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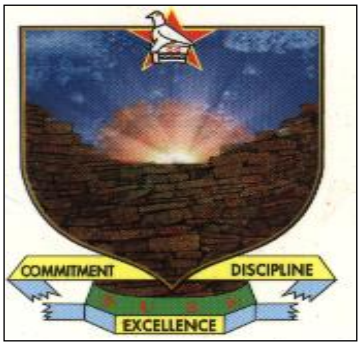

An Investigation Into The Effectiveness Of Strategies Being Used In The Prevention Of Theft In Parastatals. A Case Of Nrz 2022-2023.

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINSTRATION (HONOURS) DEGREE IN POLICE AND SECURITY STUDIES (BBA.PSS) OF BINDURA UNIVERSITY OF SCIENCE EDUCATION, FACULTY OF COMMERCE.

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DECLARATION OF AUTHOURSHIP

I, Tendai Loti, declare that the information in this research project is original and has not been published anywhere else. Consulted previous works have been acknowledged and cited in the proper way.

_____ _____

(Signature of Student) (Date)

DEDICATION

I dedicate this research project to my wife Talent and our beloved sons Donald and Kayden who have always been my pillars of strength and source of inspiration. I love you all and may the Almighty give you my more years.

ABSTRACT

This study is a case study of National Railways of Zimbabwe 2022-2023. Theft of NRZ assets has increased despite measures put in place to protect these assets. A population of 320 was targeted, where a sample of 64 was selected using convenience, stratified and random sampling techniques. The study was guided by the following objectives, to identify the types of theft occurring in NRZ, causes of theft, challenges in fighting crime and to recommend new strategies. Data was gathered from the NRZ system and Police stations using questionnaires, interviews and structured observation. The Statistical package for social sciences (SPSS) was used to analyse data and it was presented in the form of tables and pie charts. The study found out that copper cables, track and wagon components were the most stolen items. It was also found that major causes of theft are socio-economic challenges, illegal mining, thriving scrap metal industry, and poor regulatory framework. The study also found out that challenges in fighting crime are shortage of resources, inadequate legal deterrents, internal corruption, surveillance shortcomings and lack of community involvement. From the findings it can be concluded that central government should formulate generic strategies to fight crimes in parastatals. It can also be concluded that nothing was being done by the NRZ and government to improve crime fighting strategies. Another conclusion was that widespread corruption was hindering efforts to fight crime. From the conclusions it is recommended that proactive strategies be implemented to fight crime. It is also recommended that NRZ dispose of its decommissioned wagons, coaches and railway lines to reduce exposure and earn revenue. Another recommendation is to replace copper cables with other material not attractive to thieves. It is further recommended that the parent ministry lobby for the effective regulation of small scale miners, stiffer penalties and also the NRZ embrace technologies like CCTV and drones as well was carrying out public awareness campaigns.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank the Almighty God for protection and guidance during this research project. I also want to thank my esteemed project supervisor Mr. Gombarume for his tireless efforts in guiding me. I had the privilege of tapping into his vast knowledge. My well meaning appreciation also goes to all my friends and course mates at Bindura University of Science Education and in the National Railways of Zimbabwe for their continued support. I would also like to extend my sincere gratitude to the respondents who contributed immensely to the success of this study. Lastly, I am indebted to my wife Talent, our sons and my niece Patience for their unwavering support and sacrifices they made to allow me time for this research project.

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CHAPTER I

INTRODUCTION

1.0 Introduction

Theft of assets in parastatals particularly the National Railways of Zimbabwe has become a national problem threatening the continued existence of the Railway system. This has had profound impact on the country's transportation network. The NRZ in collaboration with central government and the security sector has employed various strategies to prevent these thefts. This case study will investigate the effectiveness of these measures and recommend new or strengthen existing strategies. In this chapter, the background of the study, statement of the problem, objectives of the research, research questions, significance of the study, assumptions of the study, delimitations of the study, limitations of the study and summary of the chapter will be covered.

1.1 Background of the study

Globally, the railway industry is plagued by theft of assets that mainly include copper cables, rolling stock parts, track components, signalling equipment and infrastructure components. This has led to significant replacement costs, compromised service efficiency and accidents. This has had significant economic impact as the world over a Railway system is central to industrial activities. According to Harrison (2017), "the Railroad is the lifeblood of the country, and its health is inextricably linked to the economy". According to Strickland (1825) railways are the arteries of the country and their pulsation is a measure of its prosperity. Many countries globally grapple with the scourge of asset theft and have developed modern security strategies to arrest this problem.

India has suffered from railway asset theft in recent years. The sheer size of its rail network, resource constraints, demand for scrap metals, weak prosecution and widespread poverty in the countryside makes it difficult to effectively protect these assets. Singh (2020) postulates that the lack of adequate surveillance and monitoring systems in India has made railway assets an easy target for thieves. This is supported by Joshi et al (2024) who posit that systematic issues like insufficient security on infrastructure, weak prosecution and the high demand of scrap metals has fuelled theft of Railway assets in India. The Indian railways has implemented various measures to protect railway assets and these are increased security personnel, technological enhancement like use of CCTVs, community engagement and using materials that are not attractive to thieves. According to Saxena (2020), improvements in policy enforcement the use of modern technology are some of the strategies that can be adopted to tame this theft. These measures have largely been effective as the Indian Railways recorded a 10% decline in thefts of its assets.

In South Africa, Van Heerden and Jacobs (2020) argue that theft of railway assets affect the efficiency of freight transport which contribute to higher costs for businesses. According to the Transnet Freight Rail website, the state company lost 1600km of cables between 2022 and 2023 rendering a portion of the rail network unusable. Naidoo and Pillay (2017) agree with Van Heerden and Jacobs postulating that theft of railway assets have broader socio-economic effects on communities and industries that rely on the railway system. The financial impact has been significant with TFR's revenue in the last three years declining from R45 billion to R35 billion partly on account of cable theft. Theft of railway assets in South Africa encompasses catenary wires, signalling equipment, track components and other infrastructure. In recent years the thefts have escalated mainly due to rising market prices of scrap metal, weak security, lack of law enforcement, high unemployment and poverty. TFR has however employed strategies to prevent thefts that include working closely with law enforcement, improve access control in its installations and target hardening. These strategies have fairly worked and led to a significant recovery of stolen copper cables worth R20m in KwaZulu-Natal, (Transnet Freight Rail, 2023).

Zimbabwe in particular has faced significant challenges with thefts or railway assets. According to Moyo and Dube (2020), theft and vandalism has been rampant at the National Railways of Zimbabwe with thieves mainly targeting copper cables, rails, signalling equipment and copper cables. The proliferation of illegal copper dealers and a ready market in South Africa has made copper thefts unmanageable. Sithole (2020) noted that overhead copper cables and underground signalling cables were stolen at NRZ and this has posed economic, operational and safety challenges, This view is supported by Gwaze (2022) who postulate that copper theft at the National Railways of Zimbabwe, ZESA and Telone has led to disruption of services, increased repair costs and impacted heavily on the country's freight logistics. According to Kunambura (2023), track ballast is stolen for construction or crushing it for gold ore in areas like Eiffle flats and Venice. Signalling equipment like tumbler points, junction boxes and armoured cables are stolen and sold to scrap steel dealers. According to Sidebottom et al (2014), theft of metal is directly linked to its market price.

Theft of NRZ assets has impacted heavily on its operations leading to train cancellation and delays for example in April 2023 when the theft of copper cables led to a two day stoppage in train movements. There are strategies to curb theft of Railway assets put forward by various researchers. A research by Sahu and Patel (2016) in their journal titled, Advanced surveillance systems: A review, emphasised the need for advanced surveillance systems, increasing law enforcement manpower, awareness campaigns and strict penalties for theft to deter criminal activities This view is also shared by Choi and Kim (2018) who noted that technological interventions are an effective strategy in reducing asset theft. There were also researchers who focused on crime prevention through environmental design as an effective strategy to prevent asst theft in parastatals. Casteel and Peek-Asa (2000) in their study titled, Effectiveness of crime prevention through environmental design, found out that environmental changes such as improved lighting and strategic layout designs reduced theft and vandalism in environments. Crowe (2000) in his book titled, Crime prevention through environmental design: Applications of architectural design and space management concepts, agrees with this view noting that limiting access to sensitive areas

through natural surveillance and enhancing territorial reinforcement like fencing and signage can reduce asset theft. The researcher investigated the types of theft, causes of theft, effectiveness of the current strategies being used to prevent theft of NRZ assets and recommended new strategies.

1.2 Statement of the problem

The NRZ has put several strategies to fight theft of its assets countrywide. These include implementation of laws against theft such as the Railway Act (13:09), establishment of a fully fledged security department among others. However despite all these efforts, theft cases have not declined as shown in the table below. In 2022, the NRZ lost USD184 524 in 52 cases of copper theft and 49 cases related to vandalism and theft that were reported. In 2023 a total of 71 cases were reported and property worth USD95 500 was stolen. The table below gives an appreciation of the theft statistics of 2022 and 2023 captured in the Eastern area operational region:

Table 1.1

Statistics of theft cases 2022-2023.

ITEM	**CASES 2022**	**VALUE/LOSS(USD)**	**CASES 2023**	**VALUE/LOSS(USD)**
Copper	52	55500	40	38000
Wagon Items	8	10500	5	6500
Track items	10	23600	10	21200
Locomotive items	6	15900	5	15000
Signal components	10	43200	4	6500
NRZ/CFM tarps	9	10200	5	5200
Others	6	22642	2	3100
TOTALS	**49**	**181 542**	**71**	**95500**

Source credit: Loss Control Eastern Area Annual reports, 2022/2023.

This study now investigates why crime is not positively responding to the implemented strategies.

1.3 Research objectives

Evaluating the effectiveness of strategies being used to prevent theft in parastatals, a case study of NRZ 2022-2023 was the study objective, however the study also sought to establish the types of thefts occurring in the NRZ:

- To identify the types of theft occurring in the NRZ.
- To establish the causes of theft of NRZ assets.
- To investigate the challenges faced by NRZ in fighting theft of its assets.
- To recommend new strategies or strengthening of existing strategies.

1.4 Research questions

This study was guided by the following questions:

- What are the types of crimes prevalent in the NRZ?
- What are the causes of theft of NRZ assets?
- What are the challenges faced by NRZ in fighting theft of its properties?
- What new strategies can be used to strengthen the existing ones?

1.5 Significance of the study

The study was deemed an ideal source of information to the following groups:

- **To the Railway industry**

The research interrogated the history of theft of railway assets, the challenges faced by NRZ to stop these thefts as well as recommending effective strategies to fight theft in NRZ. This study gives railway industry players great insights of the nature of crimes in their industry and various strategies to ameliorate these. Findings from this study also help Loss control decision makers in the railway industry to make better decisions based on the knowledge established by the study.

- **To the Government of Zimbabwe**

From a policy formulation perspective, the ministry of transport will greatly benefit from drinking from the well of wise wisdom afforded by this study. The study highlighted significant issues that led to vandalism and theft of railway assets which can be corrected by policy changes. This research illuminated these grey areas and proffered some strategies that will be effective in protecting NRZ assets which will ultimately improve its balance sheet.

- **To the researcher**

This study challenged the researcher to summon his analytical mind, employ all skills and concepts learnt at Bindura university and explore the topic. The researcher gained valuable insights on crime in the railway industry during the course of this research. The research is also significant in the sense that it is a requirement for the partial fulfilment of this degree programme.

- **To the university**

The findings of this research will add a wealth of knowledge for academics and BUSE as a whole. This study's findings also add another body of knowledge at BUSE on the previously not much researched world of crime in railway systems. Prospective researchers and academics will find a foundation stone already laid in the study of thefts in railway systems.

1.6 Assumptions of the study

The research was carried out under the following assumptions :

- The time frame afforded to complete the research was enough.
- All data requisite to the study was readily available.
- Questionnaires sent out and interviews conducted were answered truthfully.
- Methods for collecting data were lawful and morally correct.
- That Railway administration will avail documents relevant the study.

1.7 Delimitations of the study

The study was confined to NRZ operational regions that are Eastern, Midlands and Southern covering 4225km of rail line. The study was premised on the identification of the types of theft occurring in the NRZ, causes of theft, effectiveness of current strategies to fight crime and recommend new strategies. The period covered by the study is January

2022 to December 2023. Participants in the study were mainly NRZ loss control and security personnel and senior managers, OICs at various police stations, industry experts as well as officials from the Ministry of Transport and Infrastructural Development.

1.8 Limitations of the study

- **Resource constraints**

The researcher faced challenges in terms of resources like finances and source material. Given the wide area covered by the railway system, travelling and subsistence expenses were a challenge. To overcome this, the researcher borrowed a soft loan from ZB Bank which helped ameliorate this challenge. Source material relevant to this study was also hard to come by and the researcher had to rely heavily on raw data and internet resources for the study.

- **Time limitations**

The researcher did not have enough time to carry out the study considering that he was juggling work, school and family. To overcome this challenge, the researcher religiously followed a strict work plan and also adhered to time frames set by the project supervisor.

- **Limited cooperation from study participants**

The researcher faced headwinds in terms of cooperation by study participants. Most responses from the target population were scant considering the sensitive nature of security issues, this was countered by building a network of trusted friends throughout the research which built mutual trust.

- **The official Secrets Act**

The official secrets act was a major limiting factor to the researcher as most of the study participants signed the OSA on attestation. To overcome this, the researcher assured the participants that all information obtained will be treated strictly in confidence and will be used for educational purposes only.

1.9 Definition of terms

Railway: According the Collins English dictionary a railway is a transport system using rails used move passengers and goods.

Theft: The unauthorised taking of another's property, with the intent to deprive the owner of it permanently (Garner, 2019)

Strategies: long term plans or approaches designed to achieve a specific goal or objective (Porter, 1980)

Catenary wires: A system of overhead wires that supply electrical energy to electric locomotives and trains (Kumar, 2018)

Scrap metal: Any metal material that is discarded or rejected as useless or unwanted and is capable of being recycled or reused (Cunningham, 2009)

Signalling equipment: The collection of devices and systems used to control the movement of trains and ensure their safe operation (Hall, 2017)

Vandalism: The deliberate destruction or damage of property often with the intention of causing harm or annoyance (Henry, 2009)

Target hardening: The process of making a target more secure by the use of physical or other measures (Gill, 2014)

Abbreviations

NRZ- National Railways of Zimbabwe (the state rail company)

TFR- Transnet Freight Rail

CPED- Crime prevention through environmental design

CCTV- Closed circuit television

CFM- Caminhos de Ferro de Mocambique (Mozambique state rail company)

1.10 Chapter summary

This chapter focused on enunciating the background of the study, the problem statement, objectives of the study, research questions, significance of the study, assumptions, delimitation and limitation of the study. The researcher identified the types of theft occurring in the NRZ, causes of theft, effectiveness of current strategies and recommended strategies to effectively protect NRZ assets. The succeeding chapter will dwell on literature review.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

The main object of this chapter is reviewing literature related to strategies that can be used to prevent theft of assets in parastatals with particular emphasis to the railways. Cooper and Schindler (2003) defined literature review as scrutinising research studies that are historical, recent and significant, industry data or company reports that are a basis of the study. The bulk of the information used in this research was solicited from verifiable and reliable sources from the internet, railway library, railway museum, National Railways of Zimbabwe company reports, Railroader magazine, the Railway official tariff book, the Railway general appendix, the Trains working regulations book, African development bank reports, Loss control department situation reports as well as published books and journals. The researcher looked at the theoretical framework, conceptual framework, empirical evidence, knowledge gap and summary in this chapter.

2.1 Purpose of literature review

The purpose of reviewing literature is to establish existing gaps and limitations in existing research, Bryman (2016). Bryman further posits that literature review should not just summarise existing research but also identify the gaps and limitations in current knowledge which helps to justify the need for the proposed study. According to Hart (2018), literature review helps to demonstrate the researchers understanding of the topic and field. Cooper (2010) notes that synthesising and integrating existing knowledge and findings is a fundamental purpose of literature review.

2.2 Theoretical framework

Theoretical framework mainly concerns itself with the identification of a theory that informs the study. This study in particular was mainly influenced by the situational crime prevention theory postulated by (Clarke, 1980). The theory states that discrete managerial and environmental changes reduces the opportunity of crime to occur This theory was used because of its focus on the settings of crime rather than those committing criminal acts. It is proactive in nature, which is the bedrock of crime prevention strategies used in parastatals particularly the NRZ. The author however, feels there are other relevant theories which work hand in hand with the situational theory. These theories are the routine activities theory by Cohen and Felson, (1979) which states that changes in the way people do their daily activities can explain rise in crime. Routine activities theory attempts to establish that the pattern of criminal activity at macro level can be used to explain changes in crime trends, (Cohen and Felson, 1979). This theory argues that crime occurs when three elements converge in time and space, motivated offender and suitable target.

Also deemed relevant is the broken windows theory by (Kelling et al, 1982) which states that the presence of visible signs of crime, unbecoming behaviour and disorderly society create an environment that results in further crime and disorder which can lead to serious crimes. This theory argues that since disorder begets disorder, visible signs of neglect, vandalism and petty crime create an atmosphere of lawlessness, signalling potential offenders that no one cares about the community or the rules. The theory also suggests that minor acts of vandalism or disorder such as derelict coaches (NRZ station Bulawayo) if left unchecked could lead to decline in community standards and breakdown in social control as evidenced by homeless people now living in disused coaches. Strategies like repairing or sprucing up defaced buildings and other equipment, sanctioning petty crimes like loitering, criminal trespass or possession and use of dangerous drugs assist in creating an atmosphere of order and lawfulness. The phrase broken windows is a metaphor for any visible sign of disorder in an environment that is not rectified.

2.3 Conceptual framework

2.3.1 Historical context analysis

Theft of assets in parastatals in Zimbabwe is an age old problem. The problem became more pronounced at the turn of the millenium occasioned by the economic downturn. State entities like Zesa, Telone and the NRZ have been incurring a lot of expenses in equipment replacement costs after thieves started targeting their equipment mainly copper components. These parastatals have vast installations nationwide which makes implementing strategies to prevent thefts quite challenging. The NRZ operates the country's national railway system in all the geographical regions. The railway system comprises of tracks, sleepers, signal copper cables, overhead catenary wires as well as various forms of rolling stock which are all prone to theft. Overhead electric cables between Harare and Dabuka were stolen between 2006 and 2009 mainly because of de energising and a ready market for copper locally and in South Africa. The NRZ and other stakeholders have implemented various strategies to mitigate these thefts. Between 2022 and 2023 there was a notable decline in theft cases as well as increased convictions which is attributable to the strategies implemented during this period.

The conceptual framework will describe types of thefts, assets targeted, causes and effects of these thefts. Strategies being used to combat crime as will also be explained.

2.3.2 Types of theft

- **Underground and overhead copper cables**

Signalling copper cables that run along the railway line has been a major target of thieves due to its density and equivalent value. Between 2022 and 2023, the NRZ lost USD200 000 worth of copper to thieves. The copper is sold to local middlemen who have contacts with buyers in a closely guarded web of crime. Theft of copper at NRZ can be largely attributed to the de commissioning of the signalling system which led to lack of maintenance or care. The socio-economic climate after the year 2000 also led an increase in crime. The theft of copper cables has affected the NRZ as it lost potential revenue from sale of that scrap

copper. The parastatal also incurred legal and administrative costs related to cases of copper theft that went to court.

- **Track ballast stones**

Track ballast stones are the aggregates that stabilise the railway line. These stones are targeted for their presumed gold content in mining areas like Bindura, Kadoma and Empress. These stones are picked and crushed at gold mills usually found in these areas. This type of theft can be attributed to the presence of illegal mining activities in these areas and poor law enforcement by the national police. The theft of track ballast greatly affected the NRZ by causing wash aways and train derailments which cost the parastatal materially and financially. In August 2023, a shunt train derailed at jumbo siding on the Bindura line due to the removal of track ballast.

- **Rail fasteners and pins**

Rail fasteners and pins are complementary components that are used to secure the rail base plate to the sleeper. These items are stolen and modified for use as chisels by artisanal miners in areas like Battlefields, Martin, Banket and Odzi. This type of theft is mainly attributed to the presence of illegal mining activities and the high tensile strength of these steel components which make them suitable for hard digging. Between 2022 and 2023 the NRZ incurred a total USD35500 in replacement costs of stolen fasteners and pins.

- **Wagon components**

Wagon components include brake blocks, pull rods, adjusters and couplers which are all targeted and sold as scrap mainly in areas like Mpopoma, Dabuka and Lochinver. This type of theft is mainly attributable to the proliferation of illegal scrap metal buyers who provide a ready market for these steel components. It is also fact that the type of steel used to make wagons is very heavy hence thieves are motivated to get more weight for sale. Many arrests and recoveries were made between 2022 and 2023 mostly during joint operations between NRZ Loss control, ZRP, ZESA and Telone. This has affected the NRZ in terms of replacement costs and train delays.

- **Rail sleepers**

The NRZ has three types of sleepers, concrete, wooden and steel with the latter two being targeted by thieves for firewood and scrap metal respectively. Theft of these sleepers is attributable to rail lines that used to feed industries no longer in use. This has given opportunity to vandals to steal these sleepers from disused and neglected lines. This type of theft has affected the NRZ by loosing potential revenue from sales of these sleepers after harvesting them. The Rio line in Kadoma has been vandalised extensively and rail sleepers stolen and in 2022 several arrests were made in connection with theft of railway sleepers. The following figure illustrates the components that are targeted by thieves.

Railway components targeted by thieves

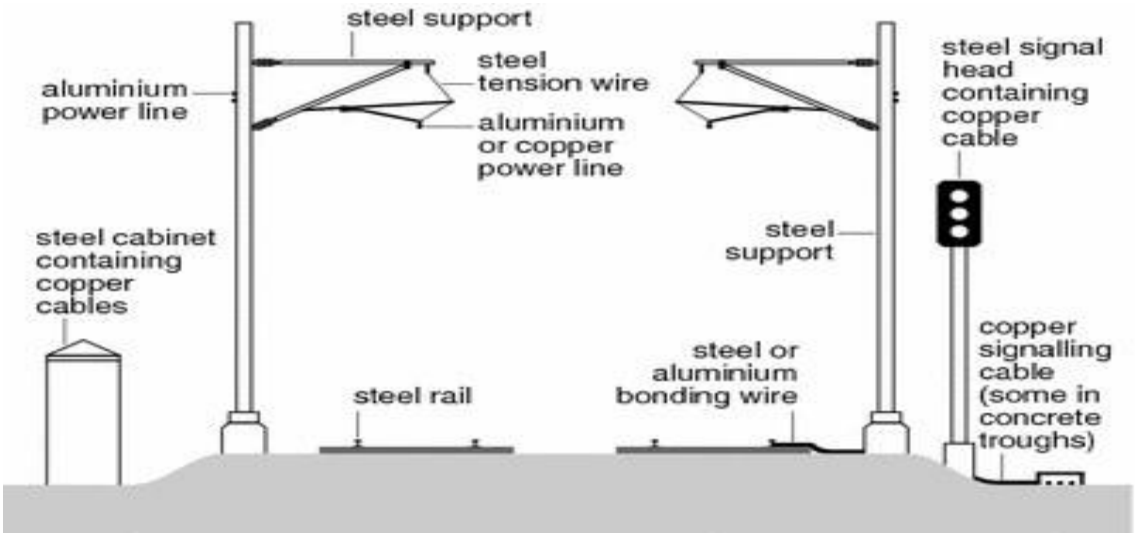


Fig 2.1

Source credit: Journal of transportation and security.

2.3.3 Causes NRZ assets theft

- **Socio economic challenges**

According to (Mugari and Obioha, 2023) theft and vandalism of infrastructure is mainly caused by socio economic challenges mainly the failure by governments to create employment, social safety nets and other essential necessities. They further postulated that the obtaining macro economic situation in Zimbabwe us a stimulant to the commission of vandalism and theft. Through perusing NRZ Loss control eastern area security reports, this researcher established that in 90% of arrests made in 2023, the accused gave addresses from Epworth or Mbare, both poor neighbourhoods, with some claiming no fixed abode.

- **Thriving scrap metal market**

The rise in prices of copper on the world market has led to depletion of stocks on the international metal markets thus copper demand in the background has led to a rise in the destruction of the built environment in many places around the world (Bennet, 2008). According to (Mugari and Obioha, 2023), a lucrative scrap metal market in South Africa coupled with porous boarder posts has led to a rise in vandalism and theft of ZESA and NRZ infrastructure in Zimbabwe.

- **Illegal gold mining activities**

The presence of illegal gold panners has emerged as one of the main causes of railway components theft. According to the (Chronicle, 2021), vandalism and theft of railway components by illegal gold miners who conduct their mining activities near railway lines has become prevalent. These particularly target rail pins that are used on hammer mills, rail springs are removed and straitghtened to make hard chisels to forage hard earth. The researcher perused NRZ Loss control Kadoma monthly crime returns for the period 2022-2023. It was noted that areas with illegal gold panners like Munyati, battlefields and Martin recorded cases that involved theft of rail pins and springs. Mr Kunambura, the NRZ public relations manager noted that theft of Railway items, even small ones, can have significant impact on NRZ works as trains cannot traverse sections with vandalised components parts as this can cause derailments (Zimbabwe Independent, 2022).

- **Poor regulatory framework for scrap and copper buyers**

The poor regulation of the scrap industry which has grown significantly over the past few years is a major cause for theft of NRZ assets. The government should stop issuing copper export licences to curb the theft of copper opined the NRZ General manager Respina Zinyanduko in June 2022 (Railroader, 2022). She further argued that Zimbabwe has no copper mines and questioned where the copper being exported was coming from. The Zimbabwe Institute of Foundries recently called for regulation of the steel recycling industry as the country is witnessing escalating incidents of vandalism and theft. The country is witnessing vandalism of infrastructure in the quest to get scrap metal (Sunday News, 2024)

2.3.4 Challenges faced by NRZ in fighting theft of its assets.

The NRZ has faced multifaceted challenges in fighting theft of its assets and these challenges are:

- **Shortage of resources**

NRZ's efforts to combat crime has been hampered by an acute lack of resources. The parastatal lacks sufficient security personnel and modern surveillance technology to monitor the vast railway network. Matsika (2021) highlights that NRZ's security department is underfunded making it difficult to patrol remote stations. Although surveillance drones were introduced in 2023, they do little to cover the expansive railway network. Zimbabwe's railway system suffers from chronic underinvestment in security infrastructure (AFDB, 2020). The shortage of resources has led to widespread theft and vandalism of NRZ assets.The NRZ has however managed to scrap some successes in the fight against crime by having joint operations with the ZRP, ZESA and Telone leveraging on their resources (The Chronicle, 2021).

- **Inadequate legal deterrents**

Although the (Railways Act chapter 13:09) and the Copper control Act (Chapter 14:06) stipulate stiffer sentences of between 5 and 10 years, the judiciary has often handed down lenient sentences including fines which NRZ officials argue are insufficient to deter repeat

offences (Newsday, 2022). Several researchers have suggested that severity of penalties, when effectively enforced can be effective in deterring criminal tendencies. According to Parker (1968), the efficiency of the criminal justice system in apprehending and punishing offenders serves as a deterrent to crime. His crime control model further argues that when penalties are perceived to be lenient or enforcement is inconsistent, the deterrent effect diminishes potentially leading to higher crime rates. This view is also supported by Wilson (1975) who posited that longer prison sentences could reduce crime by incapacitating repeat offenders.

- **Internal complicity and corruption**

There have been reported cases of NRZ employees conniving or complicit in the theft of NRZ assets. This can be evidenced by the case of Charles Kakurira SC 69/14. Kakurira, a station clerk at Banket station was found guilty of stealing NRZ property specifically three steel sleepers. In January 2021, five NRZ workers including security personnel were arrested for stealing fuel from NRZ depot in Bulawayo (Nehanda radio, 2021). The involvement of NRZ workers and moreso security personnel poses a big challenge in fighting crime at NRZ. Corruption in NRZ has also impeded its operations. The reported 2009 looting scandal involving former general manager Air Commodore Mike Karakadzai and executives resulting in the misappropriation of USD1 million (Zimbabwe Situation, 2009). These incidents highlight systemic issues which pose a challenge to effectively fight crime in NRZ.

- **Surveillance and monitoring challenges**

Surveillance and monitoring are critical components in the National Railways of Zimbabwe's efforts to prevent theft and vandalism of its assets. However, the vast railway network, spanning 3000km makes comprehensive surveillance and monitoring a daunting task (The Chronicle, 2023). NRZ infrastructure and equipment is outdated, most of has outlived its lifespan which complicates integration with modern technologies such as CCTV and drones. Although surveillance drones were introduced in 2023 to monitor NRZ assets, they have been limited in scope and coverage (The Sunday Mail, 2025). Chigwada (2021) in his work 'Zimbabwe's Railway security challenges' points out that the NRZ lacks

modern surveillance and monitoring systems that makes it a challenge to effectively monitor its vast infrastructure.

- **Lack of community involvement**

A lack of public awareness on the importance of railway infrastructure is a major challenge in fighting theft of NRZ assets. According to Moyo (2021), NRZ has not effectively educated communities on the economic impact of railway theft. A lack of community buy in negates the notion of collective ownership and some community members actively participate in theft, dismantling tracks and selling materials. However the NRZ Loss control department has undertaken initiatives to involve communities in protecting railway assets. It has conducted joint anti vandalism campaigns with entities like ZESA, Telone and the ZRP (Railroader, 2022). Incorporating community engagement strategies is essential to combat the theft of NRZ assets.

2.4 Empirical Literature

Empirical literature is essential in research, decision making and evaluating knowledge. It is based on observation and experience. Karl Popper (1934) noted the importance of empirical evidence in testing and potentially refuting scientific hypotheses.

As a point of departure, there are various studies carried out by researchers on common types of crimes committed against parastatals. Chingozha (2022) in his journal article titled 'Digitalising Infrastructure Protection: Curtailing Vandalism and Bolstering Revenue Inflows' carried out a study involving a population of Loss control and public relations officers from NRZ,ZESA and Telone from Mashonaland West, Harare and Midlands provinces where a sample of 9 Officers was used. The study was informed by the objectives listed below:

- To find out the items being vandalised in parastatals (ZESA, TELONE and NRZ).
- To identify the causes of theft and vandalism.
- To proffer strategies to curb vandalism.
- Examine the effects of vandalism and theft of infrastructure.

The study's findings were:

- Rail clippers, stolen by artisanal miners for use as chisels.
- Track ballast, stolen to be processed for gold.
- Copper that is sold to copper dealers.

The researcher concluded that:

- That the institutions most affected by vandalism and theft have not adopted smart policing.
- Trading in copper is not well regulated which leads to illegally obtained copper being traded.
- The copper Act does not adequately provide for effective punishment
- The police are under resourced and poorly remunerated to effectively deal with theft and vandalis/m of assets in parastatals.

And the researcher made the following recommendations:

- The Police and other responsible organs should adopt smart policing which emphasises effective use of data analytics.
- Use of technology like CCTV and other modern methods of crime detection and surveillance.
- Public utilities should employ well vetted employees as it was found out most crimes are committed involving employees.
- A regional body need to be created within SADC to police cases of copper and promote the use of new technologies in the region to deal with crime.

Tsokota et al (2013) in their journal article titled 'The challenge of vandalism in Zimbabwe' carried out a study on vandalism and theft of Railway assets. This was a study involving a population of ex convicts who had served time for stealing assets in parastatals where a sample of 18 convicts was used. The study was informed by the following objectives:

- To establish the causes of vandalism and theft of infrastructure in Zimbabwe

- To highlight the nature of vandalism and theft
- To understand the possible reasons why there are high levels of vandalism and theft in Zimbabwe
- To find solutions for the challenge of vandalism and theft in Zimbabwe.

The study's findings were:

- That most vandalism and theft of infrastructure in Zimbabwe is due to economic reasons.
- A ready local and export market for scrap metal, copper and aluminium which fuel the vandalism and theft of these assets in parastatals.
- There is involvement of workers, current and former from these parastatals who take part in vandalism and theft.
- There are organised syndicates that include Police officers, transporters, employees and customs officials.

The researchers made the following conclusions:

- The scourge of vandalism and theft of state infrastructure requires a multi faceted approach that include modern strategies to combat crime.
- Communities can assist in fighting crime by arresting vandals or reporting cases of theft through the use of informer networks.
- If Stakeholders cooperate, the problem of vandalism and theft can be reduced.
- Vandalism and theft of assets in state enterprises is costing the economy US100 million every year.

The study made the following recommendations:

- Vandalism and theft of state infrastructure should be classified as the worst form of economic sabotage
- Arms of State security should work with internal security of state companies to curtail and stop the syndicates that operate in a well organised manner.

- The government should ban copper exports so as to reduce cases of vandalism and theft of copper cables.
- Companies and government should use non expensive materials on public infrastructure, for example substituting copper wire signalling systems with fibre optic cables.

Challenges faced by NRZ in fighting theft of its assets and measures to strengthen existing strategies, Chilunjika and Mutizwa (2019) in their research paper titled 'Exploring factors militating against the performance of parastatals in Zimbabwe: The case on National railway of Zimbabwe' carried out a study involving a population senior management of NRZ and a sample of 20 station masters was used. This study was informed by the following objectives:

- Analyse the factors that are militating against the effective performance of parastatals.
- To analyse the legal framework that cover the operation of NRZ.
- Determine the role of government in promoting the effective operation of NRZ.
- To recommend strategies to strengthen the operation of parastatals.

The study's findings were:

- Poor governance and mismanagement posed a challenge to the effective operation of NRZ.
- Financial distress which caused an acute shortage of resources affected the NRZ's ability to operate efficiently as well as protecting its assets.
- Corruption at the top posed a challenge in NRZ operations.

And the researchers concluded that:

- Shortage of resources impeded the efficient operation of NRZ.
- Political interference and corruption incapacitated the NRZ.
- Mismanagement contributed to the many challenges faced by NRZ.

The study made the following recommendations:

- Strategic management strategies to align the organisation's business processes.
- Whistle blowing and suggestion box to expose and fight crime in NRZ.
- Engage in public/private partnerships to enhance operational capacity.

Many researchers have proffered strategies that can be adopted by parastatals to prevent asset theft.

- **Punitive regulatory framework**

Proponents of this strategy argue that the current 10 year sentence for copper theft is too lenient; it should be increased to 20 years. A 30 year jail sentence for vandalism of ZESA infrastructure is deterrent enough, (Chasi, 2020). Mugari and Obioha (2024) agreed with the recommendation of (Tsokota et al, 2021) that scrap dealers should be banned from dealing with copper. This strategy will greatly assist in the fight against theft of assets in parastatals.

- **Sustained multi agency co operation**

Internal security of utility companies should cooperate with state security agencies especially when dealing with organised crime syndicates, (Tsokota et al, 2021). This strategy is based on the notion that any threat to critical national infrastructure such as electricity and rail is a threat to national security (Mugari and Obioha, 2024).

- **Investment in modern technology**

There is need for utility companies to enhance security using modern technology. Alarm systems and movement sensors that immediately alert of breaches are a good strategy that can help prevent asset theft inn parastatals. A technology-centric approach integrated within a risk matrix model can be effective in dealing with the problem cable theft and infrastructure vandalism (Louw et al 2021).

- **A well managed whistle blowing policy**

An efficient whistle blowing policy is an effective strategy to curb theft of infrastructure given the expansive nature of state utilities, (Sithole, 2016). Whistle blowing need to be accompanied by a sustained campaign effort to make the public aware of the implications

of theft and vandalism of state infrastructure (Mugari and Obioha, 2024). The NRZ needs to fine tune its whistle blowing policy by enhancing whistle blower protection mechanisms, investigative responsibilities as well as whistle blowing rewards to make this strategy more effective.

2.5 Research gap analysis

Findings from empirical studies are important as they afford the researcher a glimpse of what other previous researchers found out about that topic. The researches that were mentioned above were similar to this research in scope; however this research sought to have a nuanced understanding of asset theft and challenges faced in curbing crime in the NRZ zeroing in on the period 2022-2023. Reviewed empirical literature focused on theft and vandalism of infrastructure in state companies like ZESA, TELONE as well as NRZ. Most of these researches already acknowledged in this study agreed that the major cause of asset theft in parastatals is a ready and unregulated market for copper and scrap metal, locally and abroad and also lack of effective policing. (Chingozha, 2022) concluded that trading in copper is not well regulated and the Police are not well resourced and remunerated to deal with asset theft in parastatals. This view is in sync with Tsokota et al (2021) who posited that an unregulated copper market fuels theft of state assets. Tsokota et al (2021) went further noting that there are organised syndicates that include Police officers, transporters and employees that are involved in asset theft. This researcher supports this view as evidence on the involvement of NRZ Loss control members conniving with criminals to steal copper was unearthed during this study. Kwashirai and Chingozha (2021) also found out that corrupt employees and incompetent internal security is linked to vandalism and theft of assets in parastatals. From all these researches, it is the perception of this researcher that there are still gaps in the research so far done.

2.6 Chapter Summary

The chapter after identifying the types of theft occurring in NRZ, causes, challenges in fighting crime and recommendations, reviewed literature related to the theft of assets in parastatals and noted independent reviews. The research will proceed to explore the research methods to be employed in this study.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

This chapter deals with explaining the methodology used to gather data for the study. Creswell (1994) described research methodology as the systematic and theoretical analysis of the methods used to conduct a research. This chapter focuses on how the study was conducted and describes the research design, study population, sampling methods, research instruments and techniques, data collection, analysis and presentation procedures among other variables.

3.1 Research design

According to Barbie (2007), research design is a plan or blueprint for a study. Dannels (2018) defined research design as the plan that provides the underlying structure to integrate all elements of a quantitative study so that the results are credible and free from bias. The purpose of having a research design is to afford a structured framework that guides the entire research process. Due to the nature of this study, that of identifying types theft, causes and challenges faced by NRZ in fighting crime, the researcher employed the descriptive research design. It a research methodology used to describe and summarise the characteristics of a population, phenomenon or situation. According to Creswell (2014), descriptive research aims to provide a clear overview of the subject matter.

3.2 Study population

According to Bryman (2016) a population is the total set of individuals or elements that the researcher has an interest in understanding and describing. It is the larger group from where a sample is drawn. The reason for having a study population in place is to define the scope

of the study, enhance generalisability, improving validity and guiding analysis. In this study, the population under survey were Railway industry security personnel and managers, government departments, ZRP OICs, industry experts and relevant regulatory bodies. Validity and reliability of the data was ensured by drawing a population of 320, mainly from railway employees and industry experts.

3.3 Sample size

Sampling is the procedure of picking a part of the population to represent the whole (Kothari, 2004). A sample is a small part of anything which shows the style, nature and quality of the whole (Wegner 2006). Sample size is the number of elements in a sample. With a target population of 320, the sample size used in the survey was 64 consisting of 53 Railway security personnel, 3 industry experts, 3 ZRP members in charge and 5 ex convicts which represented 20%. Cochran (1977) emphasised that sample size should be large enough to detect statistically significant differences, but not so large that it becomes impractical. In this study, the researcher agreed with Cochran in choosing the sample size. The simple random sampling method was used to select the sample. Wegner (2006) explained simple random sampling as a probability sampling method which would have the characteristics of single units, each with equal probability of being selected. The researcher was limited to such a sample because of the nature and scope of the study. In-depth interviews were also carried out.

Table 3.1 below depicts the target population and sample size used in this study.

Table 3.1

Population and sample size

GROUP	TARGET POPULATION	SAMPLE
Railway security personnel	300	53
Industry experts	5	3
ZRP Station OICs	5	3
Ex convicts	10	5
TOTAL	**320**	**64**

Source: Primary data

3.4 Sampling techniques

According to Cochran (1977), sampling technique is using a part of the population to make inference about the whole population. Sampling techniques are used for time and cost reduction in data collection, increase accuracy and enhance the generalisability of findings. They are classified into two main categories, probability and non-probability sampling.

In this study the researcher elected to use convenience sampling (non-probability), stratified sampling (probability) and random sampling (probability). Convenience sampling can be defined as a non-probability sampling technique that involves participants being selected based on easy of access, proximity or convenience. This was ideal in the context of this study considering the Railway system spans country wide hence the need to cut costs hence the sample was obtained from the target population easily accessible to the researcher for example in Battlefields, Munyati and Kadoma. Stratified sampling was also used in this study. It involves dividing the population into sub groups or strata and then selecting a sample from each stratum. Stratified sampling was used to divide the population in sub groups namely railway security personnel, ZRP OIC's, industry experts and ex convicts as illustrated in table 3.1 above. By using stratified sampling, the researcher wanted to ensure that the sample is reflective of the population by capturing the diversity within the strata.

Random sampling is a probability based sampling method where any individual in the population has the same chance of being chosen for the sample. Random sampling was

used the 53 railway security personnel from the Eastern, Midlands and Southern regions who were part of the target population. To get unbiased and representative findings, simple random sampling was used.

3.5 Research instruments

Research instruments are devices used to obtain information that concerns a research project (Wilkinson and Birmingham, 2003). They are used to ensure validity and reliability, collect data systematically and measure complex phenomena (Creswell, 2014).

3.5.1 Questionnaires

A questionnaire is a number of questions that are written or typed in a defined order and form. Bougie et al (2011) defined a questionnaire as a pre designed written set of questions for respondents to record their answers.

In this study questionnaires were used and were sent out to respondents by inhouse mail on trains, email and hand delivered. To ensure the validity of the findings, 42 questionnaires were sent out and returned constituting 70% of the sample size of 60. The researcher simplified the design of the questionnaire which made it user friendly as well as easy to analyse the data.

Advantages and disadvantages of a questionnaire as a research instrument

Questionnaires provide anonymity and confidentiality which encourages honest and unbiased responses especially in areas that are deemed sensitive. They are cheaper, no travelling and also reducing costs on data entry and participant recruitment. The other advantage is that they can cover a larger population as compared to an interview. They can also be used to collect quantitative and qualitative data which provides a comprehensive appreciation of the research topic. However using a questionnaire as a research instrument has its disadvantages, these include no room for further questions by the researcher if there is any need for more clarification, and this rigidity can limit the researcher's ability to explore emerging themes or issues that arise during the data collection process. There is

also limited depth of responses as questionnaires often rely on open ended questions. Another disadvantage is that there is low response rate depending on the method of distribution for example online mail can lead to non response bias which has potential to skew the results.

3.5.2 Interviews

Interviews are a data collection tool in which the researcher has interaction with subjects to the study in a question and answer session (Beam, 2012). In this study, interviews were conducted with railway security personnel, branch managers, members in charge ZRP stations and MFFU, representatives of government departments, ex convicts and industry experts on the telephone, zoom platform and viva voce. Interviewees were expected to have a good understanding of the railway industry. The researcher used a structured interview guide in conducting the interviews.

Advantages and disadvantages of an interview as a research technique

There is greater flexibility compared to a questionnaire, the researcher can ask follow up questions for clarity and the conversational nature of interviews enables respondents to express their thoughts, feelings and experiences. Body language and facial expressions can be observed in face to face interviews which enhances overall understanding of the participant's perspective. Another advantage is that interviews are effective in exploring complex or sensitive topics, the interactive nature of interviews allows for deeper scrutiny of these issues. An interview can be conducted in private which makes the interviewee more comfortable and express themselves freely.

On the other side of the coin, disadvantages include, interviews are time consuming, conducting interviews can be a lengthy process which can be particularly challenging if the sample size is huge. Face to face interviews can be costly as there can be costs related to travel, venues and time spent. Another disadvantage is that interviews are dependent on participant availability; there can be disagreement on scheduling and lack of interest from participants. There can also be data analysis challenges as analysing qualitative data from interviews can be complex.

3.5.3 Structured observation

Structured observation involves the systematic observation of behaviour in a controlled setting using a predetermined set of categories or criteria (Cohen et al, (2017). This technique helped the researcher as the nature of the study required more of observation of crime trends in the railways. Structured observation was carried out simultaneously in different locations, with reported thefts and vandalism in the system being recorded. Structured observation was able to observe the frequency of theft, vandalism, arrests and convictions which helped the researcher determine the types of crimes, causes and challenges in curbing those crimes.

However structured observation had the following challenges. The observer needed to visit the railway yards, workshops and areas like Battlefields, Kadoma, Mazoe and Bindura where crimes against the NRZ are prevalent, in order to be in the area of the phenomenon under study which involved a substantial cost. Findings of the research were limited to static observations or other factors from which the observer made inferences. The researcher relied upon those who had expertise in that area like branch managers, senior security personnel and industry experts when making inferences.

3.6 Data collection procedure

Creswell (2014) defines data collection procedures as the steps taken to gather information from participants or sources in a systematic way. Flick (2018) describes data collection procedures as the methods and techniques used to gather data. Questionnaires were sent out to the sample population by mail and hand delivery. Where possible follow ups were made to check if questionnaires sent by mail were received. Permission was sought from management of the target organisations and an introductory note was sent with the questionnaires. Participants were afforded ample time to complete the questions and follow up reminders were made after 7 days. In administering interviews, dates were set at the convenience of the participant and reminders were sent to confirm the date and time of the interviews. Effort was also made to conduct the interviews in private.

3.7 Data analysis and presentation procedures

Data obtained through questionnaires and interviews was subjected to qualitative and quantitative analysis and presented in the form of figures and tables. Spreadsheets were used to tabulate data and ready it for presentation. Findings were made from the data presented and recommendations proffered in light of those findings.

3.8 Validity and reliability

According to Silverman (2016), validity is how a research instrument measures what it claims to measure. Reliability means that the scores that one gets from an instrument are consistent and stable (Creswell, 2014). Validity and reliability in research serve the purpose of ensuring trustworthiness, usefulness and accuracy of findings.

In this research, validity was asserted by correlation with other records and studies and consistency of output. The data was mainly extracted from railway administration records which were determined to be accurate and strategic sources. According to Magilvy (2011), a questionnaire should be tested before administration, this researcher agreed with this assertion and ran a test run as indicated in **3.5.1** above. Pilot testing of data collection instruments also ensured reliability. Views from specialists in the railway field and the research supervisor were solicited to determine validity of the data.

3.9 Ethical considerations

Beauchamp and Childress (2001), defined ethical considerations as principles and guidelines that guide researchers to ensure that their studies are conducted in a respectful and responsible manner. To ensure this study was ethical, the researcher worked to remain objective and to show integrity at all times. Respondents identities were kept anonymous to maintain privacy and the participants were advised of the type of the study and given the choice to be involved or not. All sources of information gathered for the purpose of this

research were acknowledged with in text referencing and in more detail on the reference page. The findings and the recommendations are based on the findings of this research.

3.10 Chapter summary

This chapter dwelt on the research methodology that was used in the study. It dealt with research design, population of the study, sample size, sampling techniques, research instruments, data collection procedures, data analysis and presentation, validity and reliability, ethical considerations as well as the chapter summary. The succeeding chapter deals with data analysis, presentation, interpretation and discussion of the findings.

CHAPTER IV

DATA PRESENTATION DISCUSSION AND ANALYSIS

4.0 Introduction

This chapter looks at the presentation and analysis of data that was collected through questionnaires, interviews and observations. The main thrust of this chapter is to analyse and review results of the study. The data is presented in the form of tables, graphs and charts. Each table, graph or chart is followed by an analysis of the findings and their impact on managing crime in parastatals.

4.1 Response rate

4.1.1 Questionnaire response rate

Table 4.1 Questionnaire response rate

Group	**Questionnaires**		**Response rate**
	Dispatched	**Returned**	
Railway security personnel	40	35	77.5%
Zimbabwe Republic Police	5	5	100%
Former inmates	8	4	50%
Industry experts	4	4	100%
Total	57	48	84%

Source: Primary Data

Table 4.1 above depicts the response rate of questionnaires sent out. A total of 57 questionnaires were despatched and 48 were returned. The 9 not returned were due to personnel deployed in remote areas with communication and transport challenges. The overall response rate was 84% was deemed enough to make conclusions and recommendations on the types and causes of crime as well as challenges faced in fighting same. A response rate of more than 75% is enough to give a true representation of the population (Saunders et al, 2007).

4.1.2 Interview response rate

Table 4.2 Interview response rate

Participants	**Number targeted for interviews**	**Interviews conducted**	**Percentage**
Railway security personnel	20	15	75%
Zimbabwe republic police	3	3	100%
Former inmates	5	2	40%
Industry experts	2	2	100%
Total	**30**	**22**	**73.5%**

Source: primary data

A total of 30 interviews were scheduled but 22 were actually conducted representing 73.5%. Some participants missed interviews due to emergency duty deployments. The low number on interviews with former inmates can be attributed to skepticism generally associated with former prisoners as they have palpable fear of incriminating themselves again.

4.2 Characteristics of the sample

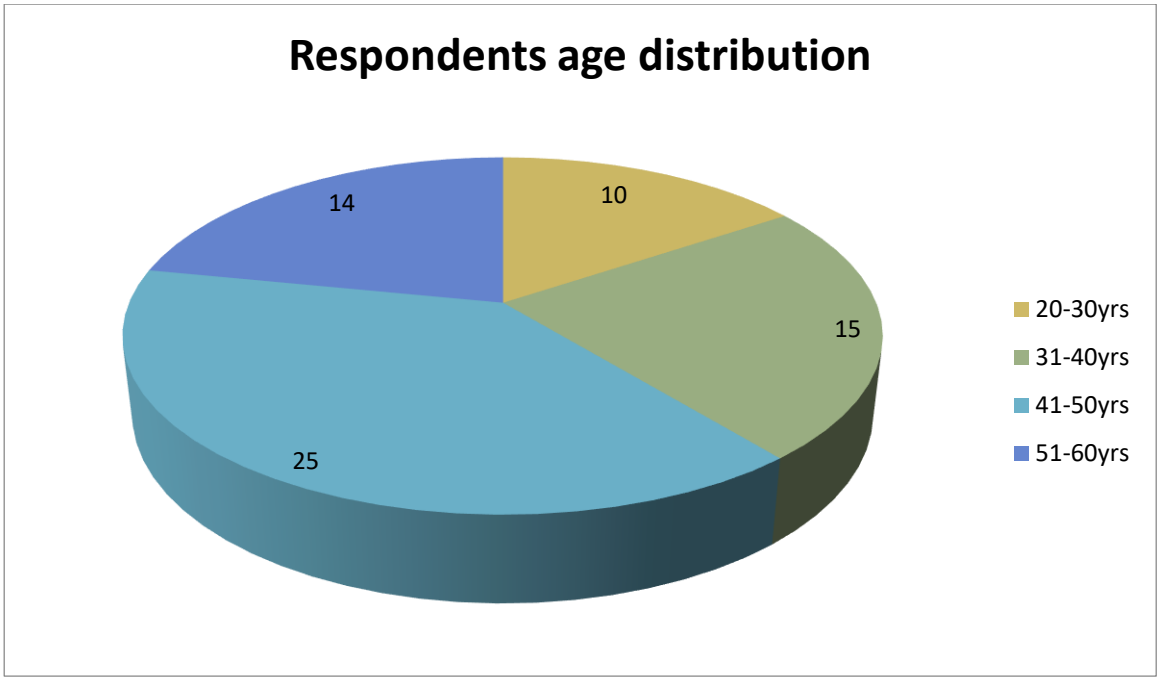
4.2.1 Distribution of respondents by age

N=64

Table 4.3 Age distribution

Age range	**Frequency**	**Percentage**
20-30 years	10	15.6%
31-40 years	15	23.4%
41-50 years	25	39.1%
51-60 years	14	21.9%
Total	**64**	**100%**

Source: primary data



Source: primary data

Fig 4.1

N=64

Table 4.3 and Figure 4.1 above depict the respondents' age distribution. 41-50 years was the age range with the highest frequency representing 39%, this is so because the researcher considered maturity, experience and being field active in soliciting for information from respondents.

4.2.2 Distribution of respondents by sex

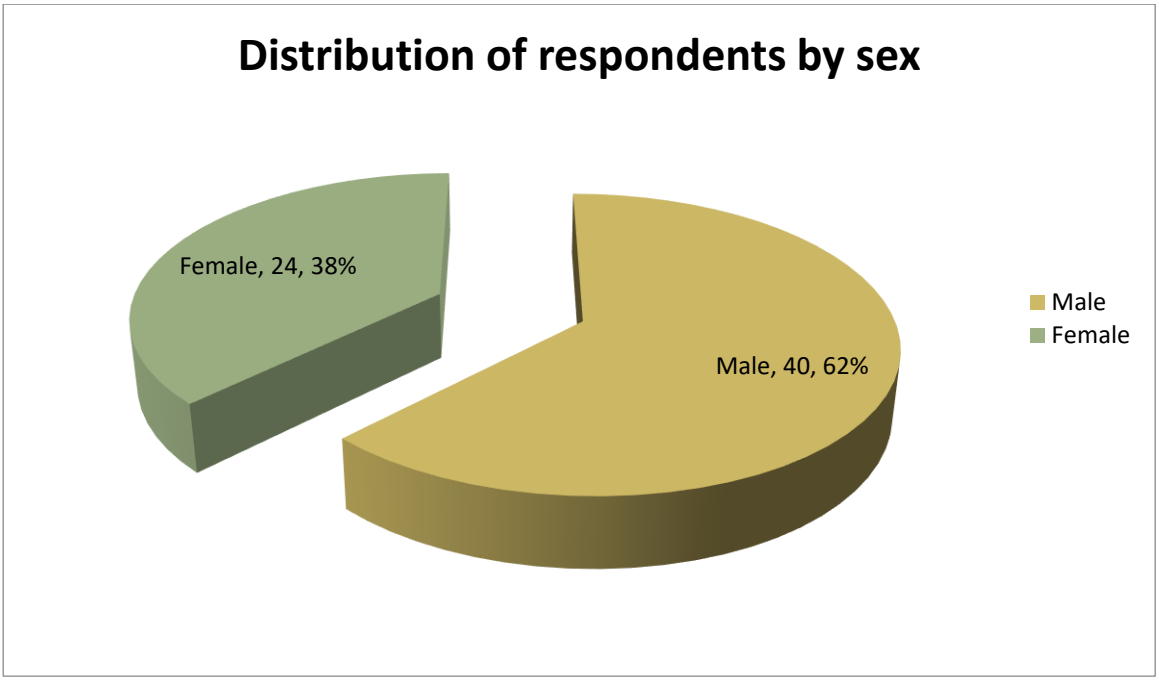


Fig 4.2 Sex distribution of respondents

N=64

Source: primary data

Figure 4.2 above shows the sex distribution of respondents. Male respondents have the highest frequency (40) representing 62% which shows that security sector is dominated by males which can be attributed to cultural and institutional biases.

4.2.3 Distribution of respondents by level of education

Table 4.4 Distribution by level of education

N=64

Level of Education	**Frequency**	**Percentage**
O level	40	62.5%
A level	10	16%
Certificate	8	12.5%
Diploma	4	6%
Degree and above	2	3%
Total	64	100%

Source: primary data

A high number of the respondents had Ordinary level certificates (40), 62.5% which is the basic entry requirement in many security organisations. Those with other qualifications up to degree level, the qualifications were related to their job which afforded quality data to be obtained in this study. One's level of understanding and comprehension is influenced by their level of education (Oakhill and Cain, 2012). The researcher systematically sampled the respondents according to their academic qualifications.

4.3 Crimes prevalent in NRZ

Table 4.5 Frequency of crimes in 2023

Type of theft	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Copper cables	10	12	11	7	8	7	6	7	8	9	11	15
Track ballast	2	0	1	0	0	1	2	1	0	0	2	3
Fasteners and pins	5	3	4	2	5	2	3	2	4	3	5	7
Wagon components	1	0	2	3	1	0	0	2	1	1	0	2
Rail sleepers	0	1	1	3	2	1	1	0	0	2	1	3
TOTALS	18	16	19	15	16	11	12	12	13	15	19	30

Source: NRZ Loss control annual reports 2023

Table 4.5 above shows the crimes prevalent in NRZ and their frequency distribution. The researcher sought to understand the type of crimes and when they occur most. The study revealed that copper cable theft is the most frequently committed crime. It was also noted that crime rates increase towards and during the festive season because criminals would want money to enjoy over the holidays and the fact that most ordinary workers will have gone for holiday.

4.4 Causes of theft in parastatals

Table 4.6 perception on the causes of theft in parastatals

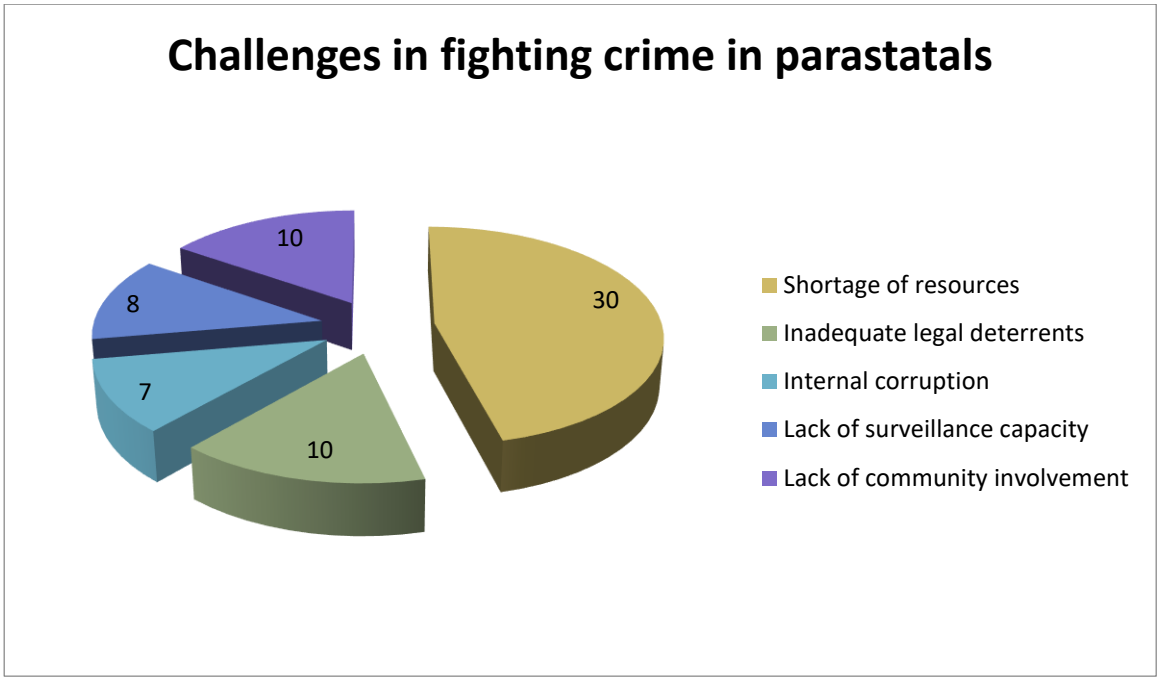
N=64

Cause	**Frequency**	**Percentage**
Socio-economic challenges	40	62%
Thriving markets for scrap metal	5	8%
Illegal gold mining	10	16%
Poor regulatory framework	9	14%
Total	**64**	**100%**

Source: Primary data

The table above shows that (62%) of respondents perceive that socio-economic challenges are the main causes of crime in parastatals. The economic hardships in Zimbabwe has fuelled theft and vandalism of assets in parastatals (Mugari and Obioha, 2023). Illegal gold mining also emerged as the second biggest cause due to mining activities near railway lines and installations.

4.5 Challenges in fighting crime in parastatals



Source: primary data

Fig 4.3

N= 64

The pie chart above shows the main challenges faced by parastatals in fighting crime. Shortage of resources to effectively combat crime emerged as the main challenge at 30 points translating to 47%. This can be attributed to the decay in most state companies like ZESA, Telone and NRZ in particular.

4.6 Analysis of questionnaire and interview questions

What are the types of theft prevalent in NRZ?

The majority of the respondents acknowledged that theft of copper cables, track ballast, track components and wagon components are the most prevalent crimes in NRZ. Mugari and Obioha (2024) in their research paper titled Socio economic development impacts, attendant challenges and mitigation measures of infrastructure vandalism in Southern Africa also noted that copper cables and track components are the most stolen assets at NRZ. Maravanyika (2018) also highlighted that theft of track components was prevalent along NRZ line, with 20 track points' machines stolen in 2018 alone. Site visits and perusal

of Police reports during the study also revealed the crimes mentioned above as the most prevalent in NRZ.

What do you think are the causes of asset theft in Parastatals?

A large number of the respondents (62%) concurred that economic hardships are the main causes of asset theft and vandalism in parastatals. Mawango et al (2013) in their research paper titled, The challenge of vandalism in Zimbabwe published in the Journal of scientific and technology research identified economic hardships as the main cause of theft and vandalism in parastatals. Their study was based on indepth interviews with respondents who were ex convicts who served sentences for stealing assets in parastatals. However Kwashirai and Chingozha (2021) in their journal paper titled- Infrastructure vandalism and protection in a vulnerable Zimbabwean environment, advanced the structural materialism theory arguing that the cause of asset theft in parastatals is primarily as a result of existential conditions in society. Mugari and Obioha (2023) are of the view that rampant illegal mining along railway lines are also a cause of theft of vandalism of NRZ assets. This study's findings agree with this view as vandalism and theft of railway components like springs and pins was witnessed in areas like Munyati and Battlefields. However, Mazikana (2019) in his work titled- an exploration of strategies to curb vandalism in ZESA, A case study of ZETDC, argued that the main cause of vandalism and theft in parastatals was simply rampant unemployment.

What do you think are the main challenges faced by NRZ in fighting crimes on its infrastructure?

The respondents identified shortage of resources, inadequate legal deterrents, internal complicity, corruption, surveillance challenges and lack of community buy in as the main challenges in fighting crime in parastatals. A sizeable chunk of the respondents agreed that the main challenge in fighting crime in parastatals like NRZ is predominantly lack of resources. Jaravaza (2024) in his article in The Herald newspaper noted that shortage or lack of resources has caused the NRZ's failure to capacitate its operations especially the loss control function. Moyo et al (2015) cited corruption as one of the major challenges incapacitating the NRZ in fighting crime. Mwaura (2007) also concurred with Moyo et al

noting that the numerous corruption scandals at NRZ have led to huge financial losses which led to operational inefficiencies.

4.7 Summary

This chapter focused on data presentation, analysis and interpretation in line with the objectives of the study. It was found out that copper cables, track ballast, track components and wagon components were the main items target by thieves at NRZ. Causes of asset theft were identified as socio-economic challenges, thriving market for scrap metal and copper, rampant illegal mining activities along rail lines and poor regulatory framework for scrap dealers. Challenges faced by NRZ in fighting crime were identified as shortage of resources, inadequate legal deterrents, corruption, surveillance challenges and lack of community involvement. The next chapter will dwell on summary of findings, conclusions and recommendations.

CHAPTER V

SUMMARY OF THE STUDY

5.0 Introduction

The research sought to investigate the effectiveness of strategies being used to fight crime in parastatals. This chapter covers research summary, conclusions and recommendations emanating from the study.

5.1 Summary of the study

The study focused on the types of crime in parastatals, causes, challenges faced in fighting crime and strategies being used. The following objectives guided the study were;

- To identify the types theft occuring in NRZ.
- To establish the causes of theft of NRZ assets.
- To identify challenges faced byNRZ in fighting theft of its assets
- To recommend new strtegies or strengthening of existing strategies

5.2 Summary of findings

After a creful analysis of the study results in the previous chapter, the following findings were noted:

- There is a big problem of asset theft in parastatals.
- The main items targeted by thieves at NRZ are copper cables, track components and wagon components.
- The research revealed that these crimes are more prevalent in areas like Battlefields, Munyati and Bindura where there are illegal miners.
- It was further noted that copper cable theft was the most prevalent crime at NRZ.
- It was also found that crime in parastatals is mainly caused by socio-economic challenges, thriving market for scrap metal, widespread illegal mining and poor regulatory framework in the scrap metal industry.

- The study also highlighted that socio-economic challenges are the leading driver of crime in parastatals followed by the proliferation of illegal mining activities along railway lines.
- It was also noted that the broken down and state of disrepair of infrastructure at NRZ also contributed to the theft of its assets, taking into cognisance the broken windows theory.
- The study further revealed that challenges faced by NRZ in fighting crime are shortage of resources, inadequate legal deterrents, corruption, surveillance challenges and lack of community involvement.
- Lack of resources emerged as the main challenge faced the parastatal in fighting crime within its jurisdiction.
- Overally, the study found out that the general state of the economy reflected on the state of parastatals like ZESA and NRZ.

5.3 Conclusions

From the findings of the study, the researcher concluded that:

- Types of crimes in parastatals like NRZ and ZESA are similar which to a larger extent can assist central government in coming up with generic strategies to fight these crimes.
- Copper is the single most vandalised and stolen asset at both NRZ and ZESA.
- In line with the causes of theft in parastatals as revealed in the study findings, the problem of asset theft in parastatals is deep rooted and attending to this problem effectively is more or less contigent on the revival of the economy as parastatals are not immune to economic challenges.
- Nothing was being done to holistically address the widespread theft of assets in parastatals.
- The vast and expansive nature of the railway network makes policing crime in NRZ difficult.

- There is a close link between theft of railway components like pins and springs and illegal mining and this can be attributed to artisanal miners using these steel components as chisels in their operations due to their high tensile strength.
- Challenges faced by NRZ in fighting crime are more or less identical with other parastatals like ZESA.
- While shortage of resources emerged as the biggest challenge in fighting crime, it was concluded that the NRZ is not taking any innovative measures to protect its assets.
- The NRZ is government owned hence there is limited sense of ownership or care among top management.
- Some offences keep being repeated due to lenient sentences given to offenders and the NRZ is doing little to nothing to engage the Judiciary Services Commission to promote the application of the Railways Act in crimes committed against NRZ which assures deterrent sentences.
- Furthermore, it was concluded that corruption which has permeated every facet of society, although reported as a challenge in fighting crime, its influence is minimal when strategising to fight crime.
- NRZ Loss control department and the public relations department are making efforts to organise public awareness campaigns to promote community involvement in fighting crime Public awareness campaigns are necessary to inform the public of the dangers of vandalising and stealing state property.

5.4 Recommendations

In the light of the above conclusions, it is recommended that:

- Parastatals should be proactive not reactive in their crime prevention strategies to ameliorate the problem of asset theft.
- To control the theft of copper cables, it is recommended that parastatals like ZESA and NRZ can substitute copper with aluminium which is less attractive to thieves.

- Railway components like springs and pins should be tucked (welded) to the rail crown as a form of target hardening making it harder to remove them.
- NRZ conducts a comprehensive inventory count of all its assets particularly rolling stock and dispose of those not operational to reduce vulnerability and also earn revenue.
- Furthermore, the study recommends that NRZ employ more resources in hotspot areas like Munyati, Battlefields and Bindura partnering with the ZRP to curb the rampant theft of its assets.
- The NRZ board and management should also exhort central government to launch alternative economic programs in communities near railway lines as well as initiate rehabilitative initiatives for offenders.
- It is also recommended that the minister of transport and infrastructural development (NRZ falls under his armbit), lobby cabinet for the promulgation of a bill that effectively regulates the operations of small scale miners with a focus to minimise vandalism and theft of state infrastructure.
- The ministry of industry and trade should come up with a robust regulatory framework for the scrap metal industry with a bias on accounting for sources of scrap metal.
- Government as the majority shareholder in NRZ through the Mutapa fund should urgently harness resources and recapitalise the NRZ to improve its operational efficiency.
- Parastastals should embrace the widespread use of technology like drone surveillance, CCTV systems and other modern access control measures. This improves efficiency on loss control operations which contributes to better crime management.
- Lastly, it is recommended that the NRZ Loss control and public relations departments canvass for nationwide public awareness campaigns with the ZRP. This will keep the public well informed on the dangers of vandalism and theft of state assets which creates a sense of responsibility and ownership within communities.

5.5 Recommendations for future research

The investigation was able to focus on the types of theft, causes and challenges in fighting crime at NRZ. The researcher recommends further studies on the impact of these crimes on NRZ, the economic costs of neglect in state parastatals, the impact of privatising state entities as well as challenges faced in reviving parastatals in line with the Country's vision 2030.

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APPENDICE A: LETTER OF REQUEST TO CARRY OUT A RESEARCH STUDY WITHIN NRZ

NRZ Kadoma Station
Box 410
Kadoma

02 June 2024

Dear Sir/Madam

RE: APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH STUDY WITHIN AND WITH PERSONNEL OF YOUR ORGANISATION

My name is Tendai Loti and I am studying for a Bachelor of Business Administration honours degree in Police and Security Studies at Bindura University of Science Education.

As a partial requirement of the degree programme, students are required to carry out a field research study. The topic of my research is **'An investigation into the effectiveness of strategies being used in the prevention of theft in parastatals. A case of NRZ 2022-2023'.**

The aim of this study is to identify and analyse the types of theft occurring in NRZ, causes and challenges faced by NRZ in fighting crime. In this regard suggestions and recommendations will be made improve strategies being used in NRZ to fight crime.

The findings of the study will not be used for any other purposes but exclusively for academic purposes.

Thank you in advance for your anticipated cooperation.

Yours faithfully

Signed.....

Tendai Loti (B210362)

APPENDIX B: INTRODUCTORY LETTER TO ALL RESPONDENTS

THE NATIONAL RAILWAYS OF ZIMBABWE
NATIONAL HEADQUARTERS
P. O. BOX 510
RAILTON SQUARE
BULAWAYO

…...../……./2024

Dear Respondent.

My name is Mr Tendai Loti and my contact number is 0772417115. I am currently studying for a Bachelor of Business Administration in Police and Security Studies Degree at Bindura University of science education. It is a requirement of the institution's curriculum that a student should successfully carry out a research project. In the same vein, this student is undertaking a research on the topic titled:

'AN INVESTIGATION INTO THE EFFECTIVENESS OF STRATEGIES BEING USED IN THE PREVENTION OF THEFT IN PARASTATALS. A CASE OF NRZ 2022-2023'.

You are being kindly asked to assist in this research by completing the questions in the questionnaire below to the best of your ability. Your assistance will go a long way in assisting this research and is much appreciated. Please also take note that the information and any details supplied for the purpose of this study will be treated with the highest level of confidentiality.

Instructions

1. Kindly read all statements carefully and respond to all questions truthfully and honestly.
2. Where boxes are provided, please indicate your answer by putting an X in the box corresponding to your answer, just like as it is done during voting.
3. Kindly note there is no need to write your personal details in this questionnaire.

Thank you in advance.

APPENDIX C: QUESTIONAIRE GUIDE

SECTION A: DEMOGRAPHIC DETAILS

Put an X where appropriate

1. What is your sex

M	**F**

2. What is your age range?

20-30years ☐ 31-40 years ☐

41-50 years ☐ 51-60 years ☐

3. What is your length of service in the organisation you are currently in;

less than 5yrs ☐ 5 to 10 yrs ☐ 0 yrs or more ☐

4. Indicate your academic qualifications

Ordinary Level ☐ Advanced Level ☐ Certificate ☐

Diploma ☐ Degree and above ☐

Other professional qualifications

.....

.....

.....

5. What level of management/supervision are you at your organisation?

Top Management ☐ Middle Management ☐

Shop floor supervisor ☐

SECTION B-TYPES OF THEFT IN THE NRZ

6. Have there been recent cases of theft reported in your area?

Yes	**No**

Below is a list of types of theft prevalent in the NRZ. For each type, please indicate whether it was prevalent or not in your area between 2022 and 2023 using a 5-level likert scale below:

Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1	**2**	**3**	**4**	**5**

Types of theft	**11**	**22**	**33**	**44**	**55**
1.Copper cables					
2.Track ballast					
3.Fasteners and pins					
4.Wagon components					
5.Rail sleepers					

In your own view, what are the other types or nature of theft prevalent in parastatals, particularly the NRZ

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SECTION C- CAUSES OF THEFT IN PARASTATAL

7. In this section, kindly indicate from your past experience, the possible causes of theft of assets in parastatals. Below is a list of possible causes of theft in parasatatals. For each item, please indicate whether you agree to this using the 5-level Likert key that ranges from 'strongly agree to strongly disagree'

Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1	**2**	**3**	**4**	**5**

Other

Causes of theft	**11**	**22**	**33**	**44**	**55**
1.Socio-economic challenges					
2.Thriving market for scrap metal					
3.Illegal mining					
4.Poor regulatory framework					

causes…….....

…….

…….

SECTION D-CHALLENGES IN FIGHTING CRIME IN NRZ

9. Below is a list of possible challenges in fighting crime in NRZ. For each listed challenge, please indicate if you agree or disagree using the 5-level likert scale below.

Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1	**2**	**3**	**4**	**5**

Challenges	**1**	**2**	**3**	**4**	**5**
1.Shortage of resources					
2.Inadequate legal deterrents					
3.Internal corruption					
4.Lack of surveillance capacity					
5.Lack of community involvement					

Other possible challenges

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APPENDIX D: INTERVIEW GUIDE

1. With knowledge of your organisation and reports received and attended to, has there been any recent cases of theft of NRZ assets?

2. What are the types and nature of crimes prevalent in NRZ?

3.What are the causes of asset theft in NRZ?

4. What are the challenges faced by NRZ in fighting crime?