trained by both government and non-government organizations indicated that multi-sectoral partnerships played a critical role in equipping security officers with the necessary skills. This collaboration likely ensured a comprehensive training approach, incorporating perspectives from public health, security and humanitarian organizations. The results are shown in the table 4.12.

Table 4.12

The trainer of the Respondents

	Frequency	Percent
Government organization	34	27.4
Non-Government organization	32	25.8
Both Government and Non-Government organizations	58	46.8
Total	124	100.0

4.4.2.12 Areas the Respondents Were Trained

The study examined the specific areas in which border security personnel were trained regarding COVID-19 response. Majority of respondents, 67.7% (n=84), reported receiving training on response and reporting, which emphasizes the critical role of timely identification, documentation and communication of COVID-19 cases at border points.

Additionally, 21.0% (n=26) of respondents were trained on the outbreak of pandemics, specifically COVID-19, indicating efforts to enhance awareness and preparedness among border security officers. This training likely covered the nature of viral transmission, symptoms of COVID-19 and preventive measures to help mitigate the spread of infections at border crossings. A smaller proportion, 11.3% (n=14), received training on involving other government agencies in COVID-19 response efforts. This

reflects the inter-agency coordination efforts necessary for an effective border management strategy. The findings are shown in the table 4.13.

Table 4.13

Areas the respondents were trained

	Frequency	Percent
Training in outbreak of pandemics (Covid-19)	26	21.0
Training on response and reporting	84	67.7
Border security training and training on involving other government agencies	14	11.3
Total	124	100.0

4.4.2.13 Existence of Empowerment Activities

The study sought to determine whether empowerment activities were implemented in response to the risks posed by COVID-19. Most of the respondents, 86.3% (n=107), indicated that empowerment activities were conducted, while 13.7% (n=17) reported that no such activities took place. The high percentage of affirmative responses suggests that border security personnel were actively engaged in empowerment initiatives aimed at enhancing their capacity to handle pandemic-related challenges. These activities may have included training programs, provision of PPE, psychological support and capacity-building efforts to ensure effective COVID-19 response at border points. On the other hand, the 13.7% who reported the absence of empowerment activities highlight possible disparities in resource allocation, training opportunities, or institutional support across different border security units. The findings of the research are shown in the table 4.14.

Table 4.14*Whether there were empowerment activities as a result of Covid-19 risks*

	Frequency	Percent
Yes	107	86.3
No	17	13.7
Total	124	100.0

4.4.2.14 Specific Empowerment Activities

The study found that personnel were empowered through a combination of training, access to resources and improved knowledge to handle pandemics effectively. Staff underwent specialized training programs on pandemic response, hygiene and infection prevention. They were equipped with technical skills such as using PPE, online reporting systems and contact tracing apps, which enhanced their ability to manage health crises. Additionally, awareness campaigns, mental health resources and collaboration with health authorities and NGOs bolstered their preparedness and confidence to respond to emergencies. Empowerment was further reinforced through opportunities for leadership, decision-making and sharing insights to improve practices, as shown from the following responses;

I was empowered by undergoing training on COVID-19 as a leader to train and support my staff to overcome challenges (KII 3)

We were provided with training on response and reporting, as well as the use of PPE and sanitization supplies (KII 1)

Through collaboration with health authorities and sharing of information, I gained the necessary skills to manage pandemics effectively (KII 2)

4.4.2.15 Involvement in Decision Making

The study sought to assess whether border security personnel were involved in decision-making processes regarding COVID-19 responses in border areas. From the research findings in Table 4.15, 32.3% (n=40) of the respondents indicated that they

were involved in decision-making, while a majority, 67.7% (n=84), reported that they were not included in these processes. The findings suggested that a significant proportion of border security personnel were excluded from critical decision-making roles, despite their direct engagement in frontline COVID-19 response activities. The results are shown in the table 4.15.

Table 4.15

Whether the Respondents were involved in decision making on matters concerning Covid-19 responses on border areas

	Frequency	Percent
Yes	40	32.3
No	84	67.7
Total	124	100.0

4.4.2.16 Gaps in Training

The study found that most training programs left out critical areas that could enhance the effectiveness of personnel in managing pandemics and health crises. Key gaps identified included communication skills, cultural sensitivity and crisis response management. Respondents emphasized the need for training on early detection mechanisms, prevention measures and managing stress and stigma during pandemics. Additionally, practical skills, including the use of technology and medical equipment, conflict resolution and teamwork, were seen as essential for preparedness but often overlooked. There was also a call for regular updates on health policies and the inclusion of mental health and post-pandemic preparedness in training modules. The following responses were obtained;

Training should include proper communication skills and practical examples to better prepare us for real-world challenges (KII 3)

There is a need for training in early detection mechanisms for pandemics and how to handle cultural diversity at border areas (KII 1)

Mental health and coping mechanisms are critical areas that should be included in future training sessions (KII 2)

4.4.3 Challenges in Enforcing Covid-19 Control Measures

The research objective was to determine the challenges in enforcing Covid-19 control measures among the respondents.

4.4.3.1 Existence of Working Equipment in Border Management

The study first sought to determine whether border security personnel had access to functional working equipment in their operational duties. Majority of respondents, 96.0% (n=119), confirmed that they had access to working equipment, while a small proportion, 4.0% (n=5), indicated that they did not have the necessary equipment for effective border management. The findings illustrated that most border security officers were well-equipped to handle their responsibilities, which is crucial for ensuring efficient enforcement of border regulations, surveillance and pandemic response measures. The availability of equipment contributed to effective monitoring of border points, implementation of Covid-19 protocols and overall security management as shown in the table 4.16.

Table 4.16

Whether the respondents have working equipment in border management

	Frequency	Percent
Yes	119	96.0
No	5	4.0
Total	124	100.0

4.4.3.2 Available Working Equipment in Border Management

The study sought to identify the types of working equipment available for border security personnel in response to COVID-19. Majority of respondents, 49.2%

(n=61), reported having equipment for monitoring COVID-19 cases, while 35.5% (n=44) indicated access to technological infrastructure. Additionally, 13.7% (n=17) noted the availability of modern security facilities for enhanced border management. However, 1.6% (n=2) of responses were missing, indicating that not all respondents provided an answer. The findings suggested that border management agencies prioritized monitoring equipment, which is crucial for tracking infections, screening travellers and enforcing public health measures at entry points. The presence of technological infrastructure highlighted the use of digital tools, such as data management systems, electronic surveillance and automated screening devices, which enhanced efficiency in COVID-19 response efforts. The findings are shown in the table 4.17.

Table 4.17

Working equipment in response to Covid-19

	Frequency	Percent
Technological infrastructure	44	36.1
Equipment on monitoring cases	61	50.0
Modern security facilities	17	13.9
Total	122	100.0

4.4.3.3 Technological Infrastructure

The study found that various technological infrastructures were utilized to enhance pandemic response and border control operations. These technologies included screening and surveillance systems such as CCTV cameras, biometric systems and thermal scanners for health monitoring. Other tools included data management systems, telehealth platforms and mobile applications for contact tracing and remote health monitoring. Advanced equipment like RT-PCR machines, temperature measuring devices and automated document verification systems further supported pandemic

mitigation efforts. However, some respondents indicated a lack of sufficient technological infrastructure in certain areas, as follows;

We used biometric systems and automated border control technologies to manage passenger details and enhance screening efficiency (KII 1)

Contact tracing apps and telehealth platforms played a crucial role in tracking infections and providing virtual care (KII 3)

CCTV cameras, infrared technology and real-time monitoring tools ensured effective surveillance and health screening (KII 2)

4.4.3.4 Monitoring Equipment

The study highlighted various types of monitoring equipment utilized to enhance public health and safety during the pandemic. These included thermometers, thermal scanners and infrared thermometers, which were extensively used for temperature checks. Biometric scanners and body scanners, along with CCTV cameras equipped with motion and heat sensors, supported enhanced surveillance and monitoring. Additionally, rapid test kits, mobile screening labs and COVID-19 testing equipment enabled efficient health screenings. Other notable tools included environmental monitoring devices, automated kiosks and mobile tracking applications for data collection and monitoring, as shown;

We relied heavily on thermometers, thermal cameras and infrared scanners to screen individuals at border points (NPS Officer)

CCTV cameras with motion sensors and biometric scanners provided a secure and effective way to monitor activities (Border Security Personnel)

Mobile screening labs and testing facilities played a critical role in on-the-ground monitoring and rapid testing (Border Security Personnel)

4.4.3.5 Equipment Failure

The study sought to determine whether border security personnel had experienced instances of equipment failure in response to COVID-19. From the

findings, 70.2% (n=87) of the respondents reported experiencing equipment failures, while 29.0% (n=36) stated that their equipment had functioned effectively without failure. Additionally, 0.8% (n=1) of responses were missing, indicating that not all respondents provided an answer. The findings suggest that equipment failure was a significant challenge in border management operations during the pandemic. The high percentage of respondents who experienced malfunctions or inefficiencies in their working equipment raises concerns about the reliability and sustainability of technological infrastructure, monitoring tools and security facilities used in border surveillance and COVID-19 response. The findings are shown in the table 4.18.

Table 4.18

Prescence of incidents where equipment failed to work

	Frequency	Percent
Yes	87	70.7
No	36	29.3
Total	123	100.0

4.4.3.6 Monitoring Equipment Failures

The study found that monitoring equipment failures were primarily caused by power outages, technical malfunctions and user-related issues, which hindered effective border operations. Thermal scanners often produced inaccurate readings due to poor calibration or environmental factors, while power failures frequently disrupted the functionality of surveillance systems and biometric scanners. Additionally, outdated equipment and improper handling by users contributed to inaccurate data and delays in operations.

Power blackouts cause the CCTV systems and biometric scanners to fail, leaving significant monitoring gaps (KII 1)

Some machines fail due to wear and tear, or they produce inaccurate results due to outdated components (KII 3)

When sensors fail to respond, or users input incorrect data into the system, it results in inaccurate readings and operational delays (KII 2).

4.4.3.7 Frequency of Border Security Equipment Failure

The study sought to determine how often border security equipment failed to function properly during COVID-19 response efforts. A greater percentage of the respondents, 55.6% (n=69), indicated that equipment failures occurred “sometimes”, while 33.9% (n=42) reported that failures occurred “rarely.” Only 2.4% (n=3) of respondents stated that equipment failures happened “regularly.” Additionally, 8.1% (n=10) of responses were missing, suggesting that some participants did not provide an answer. These findings suggest that while equipment malfunctions were common, they were not necessarily persistent or recurring daily. The majority of respondents who experienced occasional failures (55.6%) indicated that technical issues did arise but may not have been severe enough to disrupt operations entirely. This could be attributed to inconsistent maintenance schedules, sporadic power supply interruptions, or temporary malfunctions of screening and monitoring tools. Table 4.19 shows the findings.

Table 4.19
Frequency of equipment failure

	Frequency	Percent
Rarely	42	36.8
Sometimes	69	60.5
Regularly	3	2.6
Total	114	100.0

4.4.3.8 Improvements Needed for Equipment

The study found that several pieces of equipment required improvement to enhance the Covid-19 response. Participants emphasized the need to upgrade outdated

computers and enhance their integration with health systems for real-time data sharing. Thermal scanners and biometric systems were highlighted as needing advanced calibration and improved functionality to minimize inaccuracies and ensure seamless tracking. Additionally, there was a call for better screening equipment, mobile laboratory kits and reliable PPE, such as masks and face shields, to support frontline workers as shown;

The computers are quite old and need to be upgraded to improve efficiency in processing health data (KII 1)

Biometric systems and thermal scanners need better calibration to reduce inaccuracies in monitoring (KII 3)

We need more modern and affordable rapid testing kits and better PPE to ensure safety and faster detection (KII 2)

4.4.3.9 Other Challenges Mentioned by Respondents

The study found that enforcing Covid-19 control measures was challenged by insufficient resources, resistance from travellers and operational inefficiencies. Limited availability of personal protective equipment (PPE) and inconsistent replenishment hindered staff safety. Public resistance, fuelled by misinformation and non-compliance, made enforcement difficult, especially in maintaining social distancing and adhering to isolation protocols. Furthermore, porous borders, inadequate training for personnel and language barriers contributed to enforcement challenges, particularly in rural areas with limited infrastructure.

We experienced a lack of enough resources, including PPE, which left staff vulnerable while interacting with travellers (KII 2)

Some travellers were resistant and did not cooperate with health protocols, making enforcement tough (KII 3)

Porous borders allowed some travellers to bypass entry points, making it hard to track and enforce regulations effectively (KII 1).

4.4.4 Border Security Policy Frameworks and Covid-19 Pandemic

The research objective was to determine the border security policy frameworks and Covid-19 pandemic. First the research sought to explore the significance of specific laws and policies in supporting border security efforts during the COVID-19 pandemic.

4.4.4.1 Policies in Border Security in Response to Covid-19 Pandemic

From the findings, the entry/exit policy was the most frequently cited, with 66.9% (n=83) of respondents selecting it as an important law or policy. Visa policy was mentioned by 9.7% (n=12) of participants, while migration policy was cited by 22.6% (n=28). Notably, 1 response was missing, accounting for 0.8% of the total data, leaving a final total of 123 valid responses. The policies presented in Table 4.20 - entry/exit, migration and visa policies - are all central to border security, particularly in the context of a global health crisis like COVID-19. The prominence of the entry/exit policy (67.5%) underscores its significance in managing population flow and preventing the importation or exportation of infections. These policies often included mandatory health screenings, proof of vaccination, negative test results, quarantine requirements and in some cases, outright border closures. Such measures directly influenced how border security officers operated, requiring them to enforce new protocols while balancing health considerations with national security.

Migration policies, selected by 22.8% of respondents, also played a vital role - particularly in regulating irregular movement and ensuring that migrants and refugees underwent proper health checks before being integrated or detained. Similarly, visa policies (9.8%) became tools for controlling international access, where temporary suspensions or policy adjustments helped reduce the volume of non-essential travel.

Despite their importance, these policies revealed several gaps. One critical gap was the lack of harmonized procedures across borders, which led to inconsistencies and confusion. Another issue involved the limited preparedness of border agencies to adapt quickly to changing health protocols, often due to outdated technology or insufficient training. Additionally, migrant populations and asylum seekers were often left vulnerable due to policy rigidities that failed to accommodate emergency health provisions. Addressing these gaps would require integrated policy design, investment in border health infrastructure and stronger inter-agency collaboration, both domestically and internationally. The findings are shown in the table 4.20.

Table 4.20

The policy which has proven important towards border security in response to Covid-19 Pandemic

	Frequency	Percent
Visa policy	12	9.8
Entry/exit policy	83	67.5
Migration policy	28	22.8
Total	123	100.0

4.4.4.2 Use of Existing Policies

The study found that policies identified to combat Covid-19 were primarily used to regulate movement across borders, enforce health screenings and mandate compliance with health protocols. These measures included mandatory pre-screening, quarantine and testing requirements for travellers. Proof of vaccination or negative Covid-19 test results was a prerequisite for entry and exit, while travel restrictions and lockdowns minimized the number of immigrants and emigrants, helping to contain the pandemic. Additionally, health laws facilitated contact tracing, raised public awareness and regulated cross-border movement to prevent virus transmission.

The laws ensured that all travellers provided a Covid-19 vaccination certificate or negative test result before crossing the border (KII 2).

Quarantine measures and health screenings at entry and exit points were critical in controlling the spread of the virus (KII 3).

Movement control laws reduced the number of people entering and exiting the country, curbing the spread ratio significantly (KII 1).

4.4.4.3 Challenges in Implementing Laws and Policies

The study sought to understand whether there were challenges in implementing laws and policies related to border security in response to the COVID-19 pandemic. Majority of respondents, 87.1% (n=108), indicated that they faced challenges in the implementation of these laws and policies, while 12.1% (n=15) reported that they did not experience such challenges. A missing response was recorded for 1 participant, representing 0.8% of the total responses, leaving a final total of 123 valid responses.

The high percentage of respondents (87.1%) reporting challenges highlights the complexity of implementing border security laws during a global health crisis. Several factors could have contributed to these challenges, including logistical constraints, such as the availability of resources (personnel, technology, etc.), as well as the rapidly changing nature of the pandemic. Governments had to constantly adapt their policies to address emerging health data while balancing the need for border security with public health objectives. This meant that existing laws and policies might not have been fully equipped to handle the unprecedented scale of the pandemic. The findings are shown in the table 4.21.

Table 4.21*Presence of challenges experienced when undertaking and implementing laws*

	Frequency	Percent
Yes	108	87.8
No	15	12.2
Total	123	100.0

4.4.4.4 Challenges in Enforcement of Covid-19 Control Measures

The study found that the enforcement of Covid-19 control measures at border points faced several challenges, including inadequate resources, non-compliance from the public and logistical issues. Border officers and health staff reported challenges such as managing large numbers of travellers, lack of necessary equipment and porous borders. Public resistance to health protocols, misinformation and inadequate infrastructure further complicated the implementation of policies. Additionally, difficulties in coordination between various agencies and varying regulations across countries led to confusion, undermining effective enforcement of health measures.

There were shortages of personnel and resources, which made it difficult to manage the large influx of travellers during peak times (KII 1)

Some people crossed at unofficial entry points, making it hard to screen everyone properly (KII 3)

There were challenges with compliance, especially when people used fake certificates or refused to follow testing requirements (KII 2)

4.4.4.5 Solutions to Challenges in Enforcement of Covid-19 Control Measures

The study found that addressing the challenges faced in the implementation of border control and health regulations requires a multi-faceted approach. Key solutions proposed by respondents included increasing resource allocation, enhancing public awareness through continuous sensitization and improving infrastructure. The importance of digital solutions for information sharing and border management was

also highlighted. Furthermore, stricter enforcement measures, capacity building and stronger collaboration between agencies were emphasized to ensure more effective implementation of health protocols and border security measures.

Government needs to provide more resources and technology to streamline the border control process (KII 1)

We must educate the public continuously, even at grassroots levels, to improve their understanding of the laws and their importance (KII 3)

Collaboration among agencies and training of staff is essential to ensure smooth enforcement and management of border protocols (KII 2)

4.4.4.6 Reporting and Information Management Systems

The research sought to assess whether reporting and information management systems were in place based on existing laws for managing border security in response to the COVID-19 pandemic. The overwhelming majority of respondents, 97.6% (n=121), confirmed that there were reporting and information management systems in place. Only 1.6% (n=2) of respondents indicated that there were no such systems. Additionally, a missing response was recorded for 1 participant, representing 0.8% of the total responses, leaving a total of 123 valid responses.

The high percentage of respondents who confirmed the presence of reporting and information management systems suggests that most border security authorities have made significant efforts to establish systems that can collect, manage and report data related to border security, especially in the context of the COVID-19 pandemic. These systems are likely to include digital platforms that help in tracking the movement of people, monitoring health-related data and ensuring compliance with health regulations at border points. The findings are shown in the table 4.22.

Table 4.22

Presence of reporting and information management system in place on based on the existing laws

	Frequency	Percent
Yes	121	98.4
No	2	1.6
Total	123	100.0

4.4.4.7 Types of Information Systems

When respondents were asked to specify the types of information systems in place for managing border security and the COVID-19 pandemic, a variety of systems were identified, each playing a role in monitoring, reporting and ensuring the smooth operation of border security during the pandemic. The community database emerged as the most widely implemented system, with 54% (n=67) of respondents indicating its use. This system is likely focused on tracking local communities, including data on individuals who may need to comply with quarantine or travel restrictions. It provides border security personnel with vital information to enforce public health measures and monitor movement within border areas.

Next, 17.7% (n=22) of respondents reported the use of an offender's database. This system likely helps manage records of individuals who have violated border control regulations or have been involved in criminal activities, such as trafficking or smuggling. This highlights the ongoing need for effective systems to track offenders and ensure compliance with border security protocols. Additionally, crime detection systems were cited by 16.1% (n= 20) of respondents. These systems play a crucial role in identifying criminal activities within or near border areas. They may include technologies like surveillance equipment and data analytics tools that help border security personnel detect security threats early and respond effectively. The least

reported system was the new resident's database, with only 11.3% (n=14) of respondents indicating its use. This system likely tracks new immigrants or residents in border areas, helping authorities ensure that all individuals are properly documented and meet the required public health standards, especially in light of COVID-19. The findings are shown in the table 4.23.

Table 4.23

Types of information systems in place

	Frequency	Percent
Crime detection systems	20	16.3
Offenders database	22	17.9
Community database	67	54.5
New resident's database	14	11.4
Total	123	100.0

4.4.4.8 Resources for Implementation Of COVID-19 Policies

When respondents were asked whether the government provided the necessary resources for the implementation of COVID-19 policies at the border, the majority affirmed that they did. Specifically, 87.9% (n= 109) of respondents indicated that the government does indeed provide these resources whereas 11.33% (n= 14) of the respondent did not. This suggested that the government plays a significant role in supporting border security measures aimed at managing the pandemic, ensuring that relevant laws and health protocols are enforced effectively. The findings are shown in the table 4.24.

Table 4.24

Whether the government provided resources necessary for Covid-19 policies implementation

	Frequency	Percent
Yes	109	88.6
No	14	11.4
Total	123	100.0

4.4.4.9 Effectiveness of Resource's Usage

When respondents who indicated that the government provides resources for the implementation of COVID-19 laws were asked about the effectiveness of these resources, the responses were varied. A significant portion, 34.7% (n= 43), reported that the resources were “very effective” in supporting the implementation of the laws, while 39.5% (n= 49) (table 4.25) considered the resources to be “effective.” Together, these responses reflect that the majority of respondents, 74.2%, believe that the resources provided have had a positive impact on the execution of COVID-19 border management measures.

However, 21.0% (n= 26) of respondents indicated uncertainty by selecting “I don’t know,” suggesting that some may not have enough information or direct involvement to assess the effectiveness of the resources provided. This response could point to a need for clearer communication or more comprehensive evaluation mechanisms in place to track the outcomes of the resources being allocated. Additionally, 4.8% (n= 6) of the data was missing, which further emphasizes the need for ensuring complete and accurate responses. The findings of the research are shown in the table 4.25.

Table 4.25
Effectiveness of the resource's usage

	Frequency	Percent
Very effective	43	36.4
Effective	49	41.5
I don't know	26	22.0
Total	118	100.0

4.4.4.10 Improving the Effectiveness of Border Control and Health Regulations

The study found that improving the effectiveness of border control and health regulations hinges on several critical factors. Respondents emphasized the need for more resources, both financial and human, as well as better quality equipment to strengthen implementation efforts. Capacity building through continuous training of personnel was also identified as an essential step to enhance operational efficiency. Additionally, reducing corruption and improving communication at the grassroots level were highlighted as necessary actions to improve the situation.

The government should allocate more resources to ensure the effective implementation of COVID-19 regulations at the border (KII 1)

Investing in better quality equipment and continuous training will help in enhancing the effectiveness of the regulations (KII 3)

We need to reduce corruption and increase transparency to ensure that resources are used effectively to manage the situation (KII 2)

4.4.4.11 Measures to Improve Response To COVID-19 at Border Areas

The study found that respondents recommended several measures to improve the response to COVID-19 at border areas. The following responses were obtained;

There is a need to establish well-equipped quarantine centres and ensure that medical facilities are available at border points to handle emergencies (KII 1)

Improved coordination among border control, health and security agencies is essential for an effective COVID-19 response (KII 3)

We must invest in advanced health screening technologies and ensure that border personnel are regularly trained to handle health crises efficiently (KII 2)

Key suggestions included the establishment of well-equipped quarantine centres and medical facilities, enhanced testing and screening capabilities and the integration of technology to streamline health verification processes. Coordination between national and local governments, as well as international partners, was also seen as essential for efficient responses. Furthermore, there was a call for better resource allocation, public education and the training of personnel to ensure preparedness and effective handling of COVID-19 related challenges.

4.5 Summary of Key Findings

The study revealed that several changes were made to physical security measures and protocols at the Malaba border in response to the COVID-19 pandemic. These included the implementation of thermal screening systems, adoption of touch-free access control solutions and heightened cleaning routines. However, these changes were constrained by existing infrastructure limitations, highlighting the urgent need for modernizing border security systems and embracing automation to ensure preparedness for future health-related crises.

In examining the impact of these changes on border operations, it was found that COVID-19 significantly affected operational efficiency, personnel workload and the overall effectiveness of border control. Labour shortages, reported by 89.5% of respondents and the reliance on outdated systems resulted in processing delays and heightened resource exhaustion. This finding emphasized the need for strategic resource allocation, expansion of the border security workforce and technological upgrades to enhance the resilience and responsiveness of border operations.

The research also identified several operational, logistical and policy-related challenges encountered during the enforcement of COVID-19 control measures. These included insufficient medical supplies, lack of adequate training for security personnel, weak inter-agency coordination and widespread traveller noncompliance. These challenges underscored the necessity for stronger collaboration among border security stakeholders, improved training programs and the establishment of robust enforcement mechanisms to strengthen pandemic response capabilities.

Finally, in assessing the effectiveness of border security policy frameworks during the pandemic, the study found that although 97.6% of respondents acknowledged the existence of such policies, the actual implementation was hampered by limited regional cooperation, fragmented policy frameworks and ineffective reporting mechanisms. These issues point to the need for harmonized and adaptable policy structures and enhanced regional alliances, which are critical to ensuring a unified and efficient response to cross-border health emergencies.

CHAPTER FIVE

DISCUSSIONS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The research findings undergo analysis and presentation while receiving interpretation through methods that conform to the investigation's specific goals in this chapter. Each of the study's objectives is systematically addressed through a detailed summary of findings, an in-depth discussion of their implications and well-supported conclusions. Furthermore, actionable recommendations are provided to enhance the management of border security during future health crises. This chapter serves as the culmination of the study, offering insights that not only highlight the immediate impacts of the pandemic but also inform strategies for long-term improvements in border security and management.

5.2. Discussions

Gender plays a pivotal role in shaping perceptions, decision-making and responsiveness to institutional policies, especially in sectors like border security and law enforcement. The current study findings show that the predominance of male respondents (72%) may have skewed the results toward male-oriented views on operational efficiency, compliance and organizational commitment - variables that could significantly influence both independent variables (such as border security practices) and dependent variables (such as effectiveness in policy implementation). Studies have shown that male and female security personnel may perceive and react to threats, institutional policies and security protocols differently due to their training experiences, societal expectations and exposure to workplace dynamics (Givens et al., 2018). In this study, This gender imbalance might limit the generalizability of findings,

particularly if female officers offer different insights on institutional challenges or employee engagement strategies (Infantino, 2024).

Education level is widely recognized as a determinant of an individual's analytical capacity, policy comprehension and implementation proficiency within public service roles. In this study, the fact that a majority held diploma and degree qualifications suggests a workforce capable of engaging with and applying organizational policies and security strategies effectively - thus positively impacting both the independent variables (e.g., training practices, policy clarity) and dependent outcomes (e.g., border security performance). Respondents with higher academic qualifications often demonstrate better understanding of policy frameworks and strategic mandates, which enhances their capacity to contribute meaningfully to institutional reforms (Kumar, 2018). Educated personnel are also more likely to adapt to new technologies and reforms, thereby strengthening institutional responsiveness and compliance (Aziz et al., 2024).

Age correlates with experience, adaptability and professional maturity, all of which influence organizational behaviour and policy implementation. Younger personnel (especially those in the 26–35 age group) may bring technological proficiency and energy but may lack the institutional memory or strategic foresight of older staff (Kim et al., 2024). In this study, the dominance of respondents in the 26–35 age bracket indicates that the border security workforce may be driven by youthful energy, yet may still be in formative stages of professional development. This age group may support innovative practices (affecting independent variables like operational methods) but could also influence the dependent variables, such as the effectiveness of coordination or the resilience of security systems, depending on their exposure to training and mentorship (McGee & Michael, 2020).

The nature of one's organization significantly affects access to resources, operational mandates and exposure to border control policies. Respondents from the Border Security and Police Services - who made up the majority - are likely to have more direct engagement with enforcement activities, which enhances the reliability of their perspectives on operational efficiency and policy implementation (Winstead, 2021). Their organizational background shapes their interaction with both independent variables (such as operational systems, reporting structures) and dependent outcomes (like border security integrity and cross-agency collaboration). Personnel from the Border Control Department may focus more on administrative or regulatory aspects, indicating a diversity of roles that enriches the study findings but also introduces variability in how institutional performance is assessed (Hataley & Leuprecht, 2019).

Length of service is often linked to institutional knowledge, job commitment and perceived organizational support. Respondents with longer service durations (especially those with over 10 years) often develop deep insights into operational bottlenecks, staff dynamics and strategic evolution (Maobe, 2020). Their familiarity with institutional systems can influence independent variables like policy awareness and compliance behaviour, while also affecting dependent variables such as staff performance and policy effectiveness. Conversely, those with shorter tenures may bring fresh perspectives but may lack the historical context needed for comprehensive evaluations. The balanced distribution in this study (with sizable groups of both new and experienced staff) suggests a diverse range of insights that collectively shape the accuracy and depth of the study's findings (Cheruiyot & Rotich, 2018).

5.2.1 Alteration of Physical Security Measures and Protocols

The COVID-19 pandemic led to significant alterations in physical security measures and protocols at border points, reshaping access control and surveillance

mechanisms. Montagna (2024) highlights how Italy's use of quarantine ships exemplified a shift toward securitized containment strategies, where physical barriers extended beyond traditional border infrastructure. Similarly, Trabalón (2024) notes that South American border regimes intensified physical security measures, often reinforcing racialized control policies under the pretext of pandemic management. At Malaba, comparable measures included expanded checkpoint infrastructure, increased use of temporary holding areas and stricter screening procedures. However, unlike in Italy and South America, where these measures were often tied to broader migration deterrence strategies, Malaba's changes were primarily health-driven, aimed at mitigating cross-border transmission risks.

Beyond physical barriers, technological integration played a crucial role in reshaping border security protocols. Aziz et al. (2024) emphasize the growing reliance on machine learning and predictive analytics to manage unauthorized immigration flows, illustrating a shift toward data-driven security operations. In contrast, Collins-Dogrul (2024) argues that many border health security measures lacked the necessary technological adaptability, leading to inefficiencies in screening and enforcement. At Malaba, while physical security measures were strengthened through additional checkpoints and mandatory health screenings, the reliance on manual processes rather than automated tracking systems resulted in operational bottlenecks. Compared to regions that leveraged biometric and AI-based monitoring, Malaba's physical security adjustments remained largely traditional, focusing on human oversight rather than predictive surveillance tools.

The alterations in physical security measures at the Malaba border reflect Securitization Theory, which argues that migration and health crises can be framed as security threats, justifying extraordinary measures. Montagna (2024) and Trabalón

(2024) illustrate how border controls became more restrictive under the guise of pandemic response, reinforcing the idea that health concerns were securitized to legitimize strict immigration measures. This aligns with Malaba's response, where border authorities implemented stringent screening, quarantine mandates and restricted movement. However, the Theory of Participation suggests that inclusive decision-making improves policy effectiveness, yet Sami and Chun (2024) highlight that ground-level personnel were often excluded from critical planning. At Malaba, frontline officers faced enforcement challenges due to top-down policies, contradicting participation theory's emphasis on stakeholder engagement. Therefore, while the findings support Securitization Theory, they partly contradict the Theory of Participation due to the lack of involvement of key actors in decision-making.

The study identifies key changes made to physical security measures at the Malaba border, including the introduction of screening facilities, the enforcement of social distancing and the mandatory use of personal protective equipment (PPE). However, systemic challenges such as inconsistent screening infrastructure, bureaucratic inefficiencies and funding gaps weakened the overall effectiveness of these measures. Studies by Montagna (2024) indicate that such limitations were prevalent in several African border points, including Namanga and Busia, where similar inconsistencies in enforcement were observed. Securitization Theory is evident in the framing of COVID-19 as a security threat, leading to rapid but short-term adaptations that lacked sustainability. Meanwhile, The Theory of Participation suggests that the involvement of frontline officers in decision-making could have enhanced operational effectiveness, yet their role in shaping security protocols remained minimal (Collins-Dogrul, 2024). While some temporary measures have been lifted, further research is

needed to determine whether any long-term structural changes have been institutionalized.

The pandemic caused fundamental revisions to physical security procedures across the Malaba border where researchers studied the effects. The modifications became essential for preserving border personnel safety together with travellers' security and operational border efficiency (Adamson & Tsourapas, 2020). Border personnel and visitors went through new screening protocols where temperature evaluation joined forces with required health statements for virus exposure identification. Personal protective equipment (PPE) became mandatory for every staff member due to the institution wide commitment to reduce direct infection transmission (Walker, 2018). These findings are consistent with Graziano (2021), who noted that similar health-focused adjustments were adopted globally to minimize cross-border disease transmission during the pandemic. Access points at the airport which introduced dedicated lanes and contactless entry systems performed a major function in reducing contact between people while improving operational efficiency.

The data shows that border staff together with travellers complied well with implemented changes. Additionally, the findings align with Haider et al. (2020), who observed that border control measures in Sub-Saharan Africa were characterized by basic adjustments, such as PPE provision and manual screening. However, unlike Haider et al.'s findings on effective implementation in some regions, this study highlights significant logistical challenges at Malaba, including inconsistent PPE supplies and inadequate screening facilities. The problems highlighted the restriction of border operations to manual processes that produced delays and obstruction when stations reached their peak capacity. These findings align with Morticelli (2020), who emphasized the importance of creating designated areas for health screenings at border

points. Countries worldwide adopted similar measures, including health screenings, PPE usage and the use of technology to enhance efficiency (Bardenheier, et al., 2020). However, at the Malaba border, the lack of advanced technology such as biometric systems and automated screening devices limited the effectiveness of the measures. The findings emphasize the need for investment in modern border management infrastructure to improve responsiveness and efficiency during future health emergencies. By addressing these gaps, border operations can be better prepared to handle similar crises while maintaining optimal security and health standards.

Compliance with the implemented changes was generally high among both border personnel and travellers, indicating widespread acknowledgment of the need for such measures. However, operational inefficiencies, particularly during peak traffic periods, revealed the limitations of manual processes and the strain on existing infrastructure. These findings align with global trends during the pandemic, where countries like Singapore and Germany demonstrated the benefits of leveraging advanced technology to complement health protocols. For example, contactless thermal scanners and integrated health monitoring systems enabled these nations to process large volumes of travellers efficiently while maintaining strict health standards (Bardenheier, et al., 2020).

The discovered data demonstrates why border management systems need new resources and technology to achieve maximum operational strength. The implementation of advanced technology such as biometric screening devices together with electronic reporting systems at borders like Malaba will make their future health emergency response much more effective (Winstead, 2021). The implementation of improved PPE supply chain distribution methods would guarantee consistent availability of protective equipment which would protect frontline workers from harm.

The integration of technology into border operations both simplifies operational processes while building stronger capabilities to prevent and respond to future health crises.

The COVID-19 pandemic created new operational requirements at Malaba border while it revealed functional shortcomings in outdated systems which lacked readiness for health crisis management. The effectiveness of temperature checks and health declarations stood or fell based on how well border personnel executed these procedures in a uniform manner and maintained their accuracy. These findings agree with Kandel et al. (2012), who emphasized the importance of training and procedural uniformity in managing health emergencies. However, unlike the smooth enforcement reported in Kandel et al.'s study, the Malaba border faced challenges due to inadequate training and equipment distribution, highlighting disparities in operational readiness. Operating with manual processes instead of closing technological gaps depleted vital resources at border checkpoints which negatively affected containment efficiency.

The implementation of contactless systems experienced limited effectiveness at Malaba because of infrastructure shortages. The screening processes at Malaba maintained their manual status without integration of automated biometric equipment that other developed border points used as an expedited traveller processing component. These findings diverge from Bardenheier et al. (2020), who documented the efficiency of automated systems in minimizing delays and ensuring compliance. The lengthy delays faced by travellers created two major problems: customer dissatisfaction and accident-prone congestion that negated the protective purpose of health measures at entry points.

The research revealed inconsistencies in following protocols between both traveling public and border officials. Border personnel showed generally proper PPE usage habits but inadequate supply access affected their ability to maintain required standards. These findings align with Blum and Paradise (2018), who noted that resource shortages often hinder compliance with health measures. The observed resistance proves that public awareness programs must increase to teach travellers about preventative procedures that protect both their health and stop disease transmissions.

The inability for health authorities to work together with border security agencies created major difficulties for proper implementation to proceed. Health and security protocols followed independent routes for development and execution which produced overlapping policies and operational inefficiencies. These findings are consistent with McKay et al. (2018), who stressed the need for integrated policies to ensure coordinated efforts. However, the Malaba border's experience highlights a more severe fragmentation than documented in McKay et al.'s study, emphasizing the critical need for inter-agency collaboration.

Forward-thinking substance requires us to establish new systems of border management that will confront these problems. Prospective investments in electronic health passports alongside automated border control technology would substantially boost pandemic cross-border movement control and monitoring capabilities. These findings align with Kandel et al. (2012), who advocated for the adoption of digital tools to enhance border security during health crises. However, Malaba's current lack of such systems reveals a gap that must be addressed through targeted investments in technology and training programs.

Malaba border experiences teach us how vital regional collaboration becomes for the management of border-to-border health crises. Neighbouring countries need to harmonize their protocols to create a seamless system of checks and balances that supports both security and public health objectives. These findings are consistent with Awumbila (2019), who highlighted the importance of regional cooperation in addressing cross-border challenges. However, unlike the progress documented in Awumbila's study in regions with established frameworks, the East African context faces additional hurdles due to porous borders and inconsistent policies, emphasizing the need for greater regional alignment.

The alterations in physical security measures at Malaba border reveal a critical tension between emergency-driven adaptations and systemic preparedness gaps. While the introduction of health screenings, PPE mandates and expanded checkpoint infrastructure aligned with global securitization trends (Montagna, 2024; Trabalón, 2024), the reliance on manual processes and fragmented implementation underscores deeper institutional weaknesses. Unlike regions that integrated predictive analytics (Aziz et al., 2024) or automated biometric systems (Bardenheier et al., 2020), Malaba's measures remained reactive and labour-intensive, exacerbating bottlenecks during peak traffic. This disparity highlights a technological divide in border management, where low-resource settings like Malaba prioritized immediate containment over sustainable infrastructure upgrades. Furthermore, the exclusion of frontline officers in policy design (Sami & Chun, 2024) compounded operational inefficiencies, as top-down mandates failed to account for ground-level realities such as PPE shortages and inconsistent training. The result was a paradoxical outcome: high compliance with protocols but low systemic resilience, as manual screenings and ad hoc quarantine arrangements proved unsustainable. These findings challenge the assumption that

securitization alone ensures effective crisis response; rather, they emphasize the need for participatory governance and technology integration to bridge the gap between policy intent and operational execution.

5.2.2 Effects of Security Operations Changes

The current study found that COVID-19 pandemic prompted significant changes in security operations at border points, with varying impacts on migration control and enforcement efficiency. Montagna (2024) argues that security measures in Italy shifted toward stricter surveillance, transforming quarantine ships into tools of migration deterrence rather than public health protection. Similarly, Trabalón (2024) highlights how tightened security measures in South America disproportionately impacted transit migrants, reinforcing exclusionary border regimes. These findings parallel changes at the Malaba border, where heightened security checks led to longer clearance times and increased scrutiny of travellers. However, unlike in regions where security operations explicitly aimed to reduce migration, Malaba's adjustments were primarily reactive, driven by public health concerns rather than a broader political agenda.

Furthermore, border security adaptations influenced cross-border cooperation and emergency response efficiency. Kraiwatanapong and Akarapattananukul (2024) emphasize the role of networked governance in transnational security operations, highlighting the necessity of cross-border collaboration in pandemic management. In contrast, Collins-Dogrul (2024) notes that many border security operations lacked adaptability, leading to fragmented enforcement approaches. At Malaba, the reliance on traditional security protocols without integrating data-sharing mechanisms or predictive monitoring (Aziz et al., 2024) hindered real-time decision-making. While some borders leveraged digital tracking and biometric systems, Malaba's security

operations remained largely dependent on manual verification, reducing operational efficiency and increasing enforcement delays.

The increased workload and operational strain at Malaba align with Securitization Theory, which posits that emergency measures reshape governance by prioritizing security over efficiency. Krannich and Massey (2024) found similar trends in the U.S., where intensified border checks led to processing delays and staff burnout, reflecting what occurred at Malaba. However, Aziz et al. (2024) argue that technological solutions helped improve efficiency in some regions, whereas Malaba relied more on manual enforcement, limiting its effectiveness. The Theory of Participation suggests that involving border personnel in operational decision-making could have mitigated these inefficiencies, but findings from Collins-Dogrul (2024) indicate that officers were largely excluded from policy formulation. This partially contradicts the participation theory's premise that inclusive governance enhances operational efficiency while reinforcing Securitization Theory, as emergency measures at Malaba prioritized control over efficiency.

Security operations at the Malaba border were positively and negatively impacted by pandemic-related operational adaptations. Health screening protocols enhanced with temperature checks and health declarations and cleaning procedures increased public health safety through reduced transmission risks. Personal protective equipment issuance to border security personnel with masks and gloves provided additional protection from health dangers (Chaisse & Dimitropoulos, 2021). Contactless border access systems together with limited entry points served to reduce illegal border crossings thereby focusing on public health safety (Blum & Paradise, 2018). Hygiene protocols received emergency attention through a series of adjustments because more than 90% of respondents witnessed routine sanitary practices

implementation. These findings align with those of Blum & Paradise (2018), who similarly noted the effectiveness of contactless systems in enhancing public health safety at border points. However, unlike their findings of smoother implementation in regions with advanced infrastructure, the Malaba border faced significant logistical challenges in scaling these measures effectively.

Many favourable adjustments from these changes were offset by several difficulties which emerged during this time. Organizational limitation became evident through increasing staff shortages combined with heavier workloads which diminished operational capacities to handle higher operational demands. The pressures on staff CNBC implied through the research involved required more workers according to 89.5% of surveyed respondents (Maobe, 2020). These findings are consistent with global trends noted by Shidane (2020), who observed that pandemic-induced shifts exposed pre-existing resource deficits in many regions. However, the scale of staffing challenges at the Malaba border appears more pronounced compared to regions with more robust recruitment mechanisms, underscoring the need for targeted workforce planning.

The system's processing delays became substantial because security protocols adopted manual systems without modern technology such as biometric identification systems. The combination of outmoded facilities and processing delays worsened while producing congestion during times of peak traffic. These findings agree with Shidane (2020), who highlighted the vulnerabilities of manual systems during high-demand periods. However, unlike cases documented in regions where biometric systems mitigated such delays, the Malaba border's reliance on outdated technology exacerbated inefficiencies, highlighting the critical need for modernization. Addressing

these shortcomings through investments in modernized systems, recruitment and staff training was critical for enhancing efficiency and preparedness for future health crises.

The pandemic-induced operational changes also highlighted the vulnerability of manual systems in handling the increased demands at the Malaba border. Without modern technology such as automated screening devices or biometric systems, the reliance on manual processes created significant bottlenecks, particularly during peak periods. These delays not only inconvenienced travellers but also compromised the ability of border personnel to efficiently manage the flow of individuals while enforcing the necessary health and security measures. These findings align with Bardenheier et al. (2020), who documented similar challenges in resource-constrained settings. However, the absence of technological upgrades at Malaba contrasts with regions that effectively deployed automated systems to streamline operations, emphasizing the need for technological investment.

Staff shortages were another critical issue that compounded the challenges faced during the pandemic. Although additional personnel were deployed to manage the increased workload, the responsibilities related to medical screenings, sanitization and supervision quickly overwhelmed existing staff. Approximately 89.5% of respondents highlighted the need for more workers, emphasizing the strain on resources. These findings agree with Maobe (2020), who similarly reported workforce deficits as a common challenge during health crises. However, unlike settings with proactive workforce planning strategies, the Malaba border's response revealed a lack of preparedness in resource allocation, further exacerbating operational inefficiencies.

Inter-agency coordination was another area where limitations became evident. The pandemic demanded a high level of collaboration between health, security and

immigration agencies, yet the lack of integrated protocols often led to miscommunication and inefficiencies. For example, delays in sharing traveller health data between agencies meant that screening and entry processes were slower and less effective than they could have been with a more cohesive approach. These findings align with McKay et al. (2018), who emphasized the importance of inter-agency collaboration for effective border management. However, unlike the well-coordinated systems documented in McKay's study, the fragmented approach at Malaba highlights a pressing need for standardized protocols and shared data systems.

The operational changes also brought to light the challenges of balancing public health priorities with border security objectives. While measures such as limiting access points and implementing contactless systems enhanced safety, they also led to frustration among travellers, particularly those who experienced delays or difficulty navigating the new protocols. These findings align with Bardenheier et al. (2020), who observed similar traveller dissatisfaction in regions with stringent health measures. However, unlike regions where public awareness campaigns mitigated traveller frustrations, the lack of such initiatives at Malaba exacerbated misunderstandings and resistance, highlighting the need for improved communication strategies.

Despite these challenges, the operational changes had several positive long-term implications. For example, the focus on hygiene protocols and health screenings introduced practices that can be maintained beyond the pandemic to ensure safer and more secure border operations. Routine sanitization and the use of PPE for border personnel have set a new standard for health and safety at border points, which could prove invaluable during future health crises. These findings align with Kandel et al. (2012), who advocated for the institutionalization of health-focused practices at border points. However, the study's emphasis on the gaps in implementation highlights the

need for continued investment and policy development to sustain these gains in the long term.

The COVID-19 pandemic's operational changes at Malaba border revealed fundamental tensions between emergency security measures and systemic preparedness, where heightened health screenings and PPE mandates improved short-term safety but exposed critical vulnerabilities in outdated manual systems (89.5% reported staff shortages - Maobe, 2020), inefficient inter-agency coordination (McKay et al., 2018) and exclusionary policymaking that contradicted Participation Theory's stakeholder engagement principles. While these securitized measures aligned with global trends of prioritizing control (Montagna, 2024), Malaba's reliance on labour-intensive protocols - unlike borders using biometric automation (Bardenheier et al., 2020) - created unsustainable bottlenecks that compromised both health security and migration management, demonstrating that future crisis responses require integrated technological modernization (e.g., digital health passports), workforce capacity building and participatory governance frameworks to transform reactive measures into resilient systems.

5.2.3 Challenges in Enforcing COVID-19 Control Measures

The enforcement of COVID-19 control measures at the Malaba border reflects broader global trends in border governance during the pandemic. Unlike regions where border control policies were explicitly racialized, the Malaba border's difficulties were primarily driven by resource limitations and inadequate technological systems, rather than deliberate exclusionary policies. Montagna (2024) highlights how quarantine measures in Italy were securitized, transforming migration policies into enforcement mechanisms that prioritized containment over humanitarian concerns. Similarly, Trabalón (2024) notes that border control policies in South America disproportionately

affected marginalized groups, exacerbating social inequalities. These findings align with the challenges at Malaba, where enforcement efforts struggled with logistical constraints, leading to delays and strained infrastructure.

Additionally, border health governance played a critical role in shaping enforcement effectiveness. Collins-Dogrul (2024) emphasizes that the adaptability of border health systems during crises determines the overall success of pandemic responses. This aligns with observations at Malaba, where a lack of inter-agency coordination and outdated screening methods hampered enforcement. Sami and Chun (2024) further argue that ground border crossings require robust emergency preparedness frameworks, particularly in developing regions where health infrastructure is often limited. In contrast to some transnational border systems that adopted integrated technological solutions (Aziz et al., 2024). Malaba's reliance on manual screening processes created bottlenecks, underscoring the need for digital record-keeping and enhanced health security measures.

The enforcement of COVID-19 measures at Malaba mirrors findings from Kraiwatanapong and Akarapattananukul (2024), who highlight that fragmented governance and inconsistent policies weakened border security responses. Securitization Theory explains this by asserting that crisis-driven policies often prioritize security narratives over functional coordination, leading to confusion and inefficiencies. Similarly, Correa (2024) found that reactive pandemic policies in Cuba contributed to logistical failures, a pattern also observed at Malaba. The Theory of Participation, however, argues that participatory decision-making would have led to smoother enforcement, yet findings from Deivasagayam (2024) suggest that top-down policies dominated border governance. This contradicts participation theory but

supports Securitization Theory, as Malaba's enforcement challenges stemmed from policies framed as security imperatives rather than collaborative solutions.

The enforcement of COVID-19 control measures at the Malaba border faced significant challenges. Inadequate medical facilities emerged as a major issue, limiting the capacity to effectively manage health screenings and provide necessary care. Long queues at border points further highlighted the strain on infrastructure, as the lack of modernized systems caused delays and inefficiencies (Simmons & Goemans, 2021). Additionally, limited training for border staff hindered their ability to enforce health protocols effectively, creating gaps in compliance and enforcement. Coordination among agencies posed another challenge, as miscommunication and overlapping responsibilities complicated efforts to streamline operations (Smith et al., 2021). Traveller compliance also proved difficult, with instances of resistance to health protocols adding to enforcement challenges. These findings align with Simmons & Goemans (2021), who identified similar issues of strained infrastructure and insufficient training in pandemic responses globally. However, the challenges at Malaba were exacerbated by the reliance on outdated systems, differing from regions with more advanced technology and better-trained staff.

These findings align with broader trends observed across African nations, where resource constraints, porous borders and inadequate infrastructure have complicated pandemic response efforts. Similar issues, including insufficient medical supplies, staff shortages and limited inter-agency coordination, have been documented in other regions, emphasizing the widespread nature of these obstacles. For instance, Shidane (2020) reported comparable challenges at other high-traffic border points in East Africa. However, the findings at Malaba reveal a more pronounced impact of resource

scarcity and highlight the urgency of targeted investments in infrastructure and workforce capacity to bridge these gaps.

Strong execution of COVID-19 measures proved difficult to carry out at the Malaba border check point. The inadequate availability of medical facilities restricted both healthcare screenings done at border points and proper medical care which health officials could deliver. Extended queues at border checkpoints exposed infrastructure limitations because outdated systems failed to achieve efficiency (Simmons & Goemans, 2021). These findings align with Simmons & Goemans' conclusions on the global impact of outdated infrastructure during the pandemic but differ in the extent of the delays and inefficiencies, which were more acute at Malaba due to the manual nature of operations. Limited training for border staff further reduced their capacity to enforce protocols effectively, echoing Smith et al. (2021), who similarly emphasized the importance of training to improve compliance. However, the challenges faced at Malaba were compounded by overlapping responsibilities and insufficient agency coordination, diverging from regions with more cohesive enforcement mechanisms.

Health screening and reporting lacked a centralized system which worsened enforcement complications. The recording of traveller information and screening results through manual processes took too long and frequently produced mistakes in the system (Du et al., 2020). The result was inconsistent data management that delayed critical health risk identification. These findings agree with Du et al. (2020), who emphasized the importance of centralized systems in improving data accuracy and decision-making during pandemics. However, unlike regions where digital platforms facilitated real-time reporting, Malaba's reliance on manual processes amplified inefficiencies and created bottlenecks in enforcement.

Although the lack of sufficient personnel made it challenging to enforce control measures properly across sites of border entry. Restricted enforcement performance resulted from overwhelmed staff as a direct outcome of excessive traveller numbers and inadequate health screening personnel and crowd control personnel. Staff members suffered from burnout alongside fatigue because they spent many hours enduring high risks without proper support (Osetek, 2018). These findings align with Osetek's observations on workforce fatigue during health crises but highlight a more severe impact at Malaba due to the high volume of travellers and insufficient support structures. Unlike regions with proactive workforce planning, the lack of preparedness at Malaba exacerbated the strain on personnel, underscoring the need for strategic resource allocation.

Inter-agency coordination, or the lack thereof, presented another critical barrier to enforcement. Conflicting mandates and unclear communication channels between immigration officers, health officials and law enforcement agencies often resulted in duplicative or contradictory efforts. This disorganization slowed down processes and created confusion among travellers, further complicating enforcement. These findings are consistent with McKay et al. (2018), who stressed the importance of inter-agency collaboration for effective pandemic responses. However, unlike McKay's study, which highlighted successful collaboration in regions with integrated systems, the Malaba border's fragmented approach underscores the critical need for standardized protocols and shared operational frameworks.

Additionally, traveller resistance to health protocols posed significant difficulties. Many individuals were reluctant to adhere to measures such as wearing masks, undergoing screenings, or providing accurate health information. Cultural and social attitudes toward health protocols, coupled with misinformation and distrust in

authorities, fuelled non-compliance. These findings align with Mutinda (2019), who observed similar resistance to health measures in other African regions. However, the lack of public awareness campaigns at Malaba, unlike proactive initiatives documented in regions like South Africa (Langa, 2020), worsened traveller resistance and highlighted the need for improved communication strategies to foster compliance.

The enforcement of COVID-19 measures at Malaba border encountered systemic challenges rooted in resource gaps, governance fragmentation and operational inflexibility, mirroring global securitization trends (Montagna, 2024; Trabalón, 2024) while revealing context-specific vulnerabilities. Unlike exclusionary policies documented in Italy or South America, Malaba's struggles stemmed from manual systems causing severe bottlenecks (89.5% staff shortages - Maobe, 2020), inadequate inter-agency coordination (McKay et al., 2018) and traveller resistance fuelled by distrust and inconsistent messaging - issues exacerbated by the absence of participatory policymaking that left frontline officers disempowered (Deivasagayam, 2024). While Securitization Theory explains the prioritization of control measures (e.g., mandatory quarantines), their enforcement faltered due to technological obsolescence (lack of biometric systems - Aziz et al., 2024) and unaddressed workforce strain (Osetek, 2018), highlighting a critical disconnect between crisis rhetoric and operational reality.

5.2.4 Efficacy of Policy Frameworks

The COVID-19 pandemic has significantly reshaped migration and border security policies at Malaba, leading to intensified securitization measures at the border crossing. Montagna (2024) highlights how quarantine ships in Italy were used as tools of migration control, reinforcing state-led securitization efforts. Similarly, Trabalón (2024) discusses the racialized nature of border policies in South America, illustrating how transit migration became more controlled during the pandemic. These findings

suggest that migration governance during health crises tends to prioritize security over humanitarian concerns, affecting mobility patterns and migrant well-being.

The interplay between health security and migration control has further been explored through border governance strategies. Sami and Chun (2024) identify key components necessary for strengthening emergency preparedness at ground border crossings, emphasizing the importance of coordinated international responses. Collins-Dogrul (2024) further discusses how border health policies adapted during the crisis, highlighting the organizational dynamics that influenced decision-making. These studies indicate that while health-related restrictions were implemented as emergency measures, they also reinforced long-term structural changes in border management, influencing migration policies beyond the pandemic.

The research confirmed that Malaba border's COVID-19 management foundations remained based on existing policy frameworks but their effectiveness was weakened by difficulties in inspection enforcement and deficient collaboration among agencies. The survey results showed strikingly that 87.1% of respondents faced difficulties in executing regulations and policies because pandemic requirements were evolving urgently (Blum & Paradise, 2018). These findings align with Blum & Paradise's observations that outdated frameworks often struggle to adapt to rapidly changing health crises. However, the challenges at Malaba highlight a more severe impact due to the lack of regional cooperation, which differs from settings where collaborative frameworks mitigated enforcement issues.

The pandemic exposed limitations in policy frameworks, reinforcing Securitization Theory, which suggests that crises drive policy shifts that reinforce state authority. Infantino (2024) shows how European migration policies increasingly relied

on securitized narratives, similar to Malaba, where legal frameworks expanded surveillance and control measures. However, the Theory of Participation emphasizes that inclusive governance improves policy effectiveness. Findings from Lantang et al. (2024) indicate that policies in Indonesia-Timor failed due to minimal community engagement, paralleling challenges at Malaba. While legal measures at Malaba were effective in reinforcing control, they lacked inclusivity, meaning the findings align with Securitization Theory but contradict the Theory of Participation, as key stakeholders were not sufficiently involved in shaping responses.

Research findings indicate entry/exit policy stood out as most important for border control during COVID-19 with 66.9% of respondents believing it played a critical role. The research found migration policy held significance only for 22.6% of respondents and visa policy for 9.7% while entrance and exit policy received 66.9% interest (Adamson & Tsourapas 2020). These findings partially agree with Adamson & Tsourapas' conclusions, as both studies emphasize the criticality of entry/exit policies. However, the weak integration of health protocols into these policies at Malaba diverges from regions where comprehensive policy integration was achieved, highlighting the need for better alignment between health and border security measures.

A survey with international border control organizations found that 97.6% operated reporting and information systems to handle COVID-19-specific measures implementation as reported by Chaisse & Dimitropoulos (2021). Protocols linked directly to health regulation enforcement required tracking individual movements and monitoring regulatory compliance according to Smith et al. (2021). The effectiveness of these systems suffered from inadequate inter-agency coordination capabilities that produced obstacles in data communication and choice-making operations.

These findings underscore the need for policy reforms to address the gaps exposed during the pandemic (Obayelu, et al., 2020). Modernized legal frameworks, improved inter-agency coordination and harmonized regional policies are essential for enhancing border management during future health crises. These findings align with Obayelu et al.'s argument for harmonized policies but highlight the specific need for regional alignment in East Africa, where inconsistent protocols across neighbouring countries created additional challenges. The study's emphasis on stakeholder consultations also echoes Obayelu et al.'s recommendation for participatory policy development to ensure adaptability and inclusiveness.

Research results demonstrated that existing policy structures provided fundamental direction on COVID-19 border management but lacked quick adaptation based on pandemic developments. The existing frameworks maintained their conventional policies yet proved unable to properly adapt since the pandemic evolved beyond initial predictions. These findings agree with Du et al. (2020), who observed that traditional migration and visa regulations often fail to address emergent health crises. However, the Malaba case highlights a unique reliance on entry/exit systems, which, while effective to some extent, lacked the health-focused adaptations seen in regions with more dynamic legal frameworks.

The combination of national and regional regulatory requirements presented substantial difficulties in implementation during the pandemic response. Survey data showed that 66.9% of participants highlighted the importance of entry/exit policy enforcement yet problems persist because countries lack harmonized border regulations (Winstead, 2021). These findings are consistent with Winstead's conclusions on the challenges of fragmented regulatory frameworks. However, the specific operational

disruptions caused by conflicting quarantine protocols at Malaba reveal a deeper need for streamlined regional cooperation to prevent cross-border loopholes.

A strong link between health and security policy required deep integration within legal structures according to one notable problem. Border security policies deficient in health risk regulations from pandemics generated inconsistent application at borders. These findings align with Osetek (2018), who highlighted the consequences of uncoordinated policy frameworks during health crises. However, the challenges at Malaba diverge from Osetek's observations of more cohesive enforcement in regions with pre-existing health-security integration, further emphasizing the need for tailored policy reforms.

Operational system failures of technology eroded the strength of current policy standards. Soil and Forest Services in Malaba struggled to implement sophisticated reporting solutions and monitoring technology used by modern international border regulation bodies. Limited digital platform implementation of traveller data monitoring and health protocol compliance checks resulted in inadequate manual procedures and higher potential for errors. These findings agree with Chaisse & Dimitropoulos (2021), who emphasized the transformative impact of digital tools in border management. However, unlike regions with advanced technological infrastructure, Malaba's reliance on manual systems underscores a critical implementation gap.

The current frameworks needed for acquiring pandemic-specific capabilities faced both financial obstacles and logistical hurdles. Insufficient resources, along with untrained personnel and poor policy adaptations together with inadequate infrastructure growth created operational problems in border management systems (Du et al., 2020). These findings align with Du et al.'s observations of financial and logistical barriers

during health crises. However, the acute impact on Malaba's border operations highlights the urgency of tailored investments to strengthen capacity and resilience in resource-constrained settings.

The study reveals urgent requirements for modern legal systems that safeguard regional security and national defence. Next generation frameworks must integrate public health protection capabilities alongside present-day border security to form an integrated pandemic response platform (Kandel et al., 2012). These findings align with Kandel et al.'s recommendations for integrated frameworks but emphasize the specific need for enhanced inter-agency collaboration and technological investment at Malaba. Through addressing these gaps, border management systems can become more resilient and better prepared to tackle future global health crises while maintaining security and efficiency.

The COVID-19 pandemic exposed critical gaps in Malaba's border policy frameworks, where securitized emergency measures (Montagna, 2024; Trabalón, 2024) clashed with structural inflexibility, leaving 87.1% of officers struggling to enforce evolving protocols (Blum & Paradise, 2018). While entry/exit policies were prioritized (66.9% of respondents), their lack of health-security integration - unlike more adaptive systems in Europe (Infantino, 2024) - revealed a reactive, rather than resilient, approach. Securitization Theory explains the dominance of control-focused measures, but their efficacy was undermined by three systemic failures: fragmented regional coordination, where conflicting quarantine rules created enforcement loopholes (Winstead, 2021); exclusionary policymaking that side-lined frontline input, contradicting Participation Theory (Lantang et al., 2024); and (3) technological obsolescence, as manual systems (97.6% had reporting tools but relied on paper-based tracking - Chaisse & Dimitropoulos, 2021) delayed real-time responses.

5.3 Summary of Main Findings

The COVID-19 pandemic required substantial changes to physical security practices and health safety procedures at the Malaba border site. A majority of respondents (over 90%) accepted the new security framework that incorporated thermal screening alongside touch-free solutions along with enhanced cleaning practices. Health safeguards for the public together with infection reduction measures became operational. The data supported better infrastructure together with modern technology systems to handle expanding border health screening requirements and safety needs.

Border security operations implemented during the pandemic created various impacts on their function. Contactless systems combined with improved screening protocols decreased both infection risks and unauthorized entry points yet generated processing delays and resource exhaustion. Processing delays intensified due to labour shortages affecting 89.5% of employers as well as the absence of updated technical systems. These results show that border protection requires strategic resource allocation and technological enhancements to perform effectively during emergency situations.

The implementation of COVID-19 protocols experienced multiple roadblocks because of insufficient medical resources and personnel queues and minimal labour education. Slow internal coordination between agencies together with traveller noncompliance made existing challenges worse for measures implementation. African nations that struggle with infrastructure deficits combined with weak border control compound difficulties when enforcing current health protocols. These problems need investment in new infrastructure alongside training and better collaborative relationships between enforcement agencies.

The researchers concluded that enforcement weaknesses together with limited regional alliances reduced the effectiveness of these structures. Organizations struggled to achieve their objectives because their health and border security strategies failed to unify their approaches and their policies did not match current conditions. Respondents verified that reporting systems existed at a rate of 97.6 percent yet coordination problems made these systems less effective. The data shows that current policies urgently need modernization together with harmonization features and adaptability measures to improve pandemic containment approaches and develop preparedness for future pandemics.

5.3 Conclusions and Implications for Practice

On the first objective, the study concludes that the immigration department at the Malaba border demonstrated adaptability by altering physical security measures in response to the COVID-19 pandemic. These measures included the introduction of enhanced health screening protocols, the use of PPE by staff and modifications to access controls to reduce direct contact. From the perspective of securitization theory, COVID-19 was framed as a border security threat, leading to the rapid implementation of stringent measures that prioritized immediate containment over long-term infrastructural development. However, participation theory highlights that these security decisions were made with minimal stakeholder engagement, particularly excluding input from cross-border traders and local communities, which contributed to resistance and inefficiencies. While these measures were effective in mitigating immediate health risks, they were hampered by infrastructural and technological limitations, such as insufficient contactless systems and outdated equipment. This highlights the need for sustained investment in modern border security infrastructure to

enhance pandemic responsiveness, ensuring that future securitized responses are balanced with participatory decision-making.

Based on the second objective, operational changes to address the pandemic had a twofold impact. On one hand, they succeeded in reducing infection risks and ensuring public health safety by emphasizing health screenings, sanitization and controlled border access. This aligns with securitization theory, where emergency measures were legitimized as necessary to protect national health security. However, the rigid enforcement of these measures without adequate pre-planning led to resource strain, exposing the fragile operational capacity of the border security system. Participation theory suggests that the lack of consultation with frontline personnel and resource managers resulted in inefficient allocation, exacerbating staffing shortages, extended processing times and financial constraints. These findings underscore the need for a more participatory approach in resource planning to enhance resilience in border operations, ensuring that future emergency responses incorporate insights from those directly involved in implementation.

On the third objective, the enforcement of COVID-19 control measures revealed several systemic challenges, including inadequate medical facilities, insufficient training for staff and resistance from travellers unwilling to comply with health protocols. The securitization of the pandemic led to the use of enforcement-oriented approaches, such as fines, detentions and strict movement restrictions, which were not always proportionate to public health needs. This approach, while necessary in the short term, faced resistance due to the exclusion of key stakeholders in policy formulation. Participation theory emphasizes that successful governance during crises requires the active involvement of affected communities, yet the top-down enforcement model used in Malaba created compliance challenges similar to those observed in other

East African border points. This highlights the need for enhanced training, inter-agency coordination and participatory governance to ensure smoother enforcement of future health-related border policies.

On the final objective, the policy frameworks in place provided a foundation for pandemic response but were found to be only partially effective in achieving the desired outcomes. Securitization theory explains why border health policies were rapidly developed and enforced under emergency conditions, yet these measures lacked long-term sustainability and integration with broader security and health policies. The absence of a regional approach to border management weakened the effectiveness of these frameworks. Participation theory suggests that the failure of the East African Community (EAC) to develop a harmonized pandemic response stemmed from inadequate consultation among member states and other regional stakeholders. While Kenya adopted the Public Health (Prevention, Control and Suppression of COVID-19) Rules, 2020, gaps remained in cross-border enforcement, especially in comparison to Uganda and Tanzania, where emergency health regulations were implemented with varying levels of success. Future legal frameworks should incorporate emergency provisions for pandemics, clearer regional cooperation strategies and adaptive policy mechanisms that balance securitized responses with participatory governance to enhance resilience in border security management.

5.4 Recommendations

On the border security and pandemic preparedness, the Kenya Immigration Department, Ministry of Health and Kenya Ports Authority must prioritize investment in advanced screening technologies within the next 12 months, including biometric scanners and thermal imaging cameras, to reduce direct contact and improve operational efficiency. The State Department for Transport and Infrastructure should

simultaneously upgrade border facilities over 18 months, constructing designated health screening zones and automated lanes at key crossings like Malaba, while the Ministry of Health ensures consistent PPE supplies through real-time inventory tracking implemented immediately.

For operational improvements, the National Treasury should allocate emergency funds in the next fiscal year to recruit 300+ border staff through the Public Service Commission, complemented by quarterly pandemic response training programs developed by the Kenya School of Government and Ministry of Health. The Ministry of Interior must digitize border workflows within 18 months by deploying integrated e-border platforms for real-time data sharing, replacing outdated manual systems that caused critical delays during the pandemic.

To strengthen enforcement, the Kenya National Commission on Human Rights and Directorate of Immigration Services should initiate monthly training workshops by Q2 2024 focusing on health protocol compliance and conflict resolution, while the National Disaster Operations Centre establishes permanent inter-agency task forces within 60 days to coordinate health and security operations. Concurrent public awareness campaigns led by the Government Communication Department, including multilingual signage and community engagement near border communities, are recommended to improve traveller compliance.

Legal reforms require the Attorney General's office to table amendments to the Immigration Act by Q4 2024 incorporating pandemic response clauses, supported by the East African Community Secretariat's efforts to standardize health screening protocols across the region through a 2025 summit. The National Intelligence Service and Kenya Revenue Authority should develop AI-driven risk profiling systems within

12 months, while the Kenya Law Reform Commission implements biannual policy review forums starting Q1 2025 to ensure frameworks remain adaptive to emerging health security threats. These coordinated actions across technology, operations, enforcement and policy will transform border management systems to better withstand future crises.

5.5 Areas for Further Research

While this study has provided significant insights into the impact of border security operational dynamics on the COVID-19 pandemic at the Malaba border, several areas warrant further investigation. Future research could explore the long-term effects of pandemic-induced operational changes on overall border security efficiency and staff well-being. An in-depth analysis of the psychological and occupational health impacts of COVID-19 on border personnel could provide valuable insights into improving staff resilience during health crises. The study revealed several areas that warrant further investigation to strengthen border security operations during health crises. Notably, while thermal screening and sanitization measures were adopted, infrastructure constraints limited their efficiency, indicating the need to explore how physical infrastructure influences pandemic responsiveness at borders.

Labour shortages and increased workloads significantly affected personnel, highlighting the importance of researching the long-term psychological and occupational effects on frontline officers. Despite the existence of policy frameworks, fragmented implementation and weak regional coordination hindered their effectiveness, suggesting the need for comparative research on policy harmonization and inter-agency collaboration across East African borders. Additionally, limited engagement of local organizations in COVID-19 response efforts signals a gap in

community integration, warranting further study on how local actors can enhance enforcement and compliance at border points.

REFERENCES

- Adamson, F. B., & Tsourapas, G. (2020). The migration state in the global south: Nationalizing, developmental and neoliberal models of migration management. *International Migration Review*, 54(3), 853-882.
- Akhtar, M. S., & Adnan, M. (2021). A Framework for IMA-based Architecture Design with Unmanned Aerial System (UAS) as a Test Case. In *Software Engineering (Satellite Events)*, 5(3), 10-15.
- Amara, S. A., Díaz, E. D., Menon, L. K., Singh, P., Rozanova, L., & Flahault, A. (2021). COVID-19 Outbreak Management and Vaccination Strategy in The United States of America. *Epidemiologia*, 2(3), 426-453.
- Arifin, R., Zulfa, E. A., Hanita, M., & Runturambi, A. J. S. (2024). Unveiling Indonesia's migration and border governance: Challenges and imperatives post-pandemic. *Social Sciences & Humanities Open*, 10, 101202.
- Awumbila, M. (2018). Dynamics of intra-regional migration in West Africa: Implications for ECOWAS migration policy. *Migration in a globalizing world: Perspectives from Ghana*, 2(1), 9-30.
- Aziz, R. A., Ahmed, T., & Zhuang, J. (2024). A machine learning-based generalized approach for predicting unauthorized immigration flow considering dynamic border security nexus. *Risk Analysis*, 44(6), 1460-1481.
- Bardenheier, B. H., Zullo, A. R., Jutkowitz, E., & Gravenstein, S. (2020). Characteristics of repeated influenza vaccination among older US adults. *American journal of preventive medicine*, 59(5), e179-e188.
- Basir, K. H., & Rahman, U. F. I. A. (2021). Pandemic leadership: lessons learnt from a small state of Brunei Darussalam. *International Journal of Public Leadership*, 3(1), 13-19.
- Bell, E., Bryman, A., & Harley, B. (2018). *Business research methods*. Oxford, UK: Oxford University Press.
- Blum, J. D., & Paradise, J. (2018). Public health preparedness & response: an exercise in administrative law. *DePaul Journal of Health Care and Law*, 20(1), 1-11.
- Bryman, A., & Bell, E. (2015). *Business research methods (Vol. 4th)*. Glasgow: Bell & Bain Ltd.
- Caparas, M. V. G., & Agrawal, A. (2016). Why citizens participate in local governance: A case of two Philippine LGUs. *International Journal of Public Administration*, 39(12), 952-962.
- Chaisse, J., & Dimitropoulos, G. (2021). Special Economic Zones in International Economic Law: Towards Unilateral Economic Law. *Journal of International Economic Law*, 24(2), 229-257.
- Cheruiyot, S., & Rotich, G. (2018). Factors affecting the implementation of one stop border post strategy. A case study of the Malaba border. *International Academic Journal of Human Resource and Business Administration*, 3(1), 303-324.
- Collins-Dogrul, J. (2024). Decline and Adaptation: Borders as Process and the Organizational Dynamics of Border Health in Crisis. *Journal of Borderlands Studies*, 39(6), 1121-1140.

- Cooper, D. R., & Schindler, P. S. (2018). *Business research methods*. (Vol. 12, pp. 628–632). McGraw-Hill Education.
<https://doi.org/10.1177/13505076080390050804>.
- Correa, A. (2024). Protest, exit and border expansion in Cuba in the context of COVID-19. *Environment and Planning C: Politics and Space*, 23996544241296735.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. New York, USA: Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative and mixed methods approaches*. New York, USA: Sage Publishers.
- De Waal, A. (2021). *New Pandemics, Old Politics: Two Hundred Years of War on Disease and Its Alternatives*. New York, USA: John Wiley & Sons.
- Deivasagayam, A. D. (2024). Political and Social Deglobalisation in Malaysia: Discrimination Against Migrants and Refugees During the Covid-19 Pandemic. In *Social and Political Deglobalisation: Covid-19, Conflict and Uncertainties in Malaysia* (pp. 129-147). Singapore: Springer Nature Singapore.
- Devi, P. S. (2017). *Research methodology: A handbook for beginners*. New Delhi, India: Notion Press.
- Du, L., Raposo, V. L., & Wang, M. (2020). COVID-19 contact tracing apps: A technologic Tower of Babel and the gap for international pandemic control. *JMIR mHealth and uHealth*, 8(11), e23194.
- Duran, D., & Menon, R. (2020). *Mitigating the Impact of COVID-19 and Strengthening Health Systems in the Middle East and North Africa*. New York, NY: World Bank.
- Farayibi, A., & Asongu, S. (2020). The economic consequences of the Covid-19 pandemic in Nigeria. *European Xtramile Centre of African Studies*, 1(1), 3-6.
- Ghazalian, P. L. (2025). Globalization and the Fallout of the COVID-19 Pandemic. *World*, 6(1), 4.
- Givens, A. D., Busch, N. E., & Bersin, A. D. (2018). Going global: the international dimensions of US homeland security policy. *Journal of Strategic Security*, 11(3), 1-34.
- Graziano, F. (2021). Border Enforcement. In *Undocumented Dominican Migration* (pp. 168-216). University of Texas Press.
- Haider, N., Osman, A. Y., Gadzekpo, A., Akipede, G. O., Asogun, D., Ansumana, R., ... & McCoy, D. (2020). Lockdown measures in response to COVID-19 in nine sub-Saharan African countries. *BMJ Global health*, 5(10), 33-39.
- Hamadou, A. (2020). Free Movement of Persons in West Africa Under the Strain of COVID-19. *AJIL Unbound*, 114(2), 337-341.
- Hataley, T., & Leuprecht, C. (2019). Canada–US Security Cooperation: Interests, Institutions, Identity and Ideas. In *Canada–US Relations* (pp. 87-104). Palgrave Macmillan, Cham.
- Hensbergen, M., Heijer, C. D., Wolffs, P., Hackert, V., Ter Waarbeek, H. L., Munnink, B. B. O., ... & Hoebe, C. J. (2021). COVID-19: first long-term care facility

- outbreak in the Netherlands following cross-border introduction from Germany, March 2020. *BMC infectious diseases*, 21(1), 1-11.
- Infantino, F. (2024). How do private companies shape responses to migration in Europe? Informality, organizational decisions and transnational change. *Regulation & Governance*, 18(3), 837-850.
- Kandel, W. A., Seelke, C. R., & Wasem, R. E. (2012). Mexican Migration to the United States: Policy and Trends. *Congressional Research Service*, 9(1), 23-26.
- Kansiime, M. K., Tambo, J. A., Mugambi, I., Bundi, M., Kara, A., & Owuor, C. (2021). COVID-19 implications on household income and food security in Kenya and Uganda: Findings from a rapid assessment. *World development*, 137(2), 105199.
- Kim, J., Lee, H. W., & Chung, G. H. (2024). Organizational resilience: leadership, operational and individual responses to the COVID-19 pandemic. *Journal of Organizational Change Management*, 37(1), 92-115.
- Kombo, D. K., & Tromp, D. L. (2011). *Proposal and Thesis Writing. An Introduction*. Nairobi, Kenya: Pauline's publication Africa.
- Kraiwatanapong, V., & Akarapattananukul, Y. (2024). Networked Governance in Transnational Cooperation and Politics: Responding to COVID-19 Pandemic Along Thai-Laos Cross-Border Communities. *Journal of Population and Social Studies [JPSS]*, 32, 223-242.
- Krannich, S., & Massey, D. S. (2024). The effect of the COVID-19 pandemic on immigration and immigrant wellbeing in the United States. *SSM-Population Health*, 27, 101705.
- Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. New York, USA: Sage Publications.
- Langa, N. (2020). *Investigating South Africa 'foreign policy towards the SADC region: the case study of the Democratic Republic of Congo, 2009-2018* (Doctoral dissertation).
- Lantang, F., Patading, G., Simangunsong, B. A., Naha, R., & Tahuk, P. S. (2024). Between Borders of Indonesia-East Timor: Social, Economic and Security Dynamics during the Covid-19 Pandemic. *Papua Journal of Diplomacy and International Relations*, 4(2), 1-18.
- Lederman, N. G., & Lederman, J. S. (2015). *What is a theoretical framework? A practical answer*. New Delhi, India: Notion Press.
- Li, Y., & Wang, J. (2024). The impact of COVID-19 pandemic on air passenger travel: a focus on empirical findings. *Transport Reviews*, 44(2), 461-483.
- Maobe, D. (2020). *Enforcement of Kenya Immigration Laws: a case of the Directorate of Immigration Services* (Doctoral dissertation, University of Nairobi).
- Martin, H. R. (2018). *The Effects of Geospatial-Intelligence on United States-Mexico Border Security* (Doctoral dissertation, The University of Southern Mississippi).
- Maviza, G., & Nzima, D. (2024). Dynamics of protection in a shrinking economy: A peak into Zimbabwe's refugee regime. *African Human Mobility Review*, 10(2).

- Mbugua, N. W. (2019). *Policy Factors Leading to Illegal Immigrants in Kenya between 2002 And 2016* (Doctoral dissertation, United States International University-Africa).
- McGee, L. J., & Michael, C. T. (2020). Prevent, detect and treat: the military's flexible approach for a whole-of-nation pandemic response. *Frontiers of Health Services Management*, 37(1), 27-32.
- McKay, I., Constant, J. F., & Ducharme, M. (2018). Canada as a long liberal revolution: On writing the history of actually existing Canadian liberalisms, 1840s-1940s. In *Liberalism and Hegemony* (pp. 347-452). University of Toronto Press.
- Montagna, N. (2024). Quarantine ships as spaces of bordering: The securitization of migration policy in Italy during the COVID-19 pandemic. *International Migration Review*, 58(2), 499-521.
- Morticelli, A. (2020, November). The External Dimension and the Management of Irregular Migration in the EU: A Human Rights Approach. In *The External Dimension of EU Migration and Asylum Policies* (pp. 59-96). Nomos Verlagsgesellschaft mbH & Co. KG.
- Mutinda, J. K. (2019). *Assessing Dynamics of Cross Border Ethnic Conflicts in Horn Of Africa: A Case Of Turkana-Dassanech Conflict In Kenya-Ethiopia Border* (Doctoral dissertation, University of Nairobi).
- Newland, K. (2020). *Will International Migration Governance Survive the COVID-19 Pandemic?* New York, USA: MPI Policy Brief.
- Ntaliou, S. (2024). Local immigration policies for un (der) documented residents of Athens during the covid-19 pandemic. *Cities*, 151, 105143.
- Nyman, J. (2013). Securitization theory. In *Critical approaches to security* (pp. 66-77). Routledge.
- Obayelu, A. E., Edewor, S. E., & Ogbe, A. O. (2020). Trade effects, policy responses and opportunities of COVID-19 outbreak in Africa. *Journal of Chinese Economic and Foreign Trade Studies*, 7(3), 59-63.
- Onunga, J. O. (2021). *Towards a Virtual Environment for Sharing Curriculum and Research Collaboration among Universities in Kenya during COVID-19 Pandemic*. Nairobi, Kenya: Machakos University.
- Osetek, J. D. (2018). *The Last Mile: Removing Non-Medical Obstacles in the Pursuit of Global Health Security* (Doctoral dissertation, George Mason University).
- Otieno, F. O. (2019). *Counterterrorism Strategies and Performance of the National Police Service in Managing Terrorism in Lamu County, Kenya Fredrick Okoth* (Doctoral dissertation, MMUST).
- Parker, B. (2003). Planning analysis: The theory of citizen participation. *Oragen University*, 14(2), 1-9.
- Regoniel, P. A. (2015). *Conceptual framework: A step by step guide on how to make one*. New Jersey, USA: Simply Educate Publications.
- Roy, R., Purkayastha, B., & Chacko, E. (2024). "We Cannot Go There, They Cannot Come Here": Dispersed Care, Asian Indian Immigrant Families and the COVID-19 Pandemic. *Social Sciences*, 13(5), 252.

- Saito, M., Uchida, N., Furutani, S., Murahashi, M., Espulgar, W., Nagatani, N., ... & Tamiya, E. (2018). Field-deployable rapid multiple biosensing system for detection of chemical and biological warfare agents. *Microsystems & Nanoengineering*, 4(1), 1-11.
- Sami, D. G., & Chun, S. (2024, October). Strengthening Health Security at Ground Border Crossings: Key Components for Improved Emergency Preparedness and Response - A Scoping Review. In *Healthcare* (Vol. 12, No. 19, p. 1968). MDPI.
- Shidane, J. (2020). *The cross-border security challenges in the Horn of Africa Region. a case study of Kenya, Ethiopia Moyale Border* (Doctoral dissertation, University of Nairobi).
- Simmons, B. A., & Goemans, H. E. (2021). Built on Borders: Tensions with the Institution Liberalism (Thought It) Left Behind. *International Organization*, 75(2), 387-410.
- Smith, M. K. S., Smit, I. P., Swemmer, L. K., Mokhatla, M. M., Freitag, S., Roux, D. J., & Dziba, L. (2021). Sustainability of protected areas: Vulnerabilities and opportunities as revealed by COVID-19 in a national park management agency. *Biological Conservation*, 255(2), 108-115.
- Taureck, R. (2006). Securitization theory and securitization studies. *Journal of International relations and Development*, 9(1), 53-61.
- Trabalón, C. (2024). Racialized control policies in the south American border regime: The intensification of “transit migration” in times of COVID-19. *Environment and Planning C: Politics and Space*, 23996544241246943.
- Vaidya, R., Herten-Crabb, A., Spencer, J., Moon, S., & Lillywhite, L. (2020). Travel restrictions and infectious disease outbreaks. *Journal of travel medicine*, 27(3), 50-53.
- Volpp, L. (2020). Pushing out and bleeding in: On the mobility of borders. In *The shifting border* (pp. 158-176). Manchester University Press.
- Vultee, F. (2010). Securitization: A new approach to the framing of the “war on terror”. *Journalism practice*, 4(1), 33-47.
- Wagalla, S. (2019). *Citizens or Refugees? The Case of the Shona in Kenya (1962-2017)* (Doctoral dissertation, University of Nairobi).
- Walker, M. (2018). The other US Border? Techno-cultural-rationalities and fortification in Southern Mexico. *Environment and Planning A: Economy and Space*, 50(5), 948-968.
- Winstead, S. J. (2021). *Examining the Impact of Interagency Collaboration Among United States Border Security Agencies* (Doctoral dissertation, Northcentral University).
- Wolffs, P., Hackert, V., Munnink, B. B. O., & Hoebe, C. J. (2020). COVID-19: first long-term care facility outbreak in the Netherlands following cross-border introduction from Germany, March 2020.
- World Health Organization. (2020). *Handbook for public health capacity-building at ground crossings and cross-border collaboration*. New York, USA: World Health Organization.

- World Health Organization. (2021). *Infection prevention and control during health care when coronavirus disease (COVID-19) is suspected or confirmed: interim guidance, 12 July 2021* (No. WHO/2019-nCoV/IPC/2021.1). New York, USA: World Health Organization.
- Wu, M., & del Rey Poveda, A. (2025). Rethinking transnational parenting: Chinese immigrant parents' family separation during COVID-19. *Journal of Ethnic and Migration Studies*, 1-20.
- Yamane, T. (1967). *Statistics: An Introductory Analysis* (2nd ed.). Harper & Row.

APPENDICES

Appendix 1 - Introduction Letter to Participants

Dear Respondent,

**REF: BORDER SECURITY OPERATIONAL DYNAMICS AND COVID-19
PANDEMIC AT IMMIGRATION DEPARTMENT, MALABA BORDER,
KENYA**

I am a student at Africa Nazarene University pursuing studies for the award of Master of Science in Governance, Peace and Security. In fulfilling the requirements of the program, I am conducting a study on the “**BORDER SECURITY OPERATIONAL DYNAMICS AND COVID-19 PANDEMIC AT IMMIGRATION DEPARTMENT, MALABA BORDER, KENYA.**” The study will use a questionnaire as a tool for data collection.

Please set out a short period of time to complete the questionnaire. The statements in the quiz are meant to elicit your thoughts, emotions and viewpoints. As such, there are no right or wrong responses to these assertions.

Your responses to this survey was handled in the strictest confidence and used only for academic research.

I appreciate your cooperation.

Sincerely,

JOHN KIPYEGO RONGOEI

Appendix 2 - Questionnaire

This questionnaire is aimed at facilitating the research on the “**BORDER SECURITY OPERATIONAL DYNAMICS AND COVID-19 PANDEMIC AT IMMIGRATION DEPARTMENT, MALABA BORDER, KENYA.**” Please read each item in this questionnaire and fill in or tick in the spaces provided where appropriate. Your response was highly appreciated.

SECTION A: DEMOGRAPHIC INFORMATION

Instructions: Please indicate in a checkbox with a tick (✓) as appropriate.

SECTION A: DEMOGRAPHIC INFORMATION

1. Kindly indicate your gender:

Male ☐

Female ☐

2. Highest education level (level of study) by respondent

Diploma Level ☐

Bachelor's degree Level ☐

Master's degree Level ☐

PhD ☐

3. Age bracket of respondent

18-25 years ☐

26-35 years ☐

36-45 years ☐

46-55 years ☐

More than 55 years ☐

4. What is your organization?

Border security officers/ staff members ☐

National Police Service ☐

Border Control Department ☐

5. How long have you served in your organization?

a) Less than 1 Year ☐

b) 2-5 Years ☐

c) 6-10 Years ☐

d) Above 10 Years ☐

SECTION B: CHANGES IN PHYSICAL SECURITY AND PROTOCOLS

1. Were there any access control adjustments made in response to Covid-19?

Yes []

No []

2. If yes, what number and type of access points were modified?

.....

.....

3. Were contactless access controls implemented?

Yes []

No []

4. Were there any health screening measures introduced?

Yes []

No []

5. To what extent was personal protective equipment (PPE) used among security staff?

Low extent []

Moderate extent []

High extent []

6. How frequently were sanitization activities carried out?

.....

.....

7. What types of sanitization activities were implemented?

Regular hand sanitization []

Sanitizing surfaces []

Deep cleaning of facilities []

Other [] (Specify).....

SECTION C: SECURITY OPERATIONS CHANGES IN RESPONSE TO COVID-19 PANDEMIC

1. Were there staffing changes for the border security officers in response to Covid-19 pandemic?

Yes [] No []

2. Were there activities undertaken by border security officers in response to Covid-19 pandemic?

Yes [] No []

3. If yes, what were these activities? (Select all that apply)

More medical screening staff []

More staff to conduct inspections []

More monitoring and supervision of safety measures staff []

More staff undertaking coordination of response activities []

Other [] (Specify).....

4. If yes, how were these activities specifically been used to address Covid-19 issues?

.....

.....

.....

5. To what extent were the activities identified used?

Low extent []

Moderately used []

Highly used []

6. How effective were these activities in Covid-19 response and border management?

Not Effective []

Somehow Effective []

Effective []

Very Effective []

7. What type of people have you worked with in terms of border management and Covid-19 response? **(Choose all that apply)**

Local organizations []

National government organizations []

International organizations []

None []

8. How have you worked with these organizations? Kindly explain.

.....

9. Have you been trained on Covid-19 responses in border management?

Yes [] No []

10. If yes in above, when were you trained?

Less than 3 years ago []

3 – 5 years ago []

More than 5 years ago []

11. Who trained you?

Government organization []

Non-Government organization []

Both Government and Non-Government organizations []

12. What areas were you trained on?

Training in outbreak of pandemics (Covid-19) []

Training on response and reporting []

Training on involving other government agencies []

Others (Specify)

.....

.....

13. Are there empowerment activities as a result of Covid-19 risks?

Yes [] No []

14. If yes, in what ways have you been empowered?

.....

15. Are you involved in decision making on matters concerning Covid-19 responses on border areas?

Yes [] No []

16. If yes, what are the incidents where you have been involved in Covid-19 responses?

.....

17. What areas do you feel training should focus on that are left out in most of the trainings?

.....

SECTION D: CHALLENGES BY BORDER SECURITY OFFICERS IN ENFORCING COVID-19 CONTROL MEASURES

18. Do you have working equipment in border management?

Yes [] No []

19. If yes in above, what are the working equipment in response to Covid-19?

Technological infrastructure []

Equipment on monitoring cases []

Modern security facilities []

Other (specify)

.....

.....

.....

20. What are the specific technological infrastructure in use?

.....

.....

.....

21. What are the specific monitoring equipment in use?

.....

.....

.....

22. Are there incidences where the equipment has failed to work?

Yes [] No []

23. If yes, what are the incidents where the equipment has failed from working?

.....

.....

.....

24. How regular does the equipment fail to work?

Rarely []

Sometimes []

Regularly []

25. What equipment do you feel needs to be improved in usage for improved Covid-19 response?

.....

.....

.....

26. What other challenges did you experience in enforcing Covid-19 control measures?

.....

SECTION E: EXISTING POLICY FRAMEWORKS IN BORDER SECURITY

27. Which of the following laws and policies have proven important towards border security in response to Covid-19 pandemic? **(Choose all that apply)**

Visa policy ☐ ☐

Entry/exit policy ☐ ☐

Migration policy ☐ ☐

Others (please specify)

28. How are the identified laws used to combat Covid-19 in the country?

.....

29. Are there challenges experienced when undertaking and implementing these laws?

Yes ☐ No ☐

30. If yes in above, please list the most common challenges you mainly experience?

.....

31. How can the challenges faced in the implementation of these laws resolved?

.....

32. Are there reporting and information management system in place on based on the existing laws?

Yes ☐ No ☐

33. If yes, state the types of information system in place?

Crime detection systems []

Offenders database []

Community database []

New residents database []

Other [] (Specify) []

.....

34. Does the government provide resources necessary for Covid-19 laws implementation?

Yes [] No []

35. If yes, how effective has the usage of the resources been?

Very effective []

Effective []

Not effective []

I don't know []

36. If not effective, what can be done to improve the situation?

.....

37. What can you recommend to be done to improve Covid-19 responses in the border areas?

.....

THANK YOU FOR YOUR RESPONSES

Appendix 3 – Key Informant Interviews Guide

- 1) What are the effects of security operations changes in response to Covid-19 pandemic by immigration department at Malaba border, Kenya?

.....
.....
.....

- 2) What challenges were experienced by border security officers in enforcing Covid-19 pandemic control measures at immigration department at Malaba border, Kenya?

.....
.....
.....

- 3) What is the efficacy of legal and border security policy framework on Covid-19 pandemic containment by immigration department at Malaba border, Kenya?

.....
.....
.....

Appendix 4 – ANU Introduction Letter



P.O.Box: 53067 – 00200
Nairobi, Kenya.
Tel: 020 252 7170/1 – 5
Email: vc@anu.ac.ke
www.anu.ac.ke

22nd October 2024

RE: TO WHOM IT MAY CONCERN

Africa Nazarene University is a private Christian University and an institution of the Church of the Nazarene International, who follows the Wesleyan holiness traditions.

John Kipyegon (19S01DMGP021) is a postgraduate student at Africa Nazarene University pursuing a master's degree in Governance, Peace and Security Studies. This program entails coursework and research. He has successfully completed his course work and defended his thesis proposal entitled: -

"Border security operational dynamics and COVID-19 pandemic at immigration department, Malaba Border, Kenya".

To complete his program and graduate, he is required to conduct research. This involves collecting and analyzing data, hence write a report. In that regard, I present Mr. Kipyegon to you for approval to conduct research.

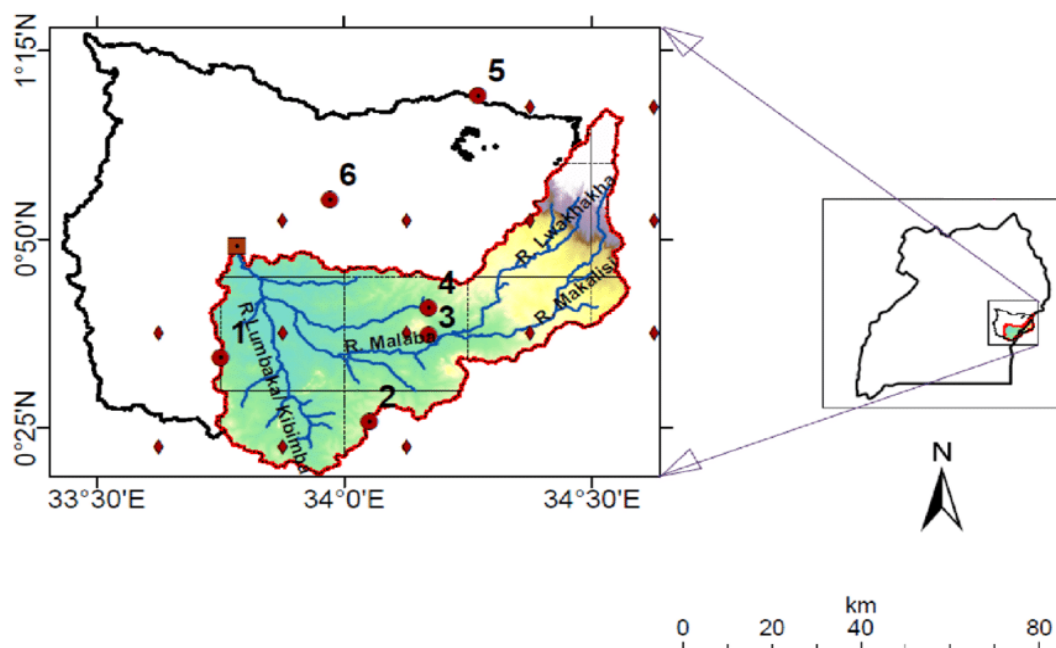
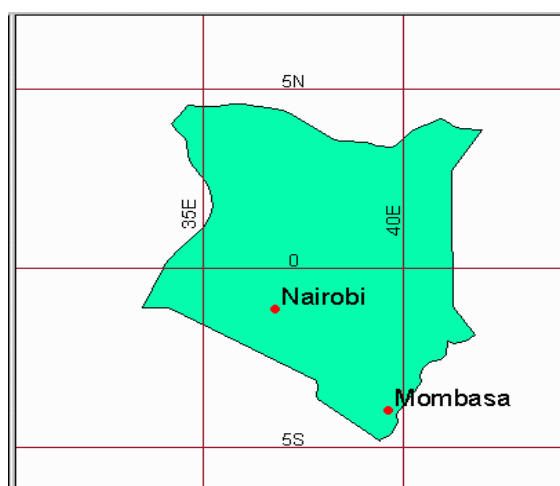
Any assistance you will grant him will be highly appreciated.

Prof. Orpha Ongiti
Dean of Postgraduate Studies & Director of The Institute of Research

Appendix 5 – NACOSTI Permit

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Appendix 6 - Map of the Study Area – Malaba Border



Appendix 7 – Turnitin Report

BORDER SECURITY OPERATIONAL DYNAMICS AND COVID-19
PANDEMIC AT IMMIGRATION DEPARTMENT, MALABA BORDER,
KENYA: FOCUS ON 2020- 2022

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