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Effect of K9 Operations on Combating Illicit Narcotics Trade at Port of Mombasa, Kenya

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Abstract

Customs and border control agencies face key challenges in preventing illicit narcotics trade and disrupting transnational smuggling operations. Maintaining the delicate balance between facilitating legitimate trade flows while concurrently deterring those that are illicit is a complex operational task. Therefore, this study sought to determine K9 operations on combating the illicit narcotics trade at the Port of Mombasa, Kenya. The theory that guided this study was the Fraud Triangle Theory. An Explanatory research design was employed. The target population of the study was 387 customs enforcement officers Port of Mombasa, and a sample of 196 respondents, of which 163 respondents were used in the study, showing an 83.2% response rate. The study used primary sources of information with the use of questionnaires for gathering the relevant data. The data was analyzed using descriptive was analyzed terms of the frequency, mean, and the degree of variability (standard deviation). The inferential statistics comprises correlation analysis and multiple regression analysis presented using tables and charts. The beta coefficient results revealed that K9 operations significantly improve efforts to combat the illicit narcotics trade ($\beta = 0.080$, $p = 0.040$), indicating that increased K9 operations positively impact the outcome variable of combating illicit narcotics trade. The study recommends that the Kenya Revenue Authority (KRA) and the government should invest more in K9 operations at strategic points, such as ports, to enhance detection and interception. Future research on the role of technology in combating the illicit narcotics trade.

Keywords: *K9 operations, illicit narcotics trade, Port of Mombasa*

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1. Introduction

Over the last few decades, World Bank reports indicate a significant rise in cross-border trade. At the same time, the expansion in cross-border trade has been accompanied by the shocking emergence of illicit trade in all its forms, including tax evasion, especially in the form of illicit financial flows, smuggling, counterfeiting, to the illegal sale or possession of goods, services, humans, and wildlife (UNODC, 2022).

K9 Operations in Illicit Trade refer to the use of specially trained detection dogs (K9s) in

identifying and intercepting illegal goods, such as drugs, explosives, currency, and wildlife products, being trafficked through various channels. These dogs are trained to detect specific.

Scents associated with contraband items, aiding law enforcement and customs agencies in curbing illegal trade activities. K9 units are commonly deployed at border crossings, airports, seaports, and other points of entry where they perform searches on cargo, luggage, and persons.

Combating illicit narcotics is essential for fostering a safer, healthier, and more stable society. Drug abuse and trafficking contribute to increased crime rates, health crises, and economic burdens. According to the United Nations Office on Drugs and Crime (UNODC), illicit drug use is responsible for millions of deaths annually, with a significant rise in opioid-related overdoses in recent years (UNODC, 2023). By enforcing stringent anti-narcotics policies, governments can reduce violence linked to drug cartels and organized crime, thereby enhancing public safety. Additionally, addressing drug abuse through prevention and rehabilitation programs reduces healthcare costs and improves workforce productivity, benefiting national economies (World Health Organization, 2022).

Researching the narcotics trade in the Port of Mombasa is crucial because Mombasa is home to one of the largest and busiest ports in East Africa. Its strategic location along the Indian Ocean makes it a critical entry and exit point for international trade, including illicit goods such as narcotics. Understanding how the port is used in drug trafficking is essential for developing effective interdiction strategies. Mombasa serves as a transit point for narcotics destined for other parts of Kenya, East Africa, and beyond. Research in this region can help identify the routes and methods used by traffickers, allowing authorities to disrupt these networks more effectively.

1.1 Problem Statement

In Kenya, the government has expressed significant concern about the impact of illicit drugs and substance abuse on the labor force and the economy. Its commitment to addressing this issue is evidenced by the enactment of various laws, such as the Traditional Liquor Licensing Act and the Narcotic Drugs and Psychotropic Substances (Control) Act of 1994. The creation of the National Authority for the Campaign against Alcohol and Drug Abuse (NACADA) further demonstrates the government's resolve to combat drug abuse, supported by the office of the National Coordinator for the Campaign against Drug Abuse (Kaguthi, 2007).

In April 2014, the Australian Navy seized heroin worth 290 billion shillings off Kenya's coast, a value equivalent to all the heroin seized in East Africa between 1990 and 2009. It is estimated that40 tonnes of heroin are trafficked through East Africa annually, with customs authorities witnessing a surge in narcotics smuggling through ports, airports, and seaports (Opala, 2017). Key stakeholders, including customs officials, law enforcement, policymakers, and academics, agree that illicit trade imposes significant financial and social costs on global society. The increase in narcotics trafficking in the southern region demands immediate action. Border control agencies face the complex task of preventing illegal trade while facilitating legitimate commerce, creating a paradox in their operations. There is a

pressing need to improve intelligence sharing among Kenyan drug enforcement agencies and to strengthen the legal framework, ensuring better alignment with international standards. This research thus sought to fill the gap by establishing the effect of K9 operations on combating the illicit narcotics trade at the Port of Mombasa, Kenya.

2. Literature Review

2.1 Fraud Triangle Theory

The Fraud Triangle Theory**,** originally developed by Donald Cressey (1953) to explain financial fraud, has been widely applied to various forms of illicit activities, including corruption, organized crime, and drug trafficking. This theory suggests that individuals or groups engage in fraudulent activities when three elements are present: pressure (motivation), opportunity, and rationalization**.** In the context of drug trafficking, this framework helps explain why individuals, organizations, and even government officials become entangled in the illicit narcotics economy. Drug trafficking, as a multi-billion-dollar global industry, thrives in environments where economic desperation, systemic corruption, and ideological justifications intersect.

At an organizational level, drug cartels and criminal syndicates experience pressure to maintain market dominance**.** The increasing militarization of drug enforcement policies, particularly in Latin America, has forced cartels to adopt innovative smuggling techniques, violent enforcement mechanisms, and political bribery to sustain their operations **(**Shelley, 2014**).** Furthermore, law enforcement officials and government authorities themselves experience pressure to cooperate with traffickers due to financial incentives or coercion**.** Bowling and Ross (2006) note that corrupt police officers often justify their involvement in the drug trade due to stagnant wages, fear of retaliation from criminal organizations, or systemic institutional corruption.

Applying the Fraud Triangle Theory to the narcotics trade offers a comprehensive framework to understand the motivations and structural conditions that sustain the global drug economy. Financial and economic pressures push individuals into trafficking, while weak governance and technological innovations provide the necessary opportunities for large-scale operations. Meanwhile, rationalization ensures that traffickers and corrupt officials justify their actions, making illicit drug networks resilient and difficult to dismantle. To effectively combat the narcotics trade, policies must address economic disparities, strengthen anti-corruption mechanisms, and adapt to emerging technological challenges. Understanding these dynamics through criminological theories such as the Fraud Triangle is crucial in designing effective counter-drug strategies.

2.2 Empirical Review

2.2.1 K9 operations

O'Heare (2002) opined that the ability of K9 to detect different scents had been well documented. If the K9 attempted to track an object for discovery, the K9's sense of smell allows the dog to search for the skin oils of the suspect that may have been left on the article. Studies show that dogs are able to locate objects such as guns, ivory, explosives, and clothes up to 48 hours after they came into contact with a human (Mbatia, 2017).

The K9 can therefore be used to detect both the contraband and also track the person who handled the goods. The study further indicated that although K9s are capable of detecting and distinguishing different scents, they performed at a level that is expected of them. It has been discovered 17 that when the handlers used a decoy to hide it in a sleeve during training, it built familiarity that the K9 associated with the find and indication. This showed that the trainers, to give the K9 a familiar scent to work with, needed to expose the K9to the scents of the contraband goods, arms, or NarcoticsNarcotics (Mesloh 2002).

Gumbihi (2022) wrote that the Lang'ata-based Police Dog Unit has about 5000 dogs deployed at key installations in the country, and dogs are deployed to almost all counties. The Kenya Police dogs are deployed at key installations such as airports, water reservoirs, parliament, the Kenyatta International Conference Centre, among other places. Some are attached to VIPs such as the president. Other government agencies, such as the Kenya Revenue Authority, the Kenya Defence Forces, and the Kenya Wildlife Service, have since then adopted their own K9 Units to help them achieve their objectives. It is against this background that the study will focus on the use of the K9 unit enforcement arm of the Customs and Border Control Department in the Kenya Revenue Authority (KRA, 2016).

2.2.2 Illicit narcotics trade

Illicit narcotics trade refers to any practice or conduct prohibited by law and which relates to production, shipment, receipt, possession, distribution, sale, or purchase, including any practice or conduct intended to facilitate such activity (RoK, 2019). It can be categorized as tax evasion, smuggling, counterfeiting, piracy, and illicit narcotics manufacturing of goods, transit fraud/ dumping, trade in prohibited and restricted goods or products (NCAJ, 2014).

The OECD (2018) report examined the Governance framework to counter the illicit narcotics trade. The report presents that Governments have taken actions to counter the illicit narcotics trade, but they are often uncoordinated and/or poorly implemented. It identified enhancing the effectiveness of penalties and sanctions for countering illicit narcotics trade as one of the key areas where the strengthening of institutional capacities is urgently needed to improve efforts to counter illicit narcotics trade. The report offers that Penalties and sanctions are key deterrents for illicit actors, as these actors will prefer to trade in goods where rewards are highest, and the risks are lowest.

2.3 Conceptual Framework

Ravitch & Regan (2012) defined a conceptual framework as an analytical tool with several variations and contexts and used to make conceptual distinctions and organize ideas. The independent variables of the study are K9 operations, while the dependent variable is combating the illicit narcotics trade. As shown in Figure 1.

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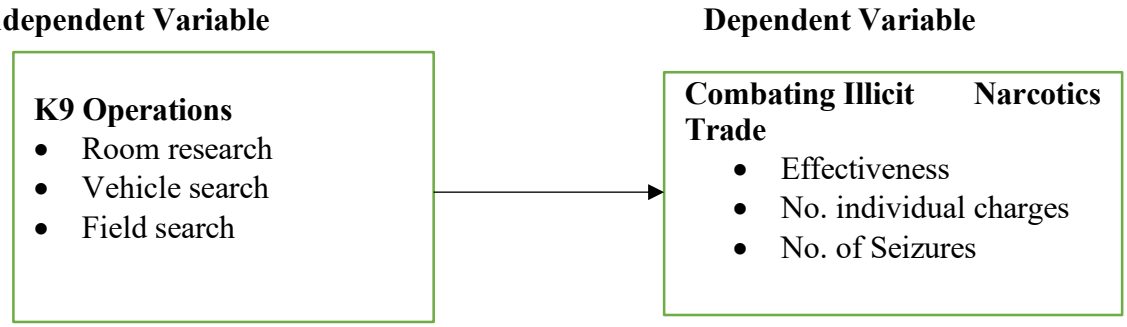

Figure 1: Conceptual Framework

3. Methodology

Sekaran and Bougie (2010) define research design as the process of gathering, measuring, and analyzing data to arrive at a solution. It is a science that investigates the procedures employed in scientific research (Kothari, 2004). It also refers to a detailed data-gathering plan for an empirical study effort (Bhattacherjee, 2012). This study employed an explanatory research design. Explanatory design seeks to explain why things happen and predict what will occur in the future. The target population of the study was 387, consisting of customs enforcement officers Port of Mombasa, and a sample of 196 respondents. After further investigation, 163 out of 196 distributed questionnaires were completed and returned, resulting in an 83.2% response rate as shown in Table 1.

Table 1: Response Rate Analysis

	Number	Percentage %
Response Rate	163	83.2%
Did Not Respond	33	16.8%
Total	**196**	**100%**

Reliability analysis

Nunnally (1978) highlighted that various factors can hinder the perfect repetition of measurements. To assess the one-dimensionality of a set of scale items, Cronbach's alpha was employed. Nunnally (1978) asserted that a Cronbach's alpha value of 0.7 or higher indicates that the research instrument is reliable. Table 2. The Cronbach's alpha values for all variables exceeded the commonly accepted threshold of 0.70, indicating high reliability. Specifically, the variable "Combating Illicit Narcotics Trade" demonstrated an exceptionally high reliability with a Cronbach's alpha of 0.978 across 4 items. Similarly, "K9 Operations" also exhibited strong reliability, with alpha values of 0.926, respectively, across 6 items.

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Table 2: Test of Reliability of Questionnaire

Factor	Number of Items	Cronbach Alpha score	Conclusion
Combating Illicit Narcotics Trade	4	0.978	Reliable
K9 Operations	6	0.926	Reliable

4. Results and Discussion

4.1 Descriptive statistics

4.1.1 Descriptive statistics for K9 Operations

Table 3 showed that the item “Detector Dogs are adequately trained to identify a wide range of illicit narcotic goods" received a mean score of 4.01 (SD = 1.015). The statement "Patrol Dogs are effective in deterring individuals from engaging in illicit narcotics trade activities" received a mean score of 3.78 (SD = 1.083). The item "We always conduct field search in Port of Mombasa" received a mean score of 4.04 (SD = 1.002). The item "Tracker Dogs are valuable in locating concealed illicit goods within cargo shipments" received a mean score of 4.06 (SD = 1.056). The item "We often do vehicle search in Port of Mombasa" received a mean score of 4.03 (SD = 1.057). The item "The current number of K9 teams at Port of Mombasa is sufficient to handle the volume of enforcement operations" received a mean score of 3.72 (SD = 1.014).

Table 3: K9 Operations

	N	Mean	Std. Deviation
Detector Dogs are adequately trained to identify a wide range of illicit narcotics.	163	4.01	1.015
Patrol Dogs are effective in deterring individuals from engaging in illicit narcotics trade activities.		3.78	1.083
We always conduct a field search in the Port of Mombasa.		4.04	1.002
Tracker Dogs are valuable in locating concealed illicit goods within cargo shipments.		4.06	1.056
We often do a vehicle church in the Port of Mombasa.		4.03	1.057
The current number of K9 teams at Port of Mombasa is sufficient to handle the volume of enforcement operations.		3.72	1.014
Mean		3.94	

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4.1.2 Descriptive statistics for Combating illicit narcotics trade

Table 4 showed that the survey statement “Illicit narcotics trade is a prevalent issue at Port of Mombasa" received a mean score of 4.07 (SD = 0.969). The statement "The current enforcement operations effectively address and minimize instances of illicit narcotics trade at Port of Mombasa" had a mean score of 4.04 (SD = 0.974). For the item "There is a need for enhanced measures to combat and reduce illicit narcotics trade activities at Port of Mombasa," the mean score was 4.03 (SD = 0.959). The statement "The existing enforcement strategies have a significant impact on curbing illicit narcotics trade at Port of Mombasa" had a mean of 3.97 (SD = 1.027).

Table 4: Descriptive statistics: Combating the illicit narcotics trade

	N	Mean	Std. Deviation
The illicit narcotics trade is a prevalent issue at the Port of Mombasa	163	4.07	.969
The current enforcement operations effectively address and minimize instances of illicit narcotics trade at the Port of Mombasa.		4.04	.974
There is a need for enhanced measures to combat and reduce illicit narcotics trade activities at the Port of Mombasa.		4.03	.959
The existing enforcement strategies have a significant impact on curbing the illicit narcotics trade at the Port of Mombasa.		3.97	1.027
Mean		4.03	

4.2 Correlation Analysis

The correlation analysis assessed the nature of the relationships between each of the predictor variables and the outcome variable. The correlation matrix showed that the correlation between K9 Operations and combating the illicit narcotics trade (r = 0.178. This positive and significant correlation suggests that K9 operations are associated with increased success in combating the illicit narcotics trade.

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Table 5: Correlation Statistics

	Combating illicit narcotics trade	K9 Operations
Combating the illicit narcotics trade	1	0.178**
K9 Operations	0.178**	1

**. Correlation is significant at the 0.05 level (2-tailed).

4.3 Regression Analysis

Table 6 showed that K9 operations caused a variation of (R^2=0.031 and adjusted R^2 =0.027) in combating the illicit narcotics trade.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.178a**	**.0.031**	**.027**	**.45890**

a. Predictors: (Constant), K9 operations _mean

Table 7 shows that there was an F statistic of 259.779 and a p-value of 0.000<0.05, which indicates that the model was significant in explaining the variance caused by K9 operations.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.341	1	22.341	259.779	0.000
	Residual	13.865	161	0.086		
	Total	36.206	162			

a. Dependent Variable: Combating illicit narcotics trade

b. Predictors: (Constant), K9 operations

Table 8 showed that a unit change in K9 operations caused a 0.153 increase in combating the illicit narcotics trade. The study found that K9 operations had a positive and significant effect on combating illicit narcotics trade, β =0.153, p-value =0.023<0.05. Consequently, the null hypothesis was rejected.

Table 8: Regression Coefficient analysis

Model		Standardized Coefficients β	Std. Error	Unstandardized Coefficients β	t	Sig
1	(Constant)	1.549	0.437		3.545	0.001
	K9 Operations	0.153	0.074	0.180	2.068	0.023

a. Dependent Variable: combating the illicit narcotics trade

4.4 Discussion of the Findings

The study sought to establish the effect of K9 operations on combating the illicit narcotics trade at the Port of Mombasa, Kenya. K9 operations had a positive and significant correlation with Combating illicit narcotics trade ($r = 0.178$, $p = 0.023$). This positive and significant correlation suggests that K9 operations are associated with increased success in combating the illicit narcotics trade. The study further found that K9 Operations had a positive impact on combating illicit narcotics trade efforts ($\beta = 0.153$, $p = 0.023$), indicating that increased K9 operations significantly enhance efforts to combat illicit narcotics trade. The findings concurred with O'Heare (2002) and Mbatia (2017), who documented the effectiveness of K9 units in detecting scents related to illicit goods, which supports the study's finding that K9 operations significantly enhance efforts to combat the illicit narcotics trade.

5. Conclusion

The study sought to determine the effect of K9 operations on combating the illicit narcotics trade at the Port of Mombasa, Kenya. Based on the findings, the study concludes that K9 operations have a significant positive effect on combating the illicit narcotics trade at the Port of Mombasa. The use of detection dogs enhances the effectiveness of drug interdiction efforts, making it an essential tool in the fight against narcotics trafficking.

6. Recommendations

The Kenya Revenue Authority (KRA) and the government should invest more in K9 operations at strategic points, such as ports, to enhance detection and interception. Future research on the role of technology in combating the illicit narcotics trade.

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