BORDER & REGIONAL STUDIES
FORMERLY KNOWN AS POGRANICZE POLISH BORDERLANDS STUDIES (2013-2020)

Using Technology to Address Cross-Border Crime and Illegal Migration: The Case of South Africa

Victor H. Mlambo[1], Toyin C. Adetiba[2], Xolani Thusi[3]

https://doi.org/10.25167/brs4830
Submitted: 16 Jun 2022; Accepted: 5 Sep 2022; Published: 2 Oct 2022

Abstract :

The 1996 Constitution of South Africa includes the right of every South African to freedom and security. It is the government's responsibility to guarantee that national security is maintained and that residents within the limits of South African borders are protected. Based on this assumption, the issue of border management and migration regulations is presumed to be critical. Poor border management and unregulated migration jeopardise national security and endanger residents' freedom and security. This article contends that South Africa's inadequate border control and unrestrained migration have jeopardised the country's national security. As a result of the inadequacy of border control in South Africa, South Africans have resorted to various xenophobic actions, with many foreign nationals losing their lives in the process. This article examines the current policy responses to migration and security at border crossings and what has gone wrong in South African border management. A qualitative research technique was used to fulfil the goals of this paper.

Keywords:

Borders, Crime, Migration, Security, Technology

Citation (APA):

Mlambo, V.H., Adetiba, T.C., Thusi, X. (2022). Using Technology to Address Cross-Border Crime and Illegal Migration: The Case of South Africa. *Border and Regional Studies, 10(3)*, 205-225. https://doi.org/10.25167/brs4830

Introduction

South Africa has underestimated the positive role that can be played by technological innovation in dealing with everyday border challenges such as cross-border crime and cross-border migration. Twenty years ago, Dodson (2000) contended that South Africa's borders were in total disarray, and policies and frameworks tasked with ensuring optimal border operations had failed to reflect

1 Victor H. Mlambo Ph.D. (ORCID: 0000-0002-7705-8863) – Lecturer, School of Public Management, Governance and Public Policy, University of Johannesburg, South Africa.

2 Toyin C. Adetiba Ph.D. (ORCID: 0000-0002-0414-9289) – Senior Lecturer, Department of Political and International Studies, University of Zululand, South Africa.

3 Xolani Thusi MA (ORCID: 0000-0001-7316-6165) – Lecturer, Department of Political and International Studies, University of Zululand, South Africa; e-mail: xolanithusi@yahoo.com

the changing patterns of migration and cross-border crime. Since then, there have been increasing calls for South Africa to follow global examples of implementing border technology (unmanned aerial vehicles (UAV's), infrared cameras, long-range cameras and motion detectors) to aid border officials in their quest to combat illegal migration and cross-border crime. In South Africa, Longo (2017) argues that the major issue is that the country has not prioritised the development and adoption of a tech-centric border system, mainly because the country has over the past 20 years relied heavily on traditional border management methods, which have included the militarisation of the border through the wide deployment of the South African National Defence Force (SANDF). Technological systems have greatly aided border agencies in countries and regions such as the United States and the European Union in dealing with cross-border crime and illegal cross-border migration. The incorporation of technology into border management has been described as a modern method of smart border management. Smart borders are not meant to replace traditional border management methods but are seen as an additional support mechanism to make the border space much safer and more pleasant. We posit that traditional border management methods have become obsolete in the face of increasing security threats. Hence, there is a need for policymakers to consider the place of smart borders in border management.

Baker and Jordaan (2010) stated that it is simply inadequate to entrust the South African army and police to manage a land border stretching more than 5000 kilometers effectively, hence the urgent need for technology, innovations, and automated systems in its border management system. Bassey and Oshita (2010) argue that managing cross-border migration and cross-border crime in South Africa has become a matter of urgency. Because traditional methods have failed, the development and implementation of a tech-centric border have become a matter of urgency to help better manage South Africa's borders.

Methodology

This paper uses a qualitative research method to examine the problems of border control and migration concerns in South Africa. Secondary sources that directly addressed the topics of border control and migration were drawn from journals, government policy documents, and institutional reports from the International Organization for Migration, the United Nations, and the African Union in a bid to contribute to the current debates and arguments on the use of technology in border management. The paper critically reflects on the debates among various stakeholders and theoretical literature informing this phenomenon. Relevant literature addressing the paper's key questions was drawn

from research databases such as Sabinet, Emerald Insight Journals, Google Scholar and ScienceDirect. To analyze the data collected, thematic content analysis was applied. This research approach allowed the authors to reflect on global and regional debates on the inclusivity of technology at the South African borders. The paper argues that technology at the South African borders would have minimal impact on the threats that emanate from South African borders. Instead, a regional (SADC) collaborative framework on border management would be the most viable approach to making the border space safer.

Theoretical framework

Securitisation Theory

The securitisation theory developed by Barry Buzan et al., 1990 of Copenhagen School of Security Studies labeled cross-border crime as a threat to state's national security. Rather many cases labeled as security or life-threatening are politically made up by the securitising actor (politicians and elite businesspeople). He can convince the audience (public) that if no action is taken against this perceived threat, the state's survival is at risk, thus drumming up support to move this action beyond the normal realm of politics. Stritzel (2007) states that central to the securitisation theory is the ability of the securitising actor to convince the audience that a potential threat ought to be neutralised as it threatens the interests of the state. Once approved by the audience, this gives the actor powers to act, at times, even if the identified threat may not necessarily endanger the existence and survival of the state. The securitisation agenda has grown to include apparent issues such as terrorism and less obvious issues such as cross-border crime, illegal migration, human rights violations, diseases, and natural disasters. The Geneva Graduate Institute (2013) explains that every securitisation process is made up of a securitising actor (who speaks the tone of life-threatening situations and appeals for the adoption of measures beyond everyday politics to address the problem) and a political act (a decision that needs to be consolidated within the general public in such an away that it convinces the audience that securitisation measures are extremely necessary) but, unfortunately, these two components of securitisation and politicisation have become very difficult to distinguish (see Fig. 1).

Illegal cross-border migration and cross-border crime in South Africa: a security dilemma?

Apartheid was repressive and racist. At the core of this repressive architecture was the use of the South African Defence Force (SADF) and the South African Police (SAP) at borders. On the surface, the primary objective of the SADF

and the SAP was to prevent the enemy's infiltration of South Africa's borders and, covertly, to safeguard the smuggling of weapons for the regime. Sauerman and Ivković (2015) posited that while the SAP was focused on delivering law and order in white areas, black townships increasingly became unmanageable because of violence and lawlessness, and the SAP was entirely unprepared for such demonstrations as a result of this lawlessness. Eventually, South Africa's land borders were fortified with electric fences, manned by the SADF and the SAP. However, the literature did not explain the shortcomings of the SADF and SAP in their quest to secure the borders. By the 1980s, it became clear that the apartheid regime was crumbling. Its attempt to confine blacks to the homelands and remove them from the cities was becoming unsustainable. In the 1990s, the pressure on the regime was too much for it to handle, and its supporters realised that its continuity was in great jeopardy. Eventually, in the early 1990s, a series of initiatives gave way to establishing a democratic government in 1994. The end of apartheid was meant to usher in new approaches to border management, partly an inclusive system, emphasising the importance of cross-border cooperation.

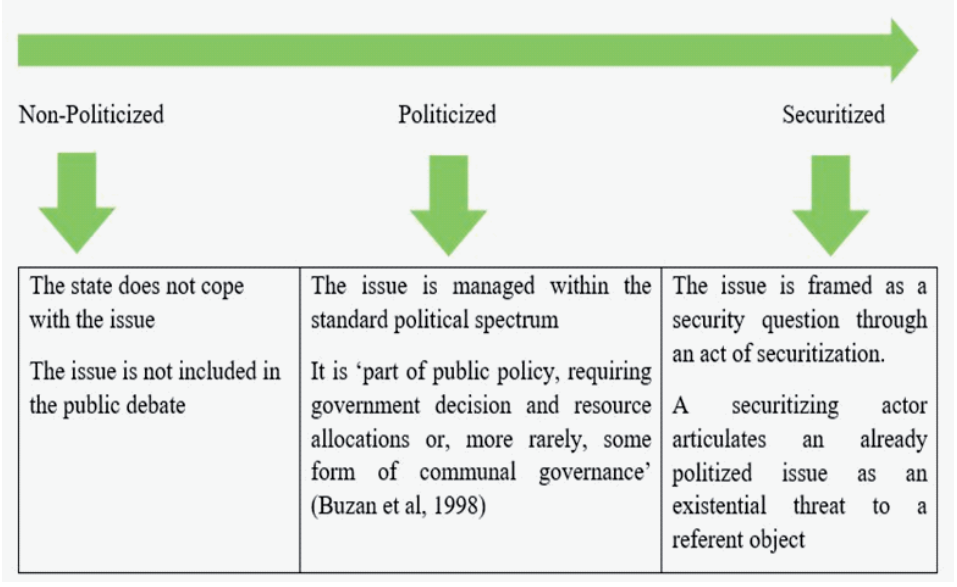

Figure 1: The securitisation spectrum

Source: Geneva Graduate Institute. 2013

The concept of a smart border and its associated challenges

As the world becomes globalised, there is bound to be an increase in threats that emanate from a country's borders, hence the call for new border management intervention. The term smart border appeared after it gained traction following September 11, 2001. Smart border or the use of sophisticated technology in the border at been credited with making the border more effective in and synchronizing its operations (Aizeki et al., 2021). The need to address threats emanating from the border has seen governments investing billions in a smart border to ensure that governments and civil society work together to ensure effective border operations (Deloitte, 2014). However, the design and implementation of smart border technology can be costly. Hence, for many developing regions, such technology remains out of reach. Moreover, developing countries face many social ills (poverty, crime, inequality, and unemployment) that require significant financial investments; thus, implementing smart borders in the face of these may not be a viable option.

While smart borders are seen as the future, there have been growing concerns about their use. Franco (2021) of technology in the border is not effectively regulated, it can lead to can lead to human rights violations Korkmaz (2020) believes that while every country has the right to ensure its territorial sovereignty, it must not be in the violation of fundamental human rights of others. Border technology, while important, seems to be the future and currently seems to be more focused on stopping illegal migration at all costs, thus undermining the rights of migrants from other countries. Therefore, while smart borders may be seen as the future cornerstone for effective border management, many human rights and privacy issues still need to be addressed. However, one cannot deny that despite this reservation, countries and the private sector have gone all out in implementing smart borders, to the extent of sometimes disregarding their concerns.

The border landscape in South Africa

South Africa is characterised by 72 points and has a stretch of 4,400 land borders that handle approximately 39 million people crossing them each year. Since 1994, the country's borders have significantly lacked investment. Eramus (2020) contends the lack of investment in border coupled with corruption and maladministration has given rise to illegal migration and cross-border crime.

Table 1. Immigrants in South Africa, 2020

Country of origin	Number	Percent of total
Zimbabwe	690 200	24%
Mozambique	350 500	12%
Lesotho	192 000	7%
Malawi	94 100	3%
United Kingdom	67 400	2%
Democratic Republic of the Kongo	63 900	2%
Somalia	58 500	2%
Botswana	50 500	2%
Angola	47 900	2%
Eswatini (form. Suazi)	45 400	2%
Total	2 860 500	100%

Source: United Nations Population Division, International Migrant Stock 2020: Destination and Origin, 2020.

The above illustration reflects migratory patterns to South Africa. Even though not all enter the country illegally, the fragmentation of land borders coupled with increased crimes and societal tensions have given impetus for technology on the border to help address what is becoming a national security issue. The lack of a regional collaboration framework has seen countries unilaterally undertake border management in whatever way they see fit. As a result, South Africans have called for border securitisation to safeguard the sovereignty and territorial integrity of the country from what has become a matter of national security. 369,726 migrants were deported between January 2012 and December 2016 with migrants from Lesotho, Mozambique, and Zimbabwe making up 88% of the deportations (Lennep, 2019). Proponents have used the above statistics to argue that border technology has become a need for South Africa, which is under siege from migrants and cross-border crime syndicates. The border landscape in South Africa has changed dramatically since 1994. During apartheid, the border was seen as the biggest threat to the country's apartheid regime; hence the border was made impenetrable. Today, land border management is characterised by a crumbling infrastructure. The SANDF is also struggling with regular budget cuts and cannot ensure effective border operations. South Africa's land and sea borders are vital for economic well-being. However, a lack of investment in combating security risks comprises the country's integrity. The fragmentation of border management has given rise to xenophobia and crime. From a political point of view, the general fear of loss of power by politicians has re-awoken the need for border security, buoyed by a disgruntled society. In the Beit Bridge border post (between South Africa and

Zimbabwe), 8,000 to 20,000 people cross daily. In 2007, the peak of Zimbabwean immigration to South Africa, around 3,000 Zimbabweans fled to South Africa via the Beitbridge border daily (Scheen, 2011). The porosity of South African land borders has been more acutely felt in rural communities near their vicinity, as Defence Web (2020) argues. Rural communities near South African land borders are victims of farm attacks, livestock, vehicle and equipment theft, as well as other crimes, as there are no fences or other barriers to prevent people from crossing the border. Whether the implementation of border technology will address these issues or not, we posit that collaboration from a regional perspective is key to addressing border-related threats.

Illegal migration and cross-border crime in post-apartheid South Africa

Systematised inequality within the north-south divide has increased migration flows in developing nations. In South Africa's case, Steinberg (2005) contended that all borders and ports were severely understaffed and not designed to the optimal standard. The flow of humans and freight traffic was not proportionate to effective border control. This, therefore, begs the question, is technology the key to challenges that seem to be exacerbated by a lack of policy direction? This paper contends that the urgent calls for technology at South Africa's land borders are not born out of reality, with politicians insisting that the source of South Africa's problems is weak borders, even though this weakness is underpinned by weak policy execution. Joly (2016) argued that the government and the media have used migrants as scapegoats when deliberating issues associated with border security. The existence of a large number of illegal migrants has been used to benchmark the magnitude and rate of investment the government ought to make in border security. The observation of migrants as a threat is a deeply flawed one.

Building on the insights of Nsereko (1997), this study argues that a collective approach toward border management in the SADC, rather than unilateral technological development, would better facilitate migration. Arguably, the lack of consensus on regional border management necessitates individual countries devising methods to ensure their territorial sovereignty through reinforcing border controls. In South Africa, various factors and debates have stressed the need to reinforce borders. For example, the Parliamentary monitoring group (2019) undocumented migrants do not pay for services. They contribute to population increase and compete with locals for limited job opportunities. Despite the vast traffic volume at South Africa's land borders, investment in infrastructure and modern border security systems has been low. Kekana (2018) argues that South Africa has underinvested in its border security, and thus the country's

national security is at risk, especially considering increasing terror threats within the region.

Moreover, Kekana (2018) recommends the need for South Africa to secure its borders with modern border technology to complement the existing border security apparatus. There is a lack of cooperation between the police and each country's customs, which has made it hard for South Africa to focus on combating crime within its border. However, it must be said that it is difficult to determine the levels of organised crime anywhere accurately, and South Africa is no exception. The increasing arrests that have been taking place at South Africa's land borders, the increase in drug busts, and the constant involvement of police officers in corrupt border activities signals that there is an upwards trend in cross-border crime.

Legislation/strategies for the management of South African borders

According to the Parliamentary Monitoring Group (2011), an array of departments and agencies, namely: the Department of Home Affairs (DHA), the South African Revenue Service (SARS), the South African Police Service (SAPS), the Department of Health (DoH), the Department of Agriculture, Forestry and Fisheries (DAFF), the Department of Transport (DoT), the Department Of Trade and Industry (DTI), the South African National Defence Force (SANDF), the State Security Agency (SSA), the Department Of Public Works (DPW) and the Department of Environmental Affairs (DEA). However, using so many agencies within the context of border management results in duplicating tasks, corruption, and misaligning duties. These departments and agencies lack a coordinated approach to border management. Hence, the country needs to have a clear-cut approach and policy to manage border policy in which all the agencies involved would be streamlined. Building on the above, Lennep (2019) argued that border management in South Africa needs a single operational framework, as having too many agencies at the borders results in bureaucracy and inefficiency. Arguably, South Africa's need for technology in the border area fails to reflect such challenges. The question remains: how will the country create the much-needed synergy between current approaches and technology? Therefore, the rush to implement border technology resembles a policy that has not been given sufficient thought However, the pressing need should be the unification and consolidation of border management approaches to ensure its effective functioning. After that, technology can be piloted.

The SANDF and border security

In post-apartheid South Africa, illegal cross-border migration and crime have been categorised as fundamental issues hampering the army's ability to protect South Africa effectively. However, in 2009, it became clear that the SAPS was poorly equipped to secure the country's borders effectively; hence the government mandated the SANDF to resume the function of border security. The Constitution of South Africa (as per section 205 of the Constitution of the Republic of South Africa of 1996 and the SAPS Act of 1995) confirms that the SAPS is responsible for maintaining order and fighting crime. Moreover, within the framework of border security, it is also the primary force in ensuring adequate border security. For its part, the role of the SANDF in section (1) of the Defence Act includes patrolling the land borders conducting intelligence operations, and conducting roadblocks in conjunction with the SAPS, among others (Parliamentary Monitoring Group, 2010).

This paper argues that illegal migration and cross-border crime happen not only at designated border crossing posts but also in concealed or hidden spaces where there is a limited presence of authorities. While it makes sense for the army to be primarily tasked with dealing with cross-border crime and illegal cross-border migration, it should be noted that the SANDF itself has been faced with an ever-decreasing budget. The chief of the South African army, lieutenant–general Lindile Yam, estimated that the army needed approximately R50 billion; otherwise, the army would have trouble stopping illegal cross-border migration and fighting cross-border crime and other related threats from borders. Even worse, the country will struggle to cope with an invasion. This shows just how depleted resources are at the SANDF currently (Ndlazi, 2018). Yam argued that the country's borders are weak, with thousands of undocumented migrants coming and going as they please. The Democratic Alliance, as cited by Engelbrecht (2009), believe that it is not a lack of technology at borders rather the decline in the effectiveness of the SANDF which is a function of lack of leadership. The real crux of the matter is that policy issues are at the core of the inability of South Africa to secure its borders effectively.

The re-introduction of the army to South Africa's border architecture raises fears of border militarisation, and despite the severity of these issues, using the South African army as a strategy to deal with these issues might prove difficult as resources needed to patrol such huge land borders may be hard to come by (Martin, 2018). Furthermore, the situation is exacerbated by the inability of the country to sustain sufficient levels of economic growth, as this would ensure the availability of revenue to support the modernisation of border security and management

(Tati, 2008). Nonetheless, the literature fails to reflect on the changing patterns of migration today. Secondly, while the literature takes into consideration how the SANDF is hampered by significant challenges, it neglects to reflect that policy issues and political indecisiveness are at the core of this failure rather than the political rhetoric that South Africa has been overwhelmed by cross-border crime and illegal migration. With reference to the above, this study ponders how border technology will function optimally when there are still observable challenges that need to be addressed within the current border management approaches. This policy gap was further reflected by Mamokhere and Chauke (2020), who contended that before the technology can be implemented, South Africa should address its policy gaps and loopholes in its current border management framework; in essence, improve multi-agency collaboration between the different departments and agencies operating that operate and along the borders.

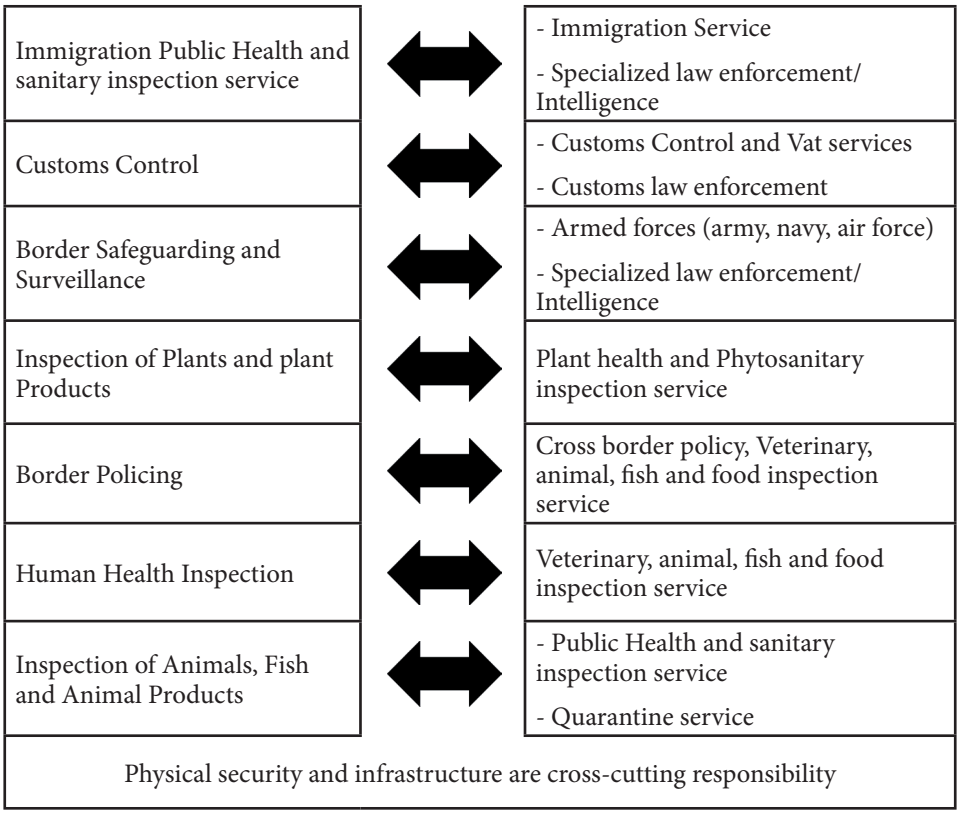

Figure 2: Structure of border management in South Africa

Source : Department of Home Affairs, Border Management Agency (BMA) Project, 2015

The Border Management Authority Bill

The South African government maintains that illegal immigration due to porous borders needs urgent attention because it poses a considerable danger to the state's security, including exposure to terrorism. South Africa proposed the Border Management Agency Bill (BMA) to answer this. The bill argues that the presence of multiple stakeholders gives rise to inefficient and ineffective border management. This often leads to poor services being rendered to traders and travellers at points of entry, creating a breeding ground for corruption, crime, and lawlessness (Makhafola, 2017). Opposition parties, on the other hand, have maintained that the bill is riddled with flaws and should not be implemented. According to them, what is needed is a more efficient use of our present resources, a decrease in superfluous department expenditure, and more investment in immigration matters. The anticipated cost of the BMA, according to DA MP Hannif Hoosen, is over R22 billion, which our nation cannot afford right now. Instead of undertaking expensive projects that it cannot afford, the government should concentrate on repairing its barrier. Similarly, following its announcement, the law proved fairly contentious. It was criticised not only within political circles but by other government departments. The main argument is that the bill has been given overarching powers that superseded other government departments and agencies (Makhafola, 2017).

For example, the BMA planned to collect tax at ports of entry into the nation, which would conflict with the tasks performed by the South African Revenue Service (SARS), which is required by law. Furthermore, difficulties included the significant expense of establishing the agency, the challenge of putting all border operations under one institution, with Home Affairs assuming the lead, being too large an effort, and its mission being too wide and all-encompassing (Phillip, 2019). However, in favor of the BMA bill, South African President Cyril Ramaphosa vowed that the Border Management Authority (BMA) will tighten up processes at ports of entry, when addressing questions in the National Council of Provinces. The BMA, if built, will enable more efficient processing of persons and products entering the country. The Parliamentary Monitoring Group (2018) also argued that the bill did not explain how the issue of refugees will be applied under the new bill and which department is mandated to undertake such. The bill also, worryingly, provides powers to search, seize and arrest with or without a warrant and does not refer to the criminal act, creating a feeling that migrants and asylum seekers will be mistreated and abused.

On a positive note, the bill envisages the establishment of modern and secure infrastructure and information and communication technology

platforms to intensify the effectiveness of border authorities when dealing with threats from borders. However, limitations hindering South African laws/policies directed at effectively managing border security come down to implementing and modifying existing policies. Although these policies have been implemented, they are being undermined by three significant factors. Firstly, the defence and police departments are seriously underfunded; the budget allocations they receive from the government are not enough to ensure border security. Secondly, these departments (SANDF and SAPS) lack skills and the much-needed human capital to ensure authorities understand borders, their function, their optimal operation, and how to complement existing strategies to ensure border security. Lastly, South Africa will find it extremely difficult to ensure border security because, historically, the country's borders were heavily securitised. After the fall of the apartheid regime, the country still does not have a well-planned, coordinated, and well-functioning border security apparatus (Ilgit & Klotz, 2014).

Is Technology a viable option for border security: Lessons from the USA

Vallet (2016) explains that perhaps when one speaks about technology and its role in enhancing border security, one immediately thinks of the United States of America. The US has invested billions of dollars in technology that can help it protect its borders. Perhaps this has inspired other countries worldwide to increase their investment in security and stability significantly. The American Immigration Council (2017) maintains that since the overhaul of the US immigration system in 1986, the US government has spent around $283 billion on immigration and border enforcement. As of 2017, 49,000 law enforcement officers have been stationed at various borders. The rapid increase in cross-border crime and illegal migration has forced the US to seek new ways to better detect and prevent these growing issues from posing threats to American interests and, therefore, the United States has prioritised the introduction of technology within its borders, especially along the US/Mexico border. While technology and its introduction to border security will not eradicate the threats of cross-border crime and illegal cross-border migration, it will better assist border authorities in managing border security. As a result, there has been significant investment in UAV's, long-range cameras, enhanced biometric sensors, motion detectors, ground sensors, and powerful facial recognition programs, all of which are meant to ensure that the country can better protect its borders. Adamson (2006) lamented that increasing technology within borders would increase border securitisation or militarisation, suffocating the prospects of cooperation and coordination with third-party states in dealing with common threats from borders.

Stana (2011) asserted that technology would help border authorities to manage everyday issues of security within borders better and ensure effective operation-ability. Perhaps this is why countries around the world are increasing their budgets for research and development of technology that would better help manage cross-border security. Završnik (2015) also argued that technology could reduce cross-border crime and illegal cross-border migration when used in the right scenarios, mainly because it offers a more remarkable ability to detect and respond to threats promptly. Flynn (2003) argued that while technology may have its downsides, its introduction in the US border security architecture has had a positive impact as there has been an increase in the ability to detect and neutralise threats. Furthermore, the range of technological equipment ensures that agents have eyes in places they cannot physically reach. Krogstad and Barrera (2018) stated that there had been a decrease in unauthorised immigrants attempting to reach the USA. Martin (2013), therefore, argued that with this, perhaps technology can better help governments better position themselves to deal with these 21st century threats. Bellais (2013) explained that one barrier for developing regions is that technology in border areas can be expensive; hence, only developed nations with economic power can capitalise on this. For example, 2019 funding for US customs and border protection amounted to US$14.2 billion, while US immigration and customs enforcement received US$8.3 billion, totalling around US$23 billion (Office of the President of the United States, 2018), which is higher than the defence budget of many African countries.

Prashad (2007) supports the above and states that the enormous costs involved in procuring these systems sidelines developing nations and pushes them towards securitisation rather than cooperation when collectively managing border issues. However, others say that a tech-centric border, although costly to implement, would make it far simpler to cross borders on land, at ports, and at airports (Pickering & Weber, 2006). These technologies, however, have the potential to have far-reaching consequences. Border control tactics that deploy advanced monitoring technology along the US-Mexico border, for example, have increased migrant fatalities and forced migratory routes across the Arizona desert into more perilous territory, producing what archaeologist Jason De Leon refers to as a land of open graves. Koslowski (2012) argues that an increase in cross-border trade among states will be accompanied by an increase in cross-border migration, whether illegal or legal, and states need to ensure that their security border apparatus will be able to handle this increase in trade and cross-border movement. Apart from the question of the effectiveness of border technology, there is simmering conversation and debate within the legal and ethical fields about using technology within border areas. The fundamental question is how countries can expand

their use of technology for screening and enforcement at the border without overstepping already strained privacy rights. Bender (2012) also argued that smart borders are for the rich countries and that it would be difficult for developing regions (faced with poverty, increasing unemployment, and inequality) to invest significant amounts of money in them, only to find that such borders do not reflect migration and cross-border crime patterns in such regions.

Technology in South African border areas

Radio2000 (2015) declared that between the SA and Zimbabwe border (Beitbridge in the Limpopo province), an average of 31,000 people were crossing the border annually; South Africa was seeing 39 to 40 million people enter and exit the country. However, from the above discussion, looking at how expensive it is to procure border technology, one would argue that South Africa ought to focus on addressing the existing policy gaps in its border management framework rather than opting for expensive equipment which may not integrate effectively, nor respond to the current issues at borders.

Having said that, as Engelbrecht pointed out, technology has already become a critical requirement for some, as seen by contemporary political debate in South Africa (2009). Technology will be critical in decreasing illegal immigration, smuggling of contraband and the related loss of customs and excise revenues, human trafficking, wildlife poaching, and the transmission of animal-borne illnesses across borders with the establishment of the Border Management Authority. Furthermore, the authors believe that South Africa should learn how border technology has aided neighboring BRICS member, Brazil, in addressing its border management difficulties over the previous decade by implementing a viable and complete border management solution. Brazil, which shares 17,000 kilometers of border with 10 other nations, has resorted to technology, using its Integrated Border Monitoring System (SISFRON) (Motoboli, 2020). This network of surveillance radar, sensors, command, control, and communication systems, as well as unmanned aerial vehicles (UAVs), is nearing the end of its first phase and will be completely operational by 2035. For Motoboli (2020), a reliable surveillance system that blends land and naval-based radar systems is an essential element of a properly functioning border management system. South Africa currently has some form of technology operating at its land borders. However, this is unsuitable for addressing the current realities of South African borders. Lennep (2019) highlighted that border stations are not suited to cope with the volumes and threats that have grown endemic to South Africa's land border, reinforcing this point. Reports of damaged fences, power outages, bad ICT systems, the absence

of a specialized truck lane and safe vehicle holding area, separate border-crossing buildings, and insufficient security infrastructure clutter the debate (lighting, cameras, vehicle scanners, SANDF vehicles, access roads, bases, and sensors). Motoboli (2020) asserts that once South Africa's BMA is operational, it will have access to some of the top authorities on tactical command and control systems and air surveillance. The ability to achieve maximum impact and efficiency for the safety and protection of South Africa is made possible by ground-based air defenses with recognized expertise in local circumstances. However, how will it mitigate existential challenges currently hindering current approaches from succeeding in border management? This study contends that in isolation, technology will not succeed; it will need support from existing border frameworks - hence the need to address current challenges before implementing technology.

The Africa Defense Forum (2015) stated that while improving border control might reduce cross-border crime and illegal cross-border migration in SA, ultimately, a border with more advanced technological systems may better position South Africa to deal with these increasing challenges. Martin (2011) asserted that perhaps the existence of a single agency responsible for border operations would result in a clearer and unambiguous border security structure. Arguably, one cannot ignore the notion that border management is understood within the confines of national interests in the SADC. The lack of cooperation with regard to regional border threats is driving such. However, apart from the lack of cooperation, introducing technology at borders would require some form of regional collaboration, especially because it might lead to border securitisation and militarisation.

There have been growing calls among South African lawmakers to ensure stricter border management. Perhaps a solution to this would be introducing technological elements within the security architecture of South African borders, as the BMA bill envisages. The use of technology for tracking and monitoring can be taken from South Africa's national parks, which have begun to use an array of systems to protest rhinos. In the Kruger national park, rangers use a wide-range surveillance system known as the Meerkat to detect animals and people; however, such systems have not been effectively enforced and implemented at South African land borders (Martin, 2011). Erasmus (2012) also stated that with its advanced economy and relatively stable GDP, the country has the financial means to invest in technology, especially considering that it is a victim of cross-border crime and illegal cross-border migration. The Africa Defense Forum (2015) noted that South Africa is already using satellite technology to track migrants, poachers, and trafficking syndicates. However, UAVs, sensors, and other related technology

within South African borders would contribute more significantly than the use of satellites alone. Besides satellites, digital surveillance cameras have become lighter and more affordable while offering higher resolution and resistance to extreme weather conditions.

South Africa has long stretches of kilometres (land borders, 4862 km border with six countries) with its neighbours, and solely relying on the SANDF to cover these stretches, especially with the reduction in budget, South Africa has long stretches of kilometers of land borders, (about 4862 km) with its neighbours, therefore, relying on the SANDF to solely cover these stretches, especially with the reduction in budget, is tantamount to efforts in futility, but technologically, this can be achieved with minimal input thus, warranting South Africa's investment in such systems. However, technological tools can quickly become tools of oppression and surveillance, denying people, especially the vulnerable, the right to safety and protection. New technologies can often encourage these abuses, particularly against marginalised communities and people who engage in peaceful migration. Furthermore, tightening border controls leads people to create increasingly elaborate mechanisms to subvert such controls.

South Africa has ample room to integrate technology within its border management architecture. However, one must note that such integration alone will not contribute to a significant reduction in cross-border crime and illegal cross-border migration unless the operations of other government departments/ agencies involved in border operations are streamlined, for example, through a single agency. Nonetheless, proponents of technology at South Africa's land borders argue that it would be a considerable advantage in the country's endeavor to better compliment the SANDF and SAPS in their quest to reduce cross-border crime and illegal cross-border migration. However, it should be noted that technology as a border solution is not perfect. It has its drawbacks. Given the context of South African borders, it becomes difficult to understand how this technology will aid current border approaches, which fail to execute the task. Technology in the border regions will not stop crime and migration but will instead encourage crime syndicates and migrants to find alternative methods. Technology will result in some form of securitisation of the borders. The lack of cooperation within the SADC allows countries to implement individual measures that ought to protect their sovereignty, even if these may not reflect the overall sentiment in the region.

At the end of the day, it is easier said than done, for Haddal et al. (2009) argued that instituting a tech-centric border can be very expensive, partly because such security networks not only rely on UAV's and long-range cameras but also because the necessary infrastructure needs to be in place. Regrettably, this can be

very expensive to set up, and considering the current economic climate in South Africa, it's possible such an undertaking may not be sustainable at this point. Additionally, theft has also been identified as a problem, as noted by Schwartz (2017). Borders (especially in the developing world) are porous and easy targets for crime syndicates. Hence instituting a tech-centric border, considering all the relevant systems needed to make it effective, requires them (for example, long-range cameras mounted on the ground) to be protected from theft and vandalism. With South Africa's border fences in complete disarray, protecting this expensive equipment would be virtually impossible, thus giving rise to theft, resulting in substantial investment losses for the country. Additionally, just as instituting a tech-centric border can be very expensive, maintaining it can be very pricy as well.

Levy (2007) argued that technological innovation will always be challenging. For South Africa, which is currently going through economic difficulties, maintaining such systems will require vast amounts of money, which may be challenging. However, with cross-border crime and illegal cross-border migration costing the country millions every year, perhaps their reduction after implementing a tech-centric border would increase the amount of money available to maintain these systems. Therefore, from a South African perspective, while technology would indeed be beneficial, it is essential to consider the advantages, disadvantages, and possible challenges in implementing a tech-centric border. Before a border laden with technology can be implemented, there is a need to address challenges such as corruption, the lack of cross-border cooperation, and weak border management systems.

Is technology the answer?

There is a great need for South Africa to be very mindful before embarking on creating a tech-laden border. According to Misra (2019), civil liberties organizations and academics who have researched the effects of border surveillance in the USA are sounding the alarm by highlighting the ineffectiveness of previous surveillance initiatives and the increased risk of abuses and migrant deaths as a result of such approaches. The argument against a tech-focused border in the USA is based on the idea that without adequate protections, it is impossible to control how the information collected by these technologies is used, kept, and shared. There is a great need to discourage funding a smart wall as ubiquitous surveillance technology seriously threatens human rights and constitutional liberties. If South Africa were to institute a tech-centric border, it would be important to explain how this would affect privacy and how it would not infringe on civil liberties.

Despite Europe's sophisticated border systems, monitoring, and significant investment in improved border controls, desperate individuals continue to arrive on the continent's borders. Attempts to secure or defend Europe's borders have failed, as politicians increasingly acknowledge, but the same old policies are being used in response to the mounting refugee crisis. Femmine (2017) noted that according to a report by the British Think-tank Overseas Development Institute (ODI), Europe, from 2014 to 2016, spent €17 billion on stopping immigration. At the core of utilising this money was to create modern surveillance systems, border fences, and cooperation with countries of origin. Lennep (2019) suggests that the present borders be controlled effectively in order to promote the passage of desired commodities and people while prohibiting the movement of undesirable things and people. The Democratic Alliance conducted an independent study on South Africa's boundaries. It suggested that border barriers must be maintained and strengthened, or complemented with proper security (watchtowers, infrared technology, and drones) to provide efficient border security. The SANDF is becoming progressively more unsustainable because of declining defence allocations. South Africa has now reached the point where it must decide on the kind of defence force it wants and what it can afford. Günay and Witjes (2016) questioned whether introducing such technology at South African borders would reduce or increase border securitisation, particularly concerning the deployment of soldiers since this has been the strategy used up to now by South Africa when it comes to protecting the country's borders. Over the last decade, the SADC has overemphasised the need for the region to undertake measures that would de-securitise borders to bolster the movement of labour, capital and trade to accelerate regional economic integration. Neighboring Southern African states may be skeptical and unsure whether South Africa will use the technology solely for border security or perhaps spy on them (Kouhi-Esfaha, 2019). For example, The Guardian newspaper exposed how Chinese border police secretly installed surveillance apps on visitors' phones. The question is, therefore, how South Africa will factor in regional concerns while at the same time effectively using border technology to secure its borders. Van Nieuwkerk (2012) contended that it would be most satisfactory if the region had a collective security framework that was in operation where cross-border security was jointly managed, as this would perhaps ensure that border policies of member states are streamlined, and border security is carried out under a collective agreement, but the absence of such means that individual states take unilateral measures to ensure their security. Mitchley (2018) stated that some borders are located in very unpredictable and hard-to-access terrain; hence technology is needed for such scenarios that human eyes cannot reach. However, with the unpredictability of border management in South Africa,

bureaucratic issues may impede such developments, especially concerning the mandate, responsibilities, and operation of technological surveillance systems.

Conclusion

Migration and border control are elements that may cause problems due to poor management or provide a path to technological and economic revolution when successfully handled. This paper argues that South Africa's borders are practically in disarray, owing to the failure of policies and frameworks to assure their optimum functioning in the face of shifting patterns of international migration, which has resulted in cross-border crime. The authors argue that the urgent requests for technology at South Africa's land borders are based on the reality of the situation on the ground, suggesting that one of the causes of South Africa's socioeconomic woes is poor border management exacerbated by poor policy implementation. As a result, South Africa has become a refuge for cross-border crime and illegal migration.

From the perspective of this work, the emphasis on technology-driven borders reflects a general lack of coordination among the various government agencies and departments charged with managing South Africa's land borders, which has resulted in poor services being rendered to travellers and other users of South African borders, as well as creating a breeding ground for corrupt practices. This means that South Africa's border control architecture necessitates the inclusion of technology.

This implies that border security and management agencies such as the Department of Home Affairs, the South African Revenue Service, the Department of Health, the Department of Agriculture, Forestry and Fisheries, the Department of Transport, the Department of Trade and Industry, the State Security Agency, the Department of Public Works, and the Department of Environmental Affairs either collaborate or merge to form a formidable and incorruptible „Border Management Agency" with securitisation.

The authors argue that establishing a single, efficient, and robust agency to oversee and maintain South Africa's land border would eliminate corruption and the duplication of tasks while encouraging transboundary socioeconomic growth and integration. However, such integration would not result in a significant decrease in cross-border crime and illegal migration until other government departments/agencies participating in border operations are simplified, for example, under a single agency. Nonetheless, supporters of technology at South Africa's land borders claim that it would significantly benefit the country's efforts

to better complement the SANDF and SAPS in their efforts to curb cross-border crime and illegal border migration.

References

Baker, D. P., & Jordaan, E. (Eds.). (2010). *South Africa and contemporary counterinsurgency: Roots, practices, prospects*. Juta and Company Ltd. Cape Town.

Bassey, C. & Oshita, O. eds. (2010). *Governance & border security in Africa*. African Books Collective. Oxford

BusinessTech. (2020, May 28). South Africa's army is in a 'critical state of decline' – here's how bad things are right now. https://businesstech.co.za/news/government/402571/south-africas-army-is-in-a-critical-state-of-decline-heres-how-bad-things-are-right-now/

Department of Home Affairs. (2015, October 20). Border Management Agency (Bma) Project Overview. https://pmg.org.za/files/151020BMA_Project.pdf

Dodson, B. (2000). Porous borders: Gender and migration in Southern Africa. *South African Geographical Journal, 82(1)*, 40-46.

Engelbrecht, L. (2009, July 6). DA questions SANDF's readiness. https://www.defenceweb.co.za/sa-defence/sa-defence-sa-defence/da-questions-sandfs-readiness/

Esterhuyse, A. (2017, July 19). Money has little to do with why South Africa's military is failing to do its job. https://theconversation.com/money-has-little-to-do-with-why-south-africas-military-is-failing-to-do-its-job-81216

Laine, J. P. (2018). The ethics of bordering: a critical reading of the refugee 'crisis'. CROSS, 31. In: *How to Deal with Refugees? Europe as a Continent of Dreams.* LIT Verlag: Berlin

Lennep, T. (2019, September 18). Migration IV: The state of SA's borders. https://www.politicsweb.co.za/opinion/migration-iv-the-state-of-south-africas-borders.

Longo, M. (2017). *The politics of borders: sovereignty, security, & the citizen after 9/11.* Cambridge University Press. Cambridge

Ndlazi, S. (2018, October 18). R50bn needed by SANDF to protect borders. IOL: https://www.iol.co.za/pretoria-news/r50bn-needed-by-s&f-to-protect-borders-17550387

Nsereko, D. D. N. (1997). When crime crosses borders: A Southern African perspective. *Journal of African Law, 41(2),* 192-200.

Parliamentary Monitoring Group. (2011, November 07). Borderline & Border Post Security Assessment by Departments of Police, Defense, Home Affairs, SARS, National Treasury. PMG. https://pmg.org.za/committee-meeting/13700/.

Parliamentary Monitoring Group. (2010, February 16). Border Control: briefing by Chief of Joint Operations, South African National Defence Force (SANDF). PMG. https://pmg.org.za/committee-meeting/9187/.

Parliamentary Monitoring Group. (2011, November, 07). Borderline & Border Post Security Assessment by Departments of Police, Defense, Home Affairs, SARS, National Treasury. PMG. https://pmg.org.za/committee-meeting/13700/.

Parliamentary Monitoring Group. (2018, April, 24). Border Management Authority Bill [B9B-2016]: deliberations. PMG. https://pmg.org.za/committee-meeting/13700/.

Parliamentary Monitoring Group. (2018, February, 20) Border Management Authority Bill: National Treasury, SARS & SANDF concerns. PMG. https://pmg.org.za/committee-meeting/13700/.

Parliamentary monitoring group. (2019, October 29). Impact of illegal migration on cities: input from Joburg & Ekurhuleni Mayors, SALGA & Minister. https://pmg.org.za/committee-meeting/29125/.

Steinberg, J. (2005). An overview of South African border control: 1994-2004. *Institute for Security Studies Papers, 2005(103)*, 16.

Tati, G. (2008). The immigration issues in the post-apartheid South Africa: Discourses, policies and social repercussions. *Space populations societies, (2008/3)*, 423-440.

The South African Police service. (2016). Border Security: Factors that influence cross-border criminal activities: A South African reality and feasible alternatives. https://www.saps.gov.za/resource_centre/publications/maj_gen_kr_meetsi_presentation.pdf.