

BINDURA UNIVERSITY OF SCIENCE EDUCATION

THE LEGAL AND REGULATORY FRAMEWORK OF FARMER-MINER CONFLICTS: A CRITIQUE

BY

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DECLARATION

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DEDICATION

"Dedicated to my loving family, whose consistent support and encouragement have been my guiding light throughout this educational pursuit. To my friends and mentors, I express my gratitude for your invaluable guidance, inspiration, and confidence in my abilities. This dissertation reflects the collective affection and support that have sustained me. I am profoundly grateful for each of you."

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ABSTRACT

This paper explores the intricate legal and regulatory frameworks governing conflicts between farmers and miners, focusing on land use, resource extraction, environmental degradation, and socio-economic impacts. Through a qualitative research methodology, involving structured and unstructured interviews with 20 participants, this study critically assesses existing laws, policies, and regulatory mechanisms aimed at resolving these conflicts. Key findings indicate that conflicting interpretations of regulations contribute to stakeholder uncertainty, and a lack of community involvement exacerbates tensions. The discussion highlights alternative dispute resolution mechanisms and best practices to foster sustainable coexistence. The research underscores the urgent need for robust legal frameworks that establish clear guidelines for the administration and sustainable use of natural resources, aiming to promote effective collaboration and equity between farmers and miners. The primary aim of the study was to to assess the effectiveness of the current legal and regulatory framework of farmer-miner conflicts in addressing and resolving such conflicts. A variety of observations were noted by the survey participants. The participants in the study observed that lack of community involvement in decision-making processes among other factors contributes to conflicts between the two sectors. Additionally, research participants expressed that alternative dispute resolution mechanisms and best practices promote sustainable coexistence and collaboration between these stakeholder groups. The research explored that, legislation often emphasizes community involvement in decision-making, but gaps in enforcement can marginalize farmers' voices. The findings indicate that while laws promote inclusion, actual implementation often fails to reflect this principle, with many farmers feeling excluded from the decision-making processes affecting their lands. Further it was revealed that, the disparity in resources between farmers and mining corporations, often leaves farmers unable to protect their interests effectively. It advocates for the establishment of legal aid programs to support farmers navigating these conflicts, ensuring equitable representation. It was established that, the existing mining laws in Zimbabwe, require urgent reforms to protect agricultural land while still permitting responsible resource extraction. The Mines and Minerals Act (Chapter 21:05) implemented in 1961 has remained unchanged for over two decades, lacking any progressive revisions. This absence of updated policies or regulations in the mining sector has impacted land occupiers, particularly in communal areas. This study suggests that immediate action is required to establish comprehensive policies and laws to tackle these conflicts effectively. The majority of mining operations currently involve surface mining, leading to unavoidable conflicts with farmers or landowners. It has been noted that farmers are facing significant challenges as mining activities encroach on their grazing lands. The lack of oversight by authorities and the failure of relevant government departments to collaborate and coordinate their efforts contribute to the miners' disregard for the well-being of farmers. The research recommended that, there is need for robust legal and regulatory frameworks to set clear guidelines for the administration, supervision and use of natural resources. Furthermore, the study stressed the need to develop proactive strategies for conflict deterrence and dialogue facilitation in order to address potential sources of tension before they escalate into conflicts between farmers and miners by incorporating alternative dispute resolution (ADR) mechanisms. Additionally, it was recommended that the extraction of these minerals should leverage more sophisticated technology, with the potential for farmers and miners to harmoniously coexist.

Keywords: Agricultural land, Farmer-miner conflicts, Legal and regulatory framework, Land use, Degradation.

LIST OF ACRONYMS

BUSE	Bindura University of Science Education
EMA	Environmental Management Authority
GDP	Gross Domestic Product
NDS1	The National development Strategy 1
NGO	Non-Governmental Organization
RDC	Rural District Council
USA	United States of America
ZELA	Zimbabwe Environmental Law Association
ZEPARU	Zimbabwe Economic Policy Analysis and Research Unit

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CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

The primary objective of the study is to examine the laws, regulations, policies and governance structures that govern conflicts between farmers and miners in Zimbabwean agricultural areas. The chapter focused on the background of the study, the statement of the problem, the objectives of the study, the proposition of the study, the conceptual framework, the significance of the study, the assumptions of the study, the delimitations of the study, the definition of key terms and the structure of the dissertation and the chapter summary.

1.1 BACKGROUND OF THE STUDY

In Zimbabwe, the mining sector comprises of nearly 40 different minerals which include platinum, chrome, gold, coal, and diamonds amongst other minerals. Both farming and mining have customarily co-existed together with other informal income generation. Sachikonye (2011). It has been noted that, both farmers and miners collaborate in the creation of developmental opportunities for the nation at large.

The vision 2030 for Zimbabwe aims to achieve an upper-middle-income society by 2030. The agricultural sector's aim is to generate a self-reliant economy that will contribute to food surplus for Zimbabwe such that it attains the 'Bread Basket' status for Southern Africa. Furthermore, under the mining sector, it leverages on ensuring sustainable mining by stakeholders through a well governed mining sector which is ethically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities.

The National development Strategy 1 (NDS1) January 2021-December 2025 main objective is to increase food self-sufficiency from the current level of 45% to 100% and reduce food insecurity from the high of 59% recorded in 2020 to less than 10% by 2025. It aims to promote food self -sufficiency and to retain the regional breadbasket through enhancing agricultural productivity and production in sustainable production systems.

The clash between these two vital industries poses significant challenges to productivity, sustainability, and peaceful coexistence on the agricultural land. As part of the broader conflicts, farmer-miner conflicts have been a subject of contention in recent decades as well.

This is because it is associated with two major outcomes impacting on the society in question: first, resource conflicts can be a threat to the security and livelihood of human beings and the community at large as they are often associated with violence. Mbah et al., (2021). Zimbabwe, is known for its rich agricultural land and abundant mineral resources. Agriculture is the backbone of the Zimbabwean economy, employing a significant portion of the population and contributing to the country's overall food security. On the other hand, mining contributes significantly to the nation's economy thereby promoting investment.

Farmer-miner conflicts have been noted as a major concern with some farmers remarking how they are worried of losing their agricultural land in the event that minerals are discovered in their area. For example, in Bikita, farmers where not compensated for loss of farming land when Bayrich Enterprises moved erected structures on agricultural land without any consultations with villagers. An appeal was made for the company to erect boreholes and build an irrigation scheme for the community was also ignored. Chikuni (2021).

This dissertation aims to explore and analyse the existing legal and regulatory framework governing farmer-miner conflicts in Zimbabwe. By examining relevant statutes, policies, and case laws, this study seeks to identify gaps, inconsistencies, and challenges in the current framework. By understanding the strengths and weaknesses of the legal system, recommendations can be made to improve conflict resolution mechanisms, enhance stakeholder engagement, and promote sustainable practices in both the agricultural and mining sectors and balancing competing interests.

1.2 STATEMENT OF THE RESEARCH PROBLEM

This research aims to address the existence of conflicts between farmers and miners in the Zimbabwean agricultural land, which has negative effects on agricultural production, land use, environmental sustainability, and community well-being.

The phenomenon of farmer-miner conflicts is increasingly prevalent across various African nations and other developing countries. According to a 2022 study by Nyoni and Banda, these conflicts arise due to competing interests over land use, particularly in regions rich in natural resources (Nyoni & Banda, 2022). Similarly, a 2021 report by Chikura and Mudzonga highlights that such conflicts are driven by inadequate policy enforcement and limited

stakeholder engagement in natural resource governance, further complicating land use dynamics (Chikura & Mudzonga, 2021).

In Zimbabwe, the issue of ownership and control of mineral resources located within agricultural areas remains contentious. Marongwe (2011) explains that ambiguity surrounding land ownership and mining rights creates a problematic landscape where mining activities often encroach upon arable farming land. High-value minerals like gold and chrome, along with traditional resources such as coal and black granite, have been discovered on vast portions of farmland. A 2023 analysis by Dube et al. underscores how mining operations disrupt commercial farming, leading to conflicts as both farmers and miners vie for control and rights over the land (Dube et al., 2023).

The challenge is compounded by existing mining laws that grant exclusive ownership of mineral-bearing land to the title holder, often conflicting with agricultural interests. As highlighted by Moyo and Gumbo (2022), this legal framework does not adequately consider the rights of farmers, thereby undermining sustainable land management practices and economic stability (Moyo & Gumbo, 2022).

Despite these prevailing conditions, there is a pressing need to assess the adequacy and effectiveness of Zimbabwe's legal frameworks and policies regarding land use and conflict resolution. Understanding the intricacies of these conflicts is essential for promoting sustainable coexistence and ensuring that both agricultural and mining interests can thrive without compromising community well-being. By evaluating the current legal landscape and exploring the dynamics of these conflicts, this research seeks to contribute valuable insights into improving conflict resolution strategies and fostering harmony between farming and mining activities in Zimbabwe.

1.3 RESEARCH OBJECTIVES

- To identify the impact of farmer-miner conflicts on agricultural production in Zimbabwe.
- To assess the effectiveness of the current legal and regulatory framework in mitigating farmer-miner conflicts in Zimbabwe.
- To design a model to enhance effective collaboration and mutual understanding between farmers and miners in Zimbabwe.

1.4 RESEARCH QUESTIONS

- What is the impact of farmer-miner conflicts on agricultural production in Zimbabwe.
- How effective are the current legal and regulatory framework in mitigating farmer-miner conflicts in Zimbabwe.
- What interventions can be implemented to develop a model that enhances effective collaboration between farmers and miners in Zimbabwe.

1.5 PROPOSITION

The study proposed that the incorporation of a strong conflict resolution system in the legal structure, including methods like mediation, arbitration, and community discussions, can assist in managing conflicts efficiently. This approach can help prevent conflicts from escalating, thus fostering a sustainable and harmonious relationship between farmers and miners. Ultimately, it aims to reduce disputes, enhance mutual prosperity, and protect natural resources for the benefit of future generations.

1.6 RESEARCH ASSUMPTIONS

1.6.1 The researcher assumes that the existing legal and regulatory framework related to land use on agricultural production and resource extraction play a part in shaping the dynamics of farmer-miner conflicts.

1.6.2 It is assumed that, Farmer-miner conflicts arise from the competing resource needs of agricultural and mining activities, leading to tensions over land use, water access, and economic interests.

1.6.3 It is assumed that, the perspectives and experiences of affected communities, including farmers and miners, provide valuable insights into the social, economic, and environmental impacts of conflicts.

1.6.4 It is assumed that, there is potential for effective conflict resolution and sustainable coexistence between farming and mining communities through evidence-based strategies and policy interventions.

1.7 JUSTIFICATION OF THE RESEARCH

This research is grounded in the recognition of the legal and regulatory framework on farmer-miner conflicts in the Zimbabwe. Agriculture is the backbone of the Zimbabwean economy, employing a significant portion of the population and contributing to the country's overall food security. The clash between these two vital industries poses significant challenges to productivity, sustainability, and peaceful coexistence on the agricultural land.

These conflicts can disrupt both agricultural productivity and mining operations, impacting local economies and national development. Farmer-miner conflicts have significant humanitarian implications, including displacement, loss of livelihoods, and social upheaval. Understanding and addressing these conflicts is essential for safeguarding the well-being and rights of affected communities. By addressing the conflicts, there is potential to foster stability and economic growth.

By examining the existing legal framework governing farmer-miner conflicts and identifying best practices, this study aims to shed light on resolving conflicts, mitigating environmental impacts, and fostering inclusive and equitable approaches to land use in Zimbabwe. The research seeks to contribute to knowledge and provide recommendations that can inform policymakers, educators, and stakeholders involved in sustainable development and conflict resolution in the country's agricultural sector.

1.8 PURPOSE OF THE STUDY

The purpose of this study is to analyse the effectiveness of existing legal and regulatory framework in order to come up with sustainable solutions that promote harmonious coexistence and responsible land use in order to increase production.

By analysing current laws, challenges, and opportunities related to farmer-miner conflicts, this study aims to provide actionable insights for both farmers and miners, policymakers and stakeholders. Finally, the study seeks to contribute to the advancement of sustainable production and productivity in these conflicting sectors.

1.9 SIGNIFICANCE OF THE STUDY

The significance of the study outlined in the dissertation lies in its potential to unravel the complexities of the legal and regulatory framework related to farmer-miner conflicts in

Zimbabwe offer practical solutions for managing such conflicts in a sustainable and effective manner. By suggesting the implementation of a robust conflict resolution mechanism within the legal framework, the study provides insight into how disputes can be addressed proactively and resolved peacefully. This not only benefits the immediate stakeholders involved but also contributes to the promotion of shared prosperity, environmental conservation, and inter-community harmony.

1.9.1 The significance to the Government

The significance to the government of the findings presented in the dissertation is substantial. The research offers actionable insights and recommendations that can inform the development of policies and regulations related to conflict resolution between farmers and miners which will contribute to the collective efforts aimed at mitigating conflicts, promoting sustainable development, and fostering peaceful coexistence not only in Zimbabwe but also in other regions facing similar challenges. By implementing the proposed conflict resolution mechanisms and integrating them into existing legal frameworks, the government can enhance social stability, economic productivity, and environmental sustainability in mining and agricultural regions.

The study will inform legal and policy reforms by identifying shortcomings in existing framework and proposing evidence-based recommendations for improved governance and conflict resolution mechanisms. It will also aid in sustaining agricultural productivity, sustaining mining operations, and preserving local economies, thus supporting broader development goals.

Additionally, by addressing and mitigating conflicts between these two crucial sectors, the government can promote investment opportunities, foster inclusive development, and uphold the rule of law. Effective conflict resolution strategies can lead to improved regulatory compliance, reduced instances of violence or disruption, and increased public trust in governance institutions.

Furthermore, by applying the study's recommendations, the government can demonstrate its commitment to promoting peaceful coexistence, protecting the environment, and ensuring equitable access to resources for all stakeholders. Ultimately, incorporating the research

findings into policy-making processes can contribute to more effective governance, enhanced social welfare, and sustainable development for the nation as a whole.

1.9.2 The significance of this research to academia

The significance of this research to academia is philosophical and multifaceted. The dissertation contributes valuable knowledge to the academic community by offering a comprehensive examination of the complex dynamics between farmers and miners in conflict-prone regions. By conducting in-depth fieldwork, analysing empirical data, and proposing innovative conflict resolution strategies, the study enriches existing literature on resource conflicts, environmental governance, and sustainable development.

Moreover, the research adds to the theoretical frameworks and methodological approaches used in studying natural resource management conflicts, providing a basis for further academic inquiry and scholarly debates. The dissertation's interdisciplinary perspective integrates insights from fields such as sociology, environmental studies, political science, and anthropology, fostering collaboration and knowledge exchange across disciplines.

Furthermore, the study's findings can inspire future research endeavors, encourage comparative studies in other contexts, and stimulate discourse on policy-relevant issues within academic circles. By disseminating research outcomes through peer-reviewed publications, conference presentations, and academic networks, the dissertation can create opportunities for scholarly engagement, critical reflection, and intellectual advancement.

Ultimately, the significance of this research to academia lies in its potential to advance understanding, stimulate dialogue, and inspire new avenues of inquiry in the fields of natural resource management, conflict resolution, and sustainable development.

1.9.3 The significance of this research to theory

The significance of this research to theory is considerable, as it offers valuable insights and contributions to existing theoretical frameworks within the study of natural resource conflicts, environmental governance, and sustainable development. By engaging with and expanding upon established theories and concepts, the dissertation enriches scholarly understanding and advances theoretical debates in several key ways:

Conflict Theories

The research deepens our understanding of the root causes, dynamics, and escalation of conflicts over natural resources by applying and extending theories of resource conflict, environmental justice, and social inequality. By incorporating perspectives from diverse theoretical traditions, such as social conflict theory, political ecology, and critical geography, the study sheds light on the complex interplay of social, economic, and environmental factors shaping resource conflicts.

Governance Theories

The dissertation contributes to governance theories by exploring the role of institutions, power dynamics, and actors in shaping the management of natural resources in conflict-prone regions. Through its analysis of governance structures, policy frameworks, and regulatory mechanisms, the research highlights the ways in which governance systems can both mitigate and exacerbate resource conflicts, offering theoretical insights into effective governance strategies.

Sustainability Theories

The study enhances sustainability theories by examining the relationships between resource exploitation, environmental degradation, and social well-being in conflict-affected contexts. By interrogating notions of sustainable development, resilience, and adaptive governance, the research advances theoretical understandings of how to balance economic growth, environmental preservation, and social equity in resource-dependent communities.

1.10 DELIMITATIONS

Delimitations in research refer to the boundaries or limitations imposed on the scope of the study. The study may be limited to:

1.10.1 examining the policy and regulatory framework pertaining to farmer-miner conflicts in relation to production on agricultural land in Zimbabwe. Case studies and empirical data will be utilized to illustrate the practical implications of the identified legal and regulatory challenges.

1.10.2 specific regions or districts in Zimbabwe areas where the conflicts are most prevalent in order to provide a detailed and in-depth analysis.

1.10.3 specific categories of participants, such as farmers, miners, community leaders, or government officials directly involved in the conflicts. Restricting the participant selection criteria can help in maintaining focus and relevance.

1.11 LIMITATIONS

Limitations are defined as potential weaknesses in a study. Like any other research, this research may have its own limitations. These include:

1.11.1 Language limitations could hinder communication with local stakeholders or accessing relevant sources of information, potentially excluding important perspectives and insights from the study.

1.11.2 Limited access to relevant data or restricted information from key stakeholders involved in farmer-miner conflicts could constrain the depth and breadth of the study. Incomplete or biased data may affect the accuracy of the findings.

1.11.3 Restrictions in terms of funding, time, or access to necessary resources may limit the scope of the research and impact the ability to conduct a comprehensive analysis of farmer-miner conflicts in Zimbabwe.

1.11.4 The researchers' own perspectives, experiences, or preconceptions regarding farmer-miner conflicts could introduce bias into the study, potentially influencing the interpretation of results.

By acknowledging these limitations, the researcher will take steps to mitigate their impact on the research process and ensure that the study's findings are appropriately interpreted and communicated to relevant stakeholders.

1.12 DEFINITION OF TERMS

Agricultural land: Section 72 of the Constitution of Zimbabwe Amendment (No. 20) Act, 2013 and Section 2 of the Land Commission Act (Chapter 20:29) defines agricultural land as "*land used or suitable for agriculture, that is to say for horticulture, viticulture, forestry or aquaculture or for any purpose of husbandry, including (a) the keeping or breeding of livestock, game, poultry, animals or bees; or (b) the grazing of livestock or game; but does not include Communal Land or land within the boundaries of an urban local authority or within a*

township established under a law relating to town and country planning or as defined in a law relating to land survey."

Artisanal Small-scale mining: refers to a blanket term for a type of subsistence mining involving a miner who may or may not be officially employed by a mining company but works independently, mining minerals using their own resources, usually by hand. Wikipedia, (2023).

Conflict: Mayer (2012:3) perceives conflict as "*a feeling, a disagreement, and a real or perceived incompatibility of interests, a product of inconsistent world views, or a set of behaviour*". Wallenstein (2012) defines it as a behavioural situation arising from disagreement on how to pursue certain goals, interests or needs between two or more parties. Conflict is a very common element of our daily lives as individuals and from an organizational perspective. Fundamentally, conflict is related to people and the increasingly complex inter-personal and inter-organizational relationships that are so prevalent in the global, technological economy (Robertson, 2023)

Environment: refers to a sum total of all living and non-living elements and their effects that influence human life.

Farmer-Miner Conflicts: The primary focus of the study, encompassing disputes, tensions, and competition between farmers and miners over access to land, natural resources, and conflicting land-use practices.

Land Ownership and Rights: Examining the legal framework, customary practices, and tenure systems governing land ownership and access for farmers and miners.

Large-Scale Mining: refers to capital-intensive, large mineral extraction usually performed by companies or associations with cleaner, more efficient and higher rates of production.

Livelihoods: refers to a set of activities essential to everyday life that are conducted over one's life span. An individual's livelihood involves the capacity to acquire aforementioned necessities in order to satisfy the basic needs of themselves and their household any means of making a living. Wikipedia, (2020).

Mining Activities: Encompasses extraction, processing, and utilization of mineral resources such as gold, diamonds, coal, or other valuable commodities within or near agricultural areas.

Resource Competition: Assessing the competition for water, fertile soil, grazing areas, and other essential resources that drive conflicts between agricultural and mining activities.

Social Dynamics: Exploring social relations, cultural factors, power structures, and community interactions that shape attitudes, behaviors, and perceptions influencing conflict escalation or resolution.

Sustainable Livelihoods: refers to an environment that enables people to cope with and recover from shocks and stresses (such as natural disasters, economic or social upheaval) and enhance their wellbeing and that of future generations without undermining the natural environment or resource base.

Sustainable Development: It is that development that efficiently fulfils the needs of the contemporary human societies, without intruding into the future generations' capability to meet its own requirements. Bruntland Commission (1987). It can also be defined as an economic development that is conducted without depletion of natural resources for future generations Kamota (2021).

1.14 OUTLINE OF THE DISSERTATION

This dissertation is structured into five chapters. Chapter 1 introduces the research topic, outlining the background, problem statement, research aim, objectives, and significance of the study. Chapter 2 will review the relevant literature on farmer-miner conflicts, legal framework, and regulatory mechanisms in agricultural land management. Chapter 3 will detail the research methodology and data collection techniques. Chapter 4 will present the analysis of findings, discussing the implications of legal framework on farmer-miner conflicts. Finally, Chapter 5 will outline the conclusions, recommendations, and areas for future research.

1.15 CHAPTER SUMMARY

Chapter one focussed on outlining the interaction between agricultural production and mining activities and the need for a comprehensive analysis of the legal and regulatory mechanisms governing these farmer-miner conflicts. The purpose of the study, justification and research assumptions are also provided in this chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter gives a critical review of the literature on the impact of farmer-miner conflicts in Zimbabwe. This review will be in line with the conceptual framework and the objectives of the study. The chapter gives a review of the current legal and regulatory framework governing agriculture and mining in Zimbabwe. The chapter first of all reviews the theoretical literature on the subject area and try to uncover other empirical findings on the related studies that were undertaken. The chapter further looked at the gaps that need to be bridged through the research findings.

2.2 PURPOSE OF LITERATURE REVIEW

The primary purpose of this literature review is to synthesize existing research regarding the conflicts between farmers and miners in Zimbabwe, providing a comprehensive understanding of the underlying issues, historical contexts, and current debates. This review aims to achieve the following objectives:

By examining the relevant literature, the researcher aims to identify recurring themes in farmer-miner conflicts, such as land use rights, economic impacts, and environmental degradation. Recent studies, such as those by Nyoni and Banda (2022) and Dube et al. (2023), highlight these issues and their implications for community well-being and agricultural sustainability.

The review will analyze the legal and regulatory frameworks that govern land use and mining in Zimbabwe. Moyo and Gumbo (2022) underscore inadequacies in the current laws regarding the protection of farmers' rights, revealing the urgent need for reform to balance interests effectively.

Incorporating recent case studies will provide concrete examples of the impacts of these conflicts on local communities. The work of Chikura and Mudzonga (2021) illustrates how inadequate stakeholder engagement can heighten tensions, offering insights into potential avenues for conflict resolution.

Despite the growing body of literature, significant gaps remain in understanding the socio-economic dynamics of farmer-miner conflicts. This review aims to pinpoint these gaps to guide

future research inquiries, fostering a more nuanced understanding of the interplay between agriculture and mining.

Ultimately, the literature review intends to inform policymakers and stakeholders about the complexities of farmer-miner conflicts. By synthesizing insights from various studies, including those from Dube et al. (2023) and Nyoni and Banda (2022), this review will provide actionable recommendations for conflict resolution and sustainable land management practices.

Snyder, 2019 proposed that, a literature review is a more or less methodical method of gathering and summarizing prior research "A study that analyses and synthesizes an existing body of literature by identifying, challenging, and advancing the theoretical building blocks through an examination of a body (or several bodies) of prior work" is what a literature review is, also known as a review article, is (Post et al. 2020, p. 352).

The researcher was able to develop a model for addressing farmer-miner conflicts in Zimbabwe. According to Efron & Ravid, (2018), they highlighted that, produced and assessed literature review notions on the given topic are of paramount importance, as opposed to simply providing a list of summarized research findings or supporting an argument. This improves readers' understanding of the research and also enhances the integrity of an author. (Cantero, 2019).

2.3 THEORETICAL FRAMEWORK

The theories related to farmer-miner conflicts underpinning this research are the Conflict theory, property rights theory and Resource based view.

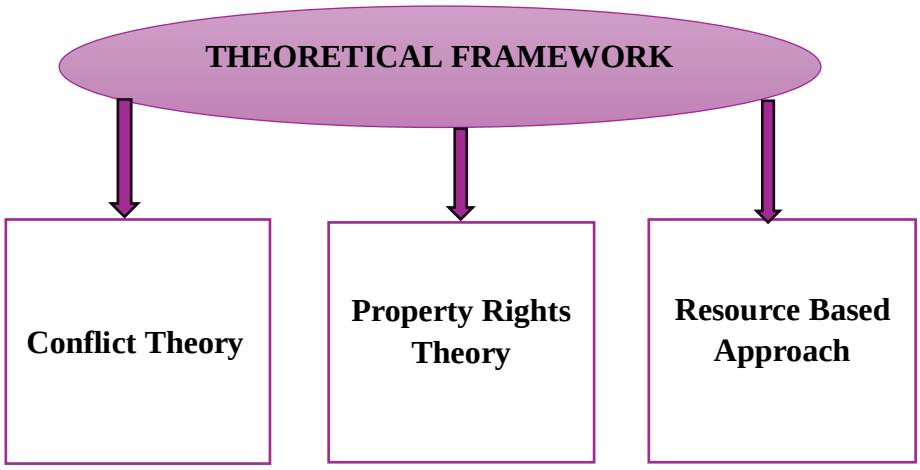

Fig 2.1: Theoretical concept on farmer-miner conflicts: Source: Own construct 2024

Source: Own construct, 2024

2.3.1 Conflict Resolution Theory

Conflict Resolution Theory explores the processes and strategies that can be employed to resolve disputes and manage disagreements. It encompasses a variety of approaches, including negotiation, mediation, and reconciliation. The theory emphasizes understanding the underlying causes of conflict, the interests of the involved parties, and the dynamics that influence conflict situations.

This theory focuses on strategies and mechanisms for resolving conflicts between different stakeholders. Legal and regulatory framework can provide avenues for mediation, negotiation, and arbitration, which can reduce tensions between farmers and miners and promote cooperation. Conflict resolution theory is highly relevant when addressing farmer-miner conflicts, which often arise due to competition over land use, natural resources, or conflicting interests. By applying conflict resolution theories, stakeholders can work towards finding mutually acceptable solutions and reducing tensions between the two groups. Fisher, Ury & Patton (2011).

According to Bercovitch, J., & DeRouen Jr., K. (2022), their research focuses on protracted conflicts, exploring how alternative dispute resolution (ADR) mechanisms can play a critical role in managing longstanding disputes that traditional methods struggle to resolve. Community-based conflict resolution highlights the importance of local engagement and

culturally sensitive approaches in addressing conflicts, particularly in diverse societies Curle, A., & Marsh, S. (2022).

Understanding the difference between interests (the underlying reasons) and positions (the stated demands) is crucial. Resolving conflict often involves shifting the focus from positions to interests to find mutually beneficial solutions. Effective communication is essential for resolution. It helps in clarifying misunderstandings, expressing needs, and building trust among conflicting parties.

Analyzing the power relationships between parties can reveal imbalances that need to be addressed to achieve a fair resolution. Sometimes, having a neutral party to mediate can facilitate dialogue and help reach an agreement. Various models of mediation and negotiation offer frameworks for these interventions. Understanding cultural contexts can significantly impact conflict resolution strategies. Different cultures may have different approaches to conflict and negotiation.

Conflict Resolution Theory is dynamic and continually evolving, with recent literature expanding our understanding of how various factors influence conflicts and their resolution. By integrating insights from both traditional approaches and contemporary developments especially regarding technology and emotional intelligence scholars and practitioners can better facilitate the resolution of conflicts in diverse contexts.

One particularly relevant conflict resolution theory is the "Interest-Based Relational Approach," which focuses on identifying the underlying needs and interests of each party involved in the conflict. By shifting the focus from positions to interests, stakeholders can explore opportunities for collaboration and reach agreements that address the needs of both farmers and miners. Another important theory is the "Transformative Mediation Approach," which emphasizes empowerment and recognition of each party's perspectives and identities. Applying this approach to farmer-miner conflicts can help build understanding, foster empathy, and promote a sense of shared responsibility towards finding sustainable solutions. Folger & Bush (1996).

2.3.2 Property Rights Theory

Property Rights Theory explores the legal and economic principles surrounding ownership and control of resources. It addresses how property rights affect economic incentives, resource allocation, and societal welfare. The essence of the theory lies in the idea that clearly defined and enforced property rights led to more efficient and sustainable use of resources. The study by Bardhan, P., & Dayton-Johnson, J. (2021) examines the impact of secure property rights on rural development outcomes, finding a strong correlation between well-defined property rights and improvements in agricultural productivity and poverty reduction.

Property rights specify who has ownership and control over a resource, including rights to use, transfer, and benefit from it. Well-defined property rights encourage individuals and entities to invest in resources, as they can expect returns on their investments. The theory posits that property rights facilitate market transactions, which help allocate resources more efficiently based on supply and demand. Anderson, T. L., & Leal, D. R. (2022) discusses how market mechanisms can provide incentives for individuals to protect and sustainably manage natural resources, reinforcing the role of property rights in environmental stewardship.

Clear property rights reduce conflicts over resource use, as they delineate ownership and usage rights. The theory also addresses the impact of externalities on property rights, particularly how unregulated use can lead to resource depletion and inefficiency.

Property Rights Theory continues to evolve, incorporating insights from recent literature that reflects changes in economic practices, environmental concerns, and technological advancements. Demsetz, H. (2020) emphasizes the importance of evolving property rights in response to changing economic and environmental conditions, arguing that innovation in property rights can lead to better resource management.

According to this theory, conflicts arise due to unclear or overlapping property rights between farmers and miners. Legal framework regarding land ownership, mineral rights, and water rights can either mitigate or exacerbate conflicts by providing clarity and enforceability of property rights. Property rights theory is essential in understanding and addressing farmer-miner conflicts as it provides insights into the legal and economic aspects of land ownership, resource distribution, and conflicting rights. This theory can help identify the root causes of disputes and guide the development of policies and mechanisms to manage conflicts effectively. De Soto (2007).

In the context of farmer-miner conflicts, property rights theory helps in clarifying land tenure systems, defining ownership rights, and determining the boundaries of resource use. Conflicts often arise when there is ambiguity or weak enforcement of property rights, leading to disputes over access to land, water, minerals, and other resources. Demsetz (1967). By using property rights theory, policymakers and stakeholders can design and implement mechanisms such as land titling, leasing agreements, and community property rights framework to address the key issues encouraging farmer-miner conflicts and promote sustainable resource management. Ostrom (1990).

Understanding the nuances of property rights in different contexts remains crucial for effective resource management and conflict resolution, and the ongoing research emphasizes the importance of adapting property rights frameworks to contemporary challenges. Ranjan, A. (2023) explores the implications of digital technologies on property rights, particularly concerning intangible assets in the digital economy, highlighting the need for new frameworks to address these emerging challenges.

2.3.3 Resource-Based Approach Theory

The Resource-Based Approach, or Resource-Based View (RBV), is a strategic management theory that focuses on the internal resources and capabilities of a firm as the primary drivers of competitive advantage and performance. These include tangible and intangible assets such as physical capital, human capital, intellectual property, and organizational processes.

The focus is not only on acquiring resources but also on ensuring they are sustained over time to maintain competitive advantage. It posits that firms can achieve sustained competitive advantages by effectively acquiring, developing, and utilizing valuable, rare, inimitable, and non-substitutable resources. Eisenhardt, K. M., & Martin, J. A. (2022), in their research, explores the intersection of RBV and innovation, examining how firms can balance exploiting existing resources while exploring new opportunities, thereby enhancing long-term performance. According to Wang, C. L., & Ahmed, P. K. (2023), the study extends RBV by integrating it with knowledge management theories, arguing that effective knowledge management is a critical resource that can lead to superior organizational learning and innovation.

The Resource-Based Approach Theory remains central to strategic management, with recent literature emphasizing the need for dynamic capabilities, innovation, and knowledge management in the pursuit of competitive advantage. A firm's resources and capabilities must be valuable, rare, inimitable, and organized to capture value (VRIO framework). Barney, J. B. (2021) reinforces the VRIO framework and explores how dynamic capabilities are essential for adapting to shifting environments, emphasizing a firm's ability to innovate and transform resources. Teece, D. J. (2020) also highlights the significance of dynamic capabilities in the context of rapidly changing markets, arguing that firms must not only leverage existing resources but also systematically develop new capabilities.

According to Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2021), discusses on how resource management practices impact entrepreneurial orientation and firm performance, providing empirical evidence on the importance of aligning resource configurations with strategic goals. Firms that can adeptly leverage and develop their unique resources are better positioned to navigate the complexities of modern markets. The ongoing evolution of the RBV reflects its adaptability to contemporary business challenges, reinforcing its relevance in strategic discussions.

This theory suggests that conflicts between farmers and miners in Zimbabwe are driven by the scarcity of valuable resources such as land, minerals, and water resources in shaping social interactions, economic activities, and power dynamics. Legal and regulatory framework play a crucial role in defining and allocating these resources, thereby influencing the occurrence and intensity of conflicts. This theory examines how access to and control over resources influence behaviour, relationships, and outcomes in conflicts between different resource user groups.

The theory further suggests that conflicts arise when there is competition for limited resources in a specific geographic area. Barney (1991). The theory highlights how disruptions in resource availability or quality can lead to conflicts as both groups seek to secure their resource access and usage rights.

The theory recognizes that power imbalances can exacerbate conflicts between farmers and miners. Miners may have more financial resources, political influence, or technological capabilities, giving them an advantage over farmers in negotiations or disputes over resource access. Penrose (1959).

The resource-based approach theory underscores the importance of formal and informal institutions in managing conflicts between farmers and miners. Effective governance

structures, property rights regimes, and conflict resolution mechanisms can help prevent and mitigate conflicts over resources. Wernerfelt (1984).

By applying the resource-based approach theory to farmer-miner conflicts, policymakers and stakeholders can better understand the underlying drivers of disputes, design targeted interventions to address root causes, and promote sustainable resource management practices that benefit both groups.

2.4 CONCEPTUAL FRAMEWORK

A conceptual framework is a representation of the relationship between variables and is generally developed based on a literature review of the existing studies about the study. The conceptual framework of the study is illustrated in the diagram below, which shows the expected relationship between the independent and dependent variables which support this study.

2.4.1 Independent Variables

- **Legal Framework**

A legal framework encompasses the principles, laws, regulations, and institutional mechanisms that govern a specific domain. It serves as a foundation for interpreting, enforcing, and developing legal standards that guide behavior and decision-making within a society.

Key Components of a Legal Framework include:

- Legislation: Statutes and regulations enacted by governing bodies.
- Judicial Decisions: Case law established through court rulings that interpret legislation.
- International Treaties: Agreements between nations that establish legal obligations.
- Administrative Guidelines: Rules and procedures set by various agencies.

The landscape of legal frameworks is continuously evolving, influenced by societal changes, technological advancements, and international dynamics. Recent literature underscores the importance of robust and flexible legal structures that can adapt to emerging challenges, such as data privacy, environmental issues, and public health crises. As scholars examine these

frameworks, they contribute to a better understanding of how laws can effectively address the complexities of contemporary society.

- **Regulatory Framework**

These include regulatory mechanisms, enforcement practices, compliance requirements imposed by governmental agencies or regulatory bodies. Regulatory frameworks establish the guidelines and rules governing specific sectors, ensuring compliance, protecting public interests, and promoting fair practices. They are essential in various fields, including finance, healthcare, environment, and technology.

Key Components of a Regulatory Framework include:

- Regulations and Policies: these are specific rules established by governmental bodies or regulatory agencies.
- Compliance Mechanisms: these are processes ensuring that organizations adhere to regulations.
- Enforcement Agencies: entails bodies responsible for overseeing compliance and imposing penalties.
- Stakeholder Engagement: involvement of the public, industry, and other interested parties in the regulatory process.

Regulatory frameworks are crucial in navigating the complexities of modern society. Recent literature highlights the ongoing evolution of these frameworks in response to technological advancements, public health crises, and environmental challenges. Scholars emphasize the need for adaptive regulations that consider stakeholder input, promote innovation, and protect the public, suggesting that a collaborative, flexible approach is essential for effective regulation in today's dynamic landscape.

- **Key Stakeholders**

These include government bodies, mining companies, agricultural associations, local communities, advocacy groups, and other relevant stakeholders involved in the disputes.

2.4.2 Dependent Variables

- **Conflict Resolution Mechanisms**

Mediation processes, arbitration procedures, legal avenues for resolving conflicts between farmers and miners.

- **Impact Assessment**

Evaluation of social, economic, and environmental impacts resulting from farmer-miner conflicts.

- **Critique**

Feedback or analysis regarding the complexity, power imbalances, efficacy of enforcement, community involvement, and the focus on conflict prevention within the existing legal and regulatory frameworks.

The diagram below summaries the conceptual framework. Independent Variables are the factors that are manipulated or controlled to understand their impact on the Dependent Variables, which are the outcomes or responses influenced by the Independent Variables. By analysing the relationship between these variables, it provides insight into how changes in the legal and regulatory frameworks affect conflict resolution, impact assessment, and overall critique of the system.

Independent Variables like the Legal Framework, Regulatory Framework, and Key Stakeholders are influencing the Mediating Variables (Conflict Resolution Mechanisms and Critique), and subsequently impacting the Dependent Variables (Conflict Resolution Mechanisms and Impact Assessment). This diagram visually represents the relationships between the different variables in the framework. Understanding these connections can help in analysing how changes in the independent variables affect the outcome of the dependent variables and the mediating variables.

This diagram shows how the legal and regulatory framework components like laws, regulations, enforcement mechanisms, key stakeholders, conflict resolution mechanisms, and impact assessment are interconnected in the context of farmer-miner conflicts. The critique is placed outside the main framework to highlight the areas of improvement needed in the existing system.

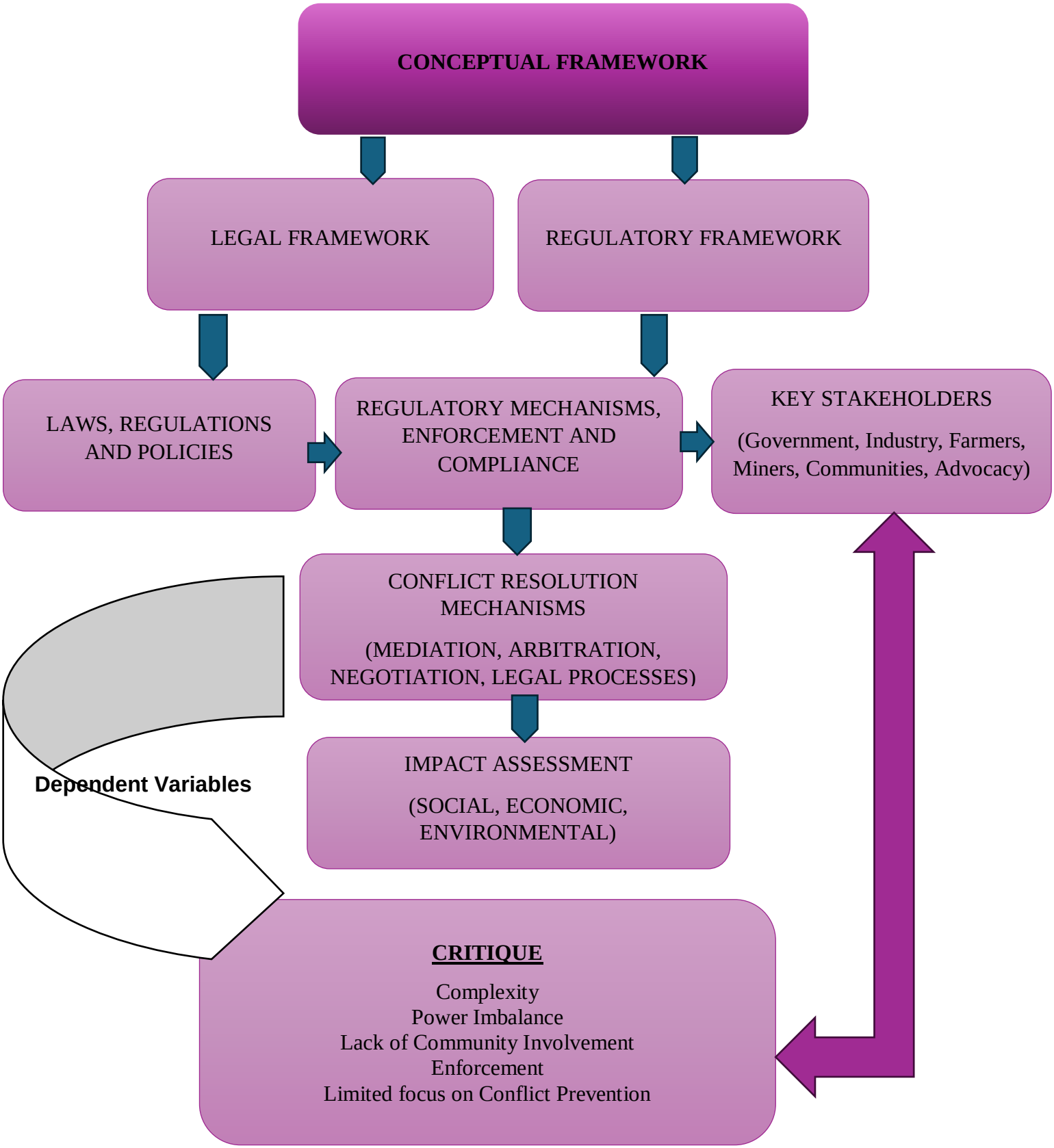

Figure 2.2 Conceptual Framework on farmer-miner conflict

Source: Own Construct, 2024

2.5 THE CONCEPTUAL FRAMEWORK LITERATURE REVIEW

This subsection reviews literature relating the variables indicated in the conceptual framework to provide a comprehensive understanding of the legal and regulatory frameworks in the context of farmer-miner conflicts.

Farmers and miners often find themselves in conflict due to competing interests over land use and resources. To address these conflicts effectively, it is crucial to examine the role of legal and regulatory framework in providing guidance and mechanisms for conflict resolution. This literature review explores existing research on the conceptual framework of legal and regulatory frameworks in managing farmer-miner conflicts.

2.5.1 Legal Framework

Research by Smith et al. (2018) emphasizes the importance of clear and robust legal frameworks in delineating land rights and usage regulations for farmers and mining companies. The study highlights how a well-defined legal framework can mitigate conflicts by providing mechanisms for fair dispute resolution and resource sharing.

2.5.2 Regulatory Frameworks

In a study by Johnson (2019), the significance of regulatory frameworks in managing conflicts between farmers and miners is discussed. Johnson argues that regulatory frameworks play a crucial role in enforcing compliance with environmental standards, land use guidelines, and community engagement requirements. Effective regulatory frameworks can promote sustainable practices and minimize negative impacts on both parties.

2.5.3 Mediating Variables

Conflict resolution mechanisms and stakeholder critique are identified as crucial mediating variables in managing farmer-miner conflicts. Smith and Brown (2020) suggest that incorporating transparent and inclusive conflict resolution mechanisms can facilitate dialogue and negotiation between farmers and miners, leading to mutually acceptable solutions. Additionally, stakeholder critique can provide valuable feedback for improving existing frameworks and practices, ensuring continuous adaptation to evolving circumstances.

2.5.4 Dependent Variables

The outcomes of legal and regulatory frameworks on farmer-miner conflicts can be assessed through conflict resolution mechanisms and impact assessment. A study by Lee et al. (2021)

demonstrates how the implementation of effective legal and regulatory frameworks can lead to timely conflict resolution and sustainable resource management. Impact assessments help in evaluating the long-term consequences of conflicts on both the environment and local communities, guiding future policy decisions and interventions.

2.5.6 Conclusion

The literature reviewed highlights the significance of a comprehensive conceptual framework that integrates legal and regulatory frameworks with mediating and dependent variables in managing farmer-miner conflicts. By understanding the interactions between these components, policymakers and stakeholders can develop informed strategies to address conflicts, promote sustainable practices, and safeguard the interests of all parties involved.

2.6 EMPIRICAL STUDIES

This section reviews empirical literature on structural change and employee performance.

2.6.1 Regional Perspective

Empirical studies investigating regional perspectives play a crucial role in understanding how local contexts influence various phenomena, such as economic development, social dynamics, cultural practices, and environmental management. Studies often assess the effectiveness of regional policies and their impact on local economies. This research examines how regional identities, governance, and political movements shape social outcomes. Further, investigating into how local cultures affect community engagement and social cohesion.

Recent empirical studies highlight the importance of regional perspectives in understanding complex social, economic, and environmental issues. By examining local contexts, researchers reveal critical insights that inform policy development and community engagement strategies. Future research should continue to focus on interdisciplinary approaches to address the multifaceted challenges faced by different regions.

Nguyen, T. (2023) provides an empirical assessment of regional collaboration on environmental issues. The study highlights successful interdisciplinary approaches that address marine conservation, showcasing the importance of local knowledge.

Researchers often conduct case studies and comparative analyses of farmer-miner conflicts in Africa. It has been noted that, farmer-miner conflicts are prevalent in countries with significant mining activities such as Ghana, Mali, and South Africa. Researchers like Hilson and Yakovleva have studied the impacts of mining on agriculture and local communities. Hilson, & Yakovleva, (2007). South Africa has a well-established tradition of stakeholder engagement and public participation in governance processes. The country's constitution emphasizes participatory democracy, and various mechanisms exist for involving stakeholders in decision-making processes at different levels. The diagram below shows the prevalence of farmer-miner conflicts in Ghana which has resulted in environmental and crop damage.



Plate 2.1: Cocoa Production at Risk - Understanding the Galamsey Effect in Ghana.
Source: Galamsey threat to food security, Graphic Online, Ghana, 2022

Galamsey is an illegal form of mining in Ghana that has caused severe damage to the environment and economy of the country. It involves miners using heavy machinery and explosives to dig deep into the ground in search of gold and other minerals. The problem with this method is that it causes deforestation, soil erosion, and other environmental problems. The rise of illegal mining, known as galamsey, deforestation and land destruction are taking a major

toll on the production of cocoa industry which is facing a serious challenge in Ghana. The deforestation caused by the miners has made it difficult for farmers to maintain their cocoa plantations. Without access to healthy soil, the trees are not able to produce enough beans for profitable cocoa production. Additionally, the chemicals used by the miners have contaminated water sources, making it difficult for farmers to irrigate their fields and maintain healthy crops.

The government of Ghana has taken steps to combat this problem by enacting laws that prohibit Galamsey. However, the illegal activity still continues in many areas due to a lack of enforcement and because the miners are able to bribe local authorities. Additionally, the lack of alternative economic opportunities makes it difficult for people to stop participating in illegal mining activities.

2.6.2 Global Perspective

Recent empirical studies that adopt a global perspective examine how interconnectedness across countries and regions shapes various phenomena, including economic trends, environmental challenges, and social movements. In countries like India and Indonesia, conflicts between farmers and mining companies have been documented. Researchers such as Lahiri-Dutt (2006) have examined the socio-economic impacts of mining on agriculture and rural communities. (Reference: Lahiri-Dutt, (2006).

The World Bank and the United Nations Development Programme (UNDP) have also published reports on farmer-miner conflicts globally, highlighting the need for sustainable development practices that balance the interests of agriculture and mining sectors. (Reference: World Bank. (2009). Confronting scarcity: managing water, energy and land for inclusive and sustainable growth; UNDP. (2019). Addressing the impacts of extractive industries on land and livelihoods).

2.7 IMPACT OF FARMER-MINER CONFLICTS ON AGRICULTURAL PRODUCTION

Studying the impact of farmer-miner conflicts on agricultural production is crucial for understanding the challenges faced in the agricultural sector. Such conflicts can have various effects, including land degradation, displacement of farmers, food insecurity among other factors.

2.7.1 Ghana

Farmer-miner conflicts in Ghana, particularly in areas like the Ashanti and Western regions, have considerable implications for agricultural production. The tension arises primarily from the competition for land, water resources, and environmental degradation caused by mining activities. Recent literature indicates that farmer-miner conflicts in Ghana significantly hinder agricultural production through resource competition and environmental degradation. The economic repercussions are profound, often leading to reduced food security and increased rural poverty. Effective conflict management strategies and policies are vital to harmonizing the interests of farmers and miners while promoting sustainable development in affected regions.

Mining cause environmental degradation through its effects on soil quality and water resources which are vital for farming. Koomson, I. (2023) explores how mining activities lead to soil degradation and water pollution. Koomson concludes that environmental damage significantly reduces agricultural productivity, especially in regions heavily impacted by illegal mining activities.

Studies were carried out on the economic consequences for farmers due to loss of land and productivity. Agyeman, A., & Osei, E. (2022) investigates how the encroachment of mining activities on agricultural land leads to reduced crop yields. Using survey data, they found that 65% of farmers reported substantial declines in productivity due to land loss.

Exploration of the social ramifications and community tensions result from conflicts between farmers and miners. According to Adjei, P. (2021) provides an empirical analysis of the economic implications of these conflicts. The study indicates that farmers affected by mining operations may face income losses of up to 40%, exacerbating rural poverty. Further, Owusu, A. & Mensah, I. (2022) in their research, surveys the social dynamics of areas affected by farmer-miner conflicts. The authors highlight that increased tension between communities can lead to violence, further disrupting agricultural activities and market access.

According to Boateng, R., & Bediako, J. (2023), this study reviews existing policies meant to mitigate conflicts. The authors emphasize the need for more effective regulatory frameworks and community engagement to balance mining activities and agricultural livelihoods.

Moreover, a study was carried out on the activities that were carried out by sand miners and its socio-environmental implications on local communities in Gomoa Mpota in Ghana. The study

considered sand miners and non-sand miners. From the responses that were obtained, it reinforced that, sand mining contributed to soil erosion, loss of vegetation and causes dust generation, pollution and loss of productive farmland, conflict between sand miners and farmers and property destruction. From the findings, it was recommended that, stakeholders should be involved in managing the sand mining activities and strengthening the institutions in charge of sand mining activities in Gomoa Mpota. Slack, (2001).

2.7.2 South America (Colombia)

In Colombia, farmer-miner conflicts are prevalent, particularly in regions rich in natural resources, leading to significant implications for agricultural production. The tensions arise from conflicts over land, resource allocation, and environmental degradation. Sierra, J. & Romero, R. (2022) documents how the expansion of mining operations leads to the displacement of farmers and loss of agricultural land, with over 70% of farmers in conflict zones reporting decreased productivity.

Mining cause environmental degradation through its effects on soil quality and water resources which are vital for farming. According to Gonzalez, M. (2021 highlights critical issues, such as water contamination and soil erosion caused by mining activities. The findings suggest that these environmental impacts result in a significant decline in crop yields, particularly in vulnerable communities.

Hernandez, L. (2023) delves into the economic impacts of these conflicts, emphasizing that farmers often face a reduction of up to 50% in their income due to land loss and market disruptions caused by conflict. As a result of such conflicts, it eventually affects local communities, including economic stability and food security.

It has been noted that, mining encroaches on agricultural land, leading to competition over land use and eventually result in disputes. Valencia, T. & Morales, A. (2022) carried out a survey on the social implications, indicating heightened tensions and violence between farmers and miners, which adversely affect agricultural practices and community cohesion.

Examination of the effectiveness of existing policies in managing these conflicts. According to Rojas, P. (2023) he critiques the existing regulatory frameworks aimed at managing these disputes. The study advocates for more inclusive policies that involve local communities in decision-making processes.

Historically, there were reported conflicts between miners and farmers in Northeastern Antioquia between 1930 and 1950 emanated from the problematic coexistence of ideas of public and private ownership of land and gold and the role of the state in regulating them. In the agrarian literature about Colombia, scholars argue that fake mining claims became a mechanism to hoard large extensions of land.

To test this hypothesis, we study Colombian mining and land legislation alongside conflicts between farmers and miners that rest in the Archivo Historico de Antioquia. Rather than a problem of land grabbing, the conflicts between mining and agriculture reveal that the antioqueño mining tradition of mazamorreros and the promotion of frontier colonization through colonos were in stark contradiction with the new agricultural and mining uses of natural resources and the model of regional development after the great depression. Since the laws protected both, mazamorreros and colonos, and mining and farming entrepreneurs, the access to natural resources became a source of conflict in places were mining and agriculture coexisted.

Farmer-miner conflicts in Colombia have profound effects on agricultural production, exacerbating challenges related to land use, environmental sustainability, and socioeconomic stability. The literature underscores the need for effective conflict resolution strategies and robust policies that prioritize the needs of agricultural communities while addressing the interests of the mining sector. Balancing these interests is crucial for achieving sustainable development and food security in Colombia.

2.8 THE EFFECTIVENESS OF LEGAL AND REGULATORY FRAMEWORK ON FARMER-MINER CONFLICTS

Assessing the effectiveness of the current legal and regulatory framework in mitigating farmer-miner conflicts on agricultural land is crucial for ensuring sustainable coexistence and resolving disputes. This can be achieved through adopting dispute resolution mechanisms, proper land use planning as well as monitoring among other factors. Thompson, E., & Brown, L. (2023) focuses on environmental regulations, particularly in the context of climate change. The authors evaluate recent regulatory initiatives aimed at reducing carbon emissions and promote sustainable practices, emphasizing the role of public policy in achieving environmental goals.

2.8.1 Tanzania

In Tanzania, the interplay between agriculture and mining has led to significant farmer-miner conflicts, impacting livelihoods and national development. Understanding the effectiveness of legal and regulatory frameworks is essential for mitigating these conflicts. Tanzania's land use policies govern the allocation and utilization of land for agriculture and mining, but conflicts often arise due to overlapping land claims. Mushi, S. (2021) highlights the gaps in land use policies that lead to conflicts, noting that 60% of affected farmers reported insufficient legal protection during disputes.

Legal frameworks dictate compensation for farmers affected by mining operations, though inadequacies in implementation often lead to disputes. Kamugisha, R. (2022) examines compensation practices, revealing that over 70% of farmers feel inadequately compensated, leading to ongoing tensions and resentment. Environmental laws aim to protect agricultural land from mining impacts. The effectiveness of these regulations in practice varies significantly. According to Ng'wandu, T. (2023) he explores how ineffective enforcement of environmental laws contributes to land degradation, negatively impacting agricultural productivity and exacerbating conflicts between farmers and miners.

Legislation often emphasizes community involvement in decision-making, but gaps in enforcement can marginalize farmers' voices. Mwalimu, N. (2023) assesses the legal framework regarding community participation. The findings indicate that while laws promote inclusion, actual implementation often fails to reflect this principle, with many farmers feeling excluded from the decision-making processes affecting their lands. Further, Kibanda, J. (2022) discusses how local governance structures can either mitigate or exacerbate conflicts. The study emphasizes the need for better coordination between local and national policies to enhance conflict resolution mechanisms.

The effectiveness of legal and regulatory frameworks in addressing farmer-miner conflicts in Tanzania remains a complex challenge. Despite existing laws designed to protect farmers and promote sustainable development, gaps in policy implementation, compensation practices, and community engagement contribute to ongoing tensions. Strengthening these frameworks, ensuring better enforcement, and engaging local communities effectively are critical steps needed for conflict resolution and sustainable development in the agricultural and mining sectors.

In Tanzania, land use conflicts are very common. The un-matching ratio between land as basic resources for livelihoods and its users constantly results into land use conflicts. Slack, (2001) It has been noted that, land use conflicts in Tanzania are caused and intensified by decisions and acts of the State through its various agencies. The state gives decisions and acts in response to both internal and external forces which could best be understood within the framework of globalization of capital interests. The globalizing capital process, involves denying access and control over resources to people who need those resources most. This has been experienced by individuals who depend entirely on land for their living. There have been challenges in addressing these conflicts and proposals have been put forward to have policies and practical recommendations to improve the situation. Slack, (2001).

2.8.2 USA

This literature review aims to explore the effectiveness of legal and regulatory frameworks in managing conflicts between farmers and miners in the United States. Recent studies highlight critical aspects surrounding land use, environmental regulations, and conflict resolution mechanisms, providing insights into the complexities of this issue.

A study by Thompson, J. & Garcia, M. (2023 examines the federal and state regulatory frameworks governing mining activities. It emphasizes that while regulations exist to protect agricultural land, inconsistencies in enforcement often lead to conflicts. The authors argue for more stringent regulatory oversight to ensure compliance and protection of farming interests.

Further, Roberts, L. (2022) analyzes the role of local zoning laws in mitigating conflicts between agriculture and mining. The study indicates that well-defined zoning regulations can prevent conflicts by designating clear boundaries for agricultural and mining activities. However, loopholes in these laws frequently allow for encroachment, complicating land use planning.

Lee, K. & Nguyen, T. (2021) focuses on the environmental regulations impacting farming and mining operations. It highlights that while laws such as the Clean Water Act provide frameworks to mitigate environmental damage, the implementation often lacks rigor. Farmers report adverse effects on their land due to insufficient protections against mining runoff.

Miller, S. (2022) explores alternative dispute resolution (ADR) mechanisms in mitigating conflicts. The findings suggest that involving local communities in decision-making processes

fosters better relationships between farmers and miners, leading to more sustainable conflict resolutions. Public forums and dialogue initiatives are recommended as effective strategies.

Klein, R. (2023) In a case study approaching several states with active farmer-miner conflicts, Klein identifies successful instances where collaborative approaches between stakeholders resulted in effective resolutions. Conversely, areas lacking proactive engagement continue to experience significant disputes. Identifying key players and fostering collaboration is essential for resolving conflicts effectively.

Anderson, P. (2021) This study addresses the disparity in resources between farmers and mining corporations, which often leaves farmers unable to protect their interests effectively. It advocates for the establishment of legal aid programs to support farmers navigating these conflicts, ensuring equitable representation.

The effectiveness of legal and regulatory frameworks in managing farmer-miner conflicts in the USA is contingent on robust enforcement, comprehensive land use planning, environmental protections, and active community involvement. Recent literature emphasizes the necessity for adaptive regulatory measures and collaborative conflict resolution strategies to balance the interests of both parties. By addressing the identified gaps in enforcement and community engagement, sustainable resolutions can be achieved that respect both agricultural viability and responsible mining practices.

It should be noted that, USA mining is governed by a law which was passed in 1872. The law sought to encourage the mining of gold, silver, lead, uranium and other rock minerals on public land to enable the rapid development of the western frontier. The law provided that, any person or organization can assume legal ownership of any public land not classified as wilderness or park simply by patenting it. Mines in the USA tend to destroy the land through dumping toxic chemicals without having to reclaim the damaged environment. Miller (1994). Negative impacts include, gouged land, soil erosion, damned rivers, flooded land, displaced indigenous people. Environmentalists have tried to demand for the repeal of the law, they have not been successful. Those who oppose them claim that the repeal of the law would push investors away.

2.9 MODELS THAT ENHANCES EFFECTIVE COLLABORATION BETWEEN FARMERS AND MINERS

Designing a model to enhance effective collaboration and mutual understanding between farmers and miners requires a participatory and holistic approach that considers the interests of

both parties. It is important to consider factors such as trainings on conflict resolution, information sharing and stakeholder engagements among other factors. Several countries have adopted models and approaches to address farmer-miner conflicts. Some countries have implemented specific initiatives and strategies to manage conflicts between agricultural communities and mining operations.

2.9.1 South Africa

This literature review investigates collaborative models that facilitate effective partnerships between farmers and miners in South Africa, a country marked by ongoing tensions between agriculture and mining sectors. The focus is on strategies that promote synergy, conflict resolution, and sustainable practices.

According to Molefe, T. & Ngwenya, M. (2022), this study emphasizes the importance of integrated land use planning in minimizing conflicts. The authors highlight frameworks that incorporate stakeholder input from both sectors, aiming to balance agricultural productivity with mining needs. Successful models in areas like the Free State demonstrate that collaborative land use plans can significantly reduce encroachment and resource competition.

Zulu, P. (2023) in his study explores the role of public-private partnerships in fostering collaboration. The findings suggest that engaging local municipalities and private sector actors can lead to the development of joint initiatives that benefit both farmers and miners. Case studies from KwaZulu-Natal illustrate how PPPs can facilitate resource sharing and conflict mitigation.

Best Practices for Conflict Resolution are important aspects in mitigating conflicts between farmers and miners. Mathibe, T. (2021) identifies best practices in conflict resolution, highlighting mediation, negotiation, and community engagement as key components. Mathibe argues for the establishment of local conflict resolution committees that include representatives from both farming and mining sectors. These committees can address grievances in a timely manner, preventing escalation.

Sustainable Environmental Practices are key components as outlined by Nkosi, R. & Pillay, S. (2022) where he discusses sustainable practices that can benefit both sectors. Their research indicates that implementing practices such as agroecological methods alongside responsible

mining operations can foster healthier ecosystems. Training programs aimed at educating both farmers and miners on sustainable practices are recommended to enhance collaboration.

Models on economic incentives and compensation if adopted can help mitigate such conflicts. Smit, J. (2023) investigates compensation models for farmers affected by mining activities. The study suggests that fair compensation and economic incentives for sustainable agriculture can promote better relations. Successful compensation schemes in the Mpumalanga province demonstrate how financial mechanisms can alleviate tensions and support livelihoods.

South Africa has further implemented initiatives to address conflicts between farmers and mining companies, particularly in rural areas. They have introduced land-use planning measures and stakeholder engagement processes to mitigate tensions and promote sustainable development. Community Development Initiatives are key components to ensure collaboration between the two sectors. According to Mkhize, L. (2021), he highlights the importance of community-driven development initiatives that bridge the gap between miners and farmers. Programs focusing on education, employment, and infrastructure improvements have led to enhanced cooperation. Engaging communities in decision-making fosters a sense of ownership, reducing friction.

The Department of Agriculture, Land Reform and Rural Development (DALRRD) is mandated to develop agricultural value chains, providing agricultural inputs, and monitoring production and consumption in the agriculture sector, as well as facilitating comprehensive rural development among other things. The department planned to strengthen the implementation of the agri-parks model which included creating farmer production support units, Agri-hubs, irrigation schemes and other socio-economic infrastructure as part of its drive to regenerate the agricultural infrastructure. This model intended to support industrialization on smallholder farmers through economic development, and capacitation in agro-processing value chains which promotes market access opportunities. Implementing the model also involved determining the viability of land for agricultural production.

The South African Institute of International Affairs (SAIIA) is an independent public policy that focuses on advancing a well-governed, peaceful, economically sustainable, and globally engaged Africa. Their work spans various areas, including foreign policy, governance, the environment, economic policy, and social development. SAIIA found out that, the relationship between mining and agriculture is complex, and finding a balance that ensures economic growth while safeguarding the environment and food security remains a critical challenge.

Mining has historically been a significant contributor to South Africa's economy, generating revenue, providing employment, and contributing to foreign exchange earnings. It is rich in mineral resources, including gold, platinum, diamonds, coal, and more. These resources are essential for industrial processes, infrastructure development, and global trade. However, mining also faces challenges related to environmental degradation, health and safety risks for workers, and social impacts on local communities.

On the other hand, agriculture is vital for food production and security. It ensures a stable supply of food for the population. The agricultural sector employs a significant portion of the population, especially in rural areas. Sustainable agricultural practices are crucial to protect natural resources, maintain soil fertility, and mitigate climate change effects. There can be conflicts between mining and agriculture over land use. Some areas rich in minerals may also be suitable for farming. Mining activities can impact soil quality, water availability, and ecosystems. Sustainable Environmental consideration practices are necessary to minimize negative effects.

The collaborative models reviewed indicate that effective partnership between farmers and miners in South Africa hinges on integrated planning, economic incentives, and community involvement. Recent literature underscores the need for multi-stakeholder approaches that incorporate input from both sectors to foster resilience and sustainability. By adopting these models, the potential for conflict can be minimized, leading to more harmonious coexistence and mutual benefits for both farmers and miners.

2.9.2 Philippines

This literature review focuses on collaborative models that enhance partnerships between farmers and miners in the Philippines, where conflicts often arise due to land use competition. It highlights recent studies and frameworks promoting sustainable development, conflict resolution, and mutual benefits.

Conflict Resolution Mechanisms are essential in mitigating conflicts. Lima, J. (2021) identifies effective conflict resolution strategies that involve mediation and local negotiation processes. These strategies help alleviate disputes by fostering understanding between farming and mining communities. Establishing conflict-resolution workshops has been recommended as a proactive solution.

Community-Based Resource Management (CBRM) encourages dialogue and reduces conflicts. Garcia, R. (2022) explores how CBRM approaches can empower local communities in decision-making processes through establishing community councils with representation from both sectors, stakeholders to address the issues collaboratively. This model has seen positive outcomes in regions like Caraga, where local governance structures facilitate dialogue. Programs that teach sustainable practices and the importance of collaboration can foster a culture of mutual respect and support among stakeholders. Ponce, D. (2021) Educational and capacity building initiatives focusing on the benefits of cooperation between farmers and miners have been explored.

It is also paramount to consider options such as incorporating sustainable practices and technology integration to enable co-existence of the sectors. In research conducted by Salvador, M. & Constantino, L. (2023) it highlights the role of sustainable agricultural practices and appropriate mining technologies. The integration of these practices promotes environmental stewardship, benefiting both sectors. Training programs that share innovative techniques have proved beneficial in enhancing collaborations. Further, Bautista, F. (2022) examines financial models that incentivize collaboration, including revenue-sharing agreements and compensation frameworks for affected farmers. Successful implementation in mining areas like Zambales demonstrates that fair compensation schemes can significantly improve relations between farmers and miners.

Land Use and Resource Management Frameworks are essential to help augment sharing of resources between the sectors. Dela Cruz, A. & Torres, E. (2023) discusses frameworks for integrated land use and resource management, emphasizing stakeholder engagement. Successful cases in Mindanao show that involving farmers and miners in collaborative planning can alleviate land-use conflicts and optimize resource sharing.

The Philippines have implemented models and approaches to address conflicts between farmers and mining operations. They have established multi-stakeholder platforms, conflict resolution mechanisms, and community development programs to promote sustainable resource management. Kapan has been known as the miners' city and a powerful copper mining plant which has been operational since 1846. The performed geochemical survey and a sanitary-hygienic assessment of pollution of the Kapan's soils have indicated high contents of toxic elements on surface water. Stimulation of chemical in water swiftly contributed to pollution of environmental components such as soils and plants. Chemical element

concentrations in the waters affects crop and such pollution levels impends sustainable development of the region, Saghatelyan, Sahakyan, Lilit, (2009).

In summary, the effective collaboration between farmers and miners in the Philippines relies on integrated resource management, community empowerment, conflict resolution, and educational initiatives. By adopting multi-faceted approaches that incorporate the interests of both sectors, the potential for conflict can be reduced, leading to sustainable development and enhanced cooperation.

2.9.3 Canada

This literature review focuses on collaborative models that facilitate partnerships between farmers and miners in Canada, a country with a diverse agricultural landscape and extensive mineral resources. The findings highlight recent studies that promote sustainable practices, conflict resolution, and mutual benefits across these sectors. Miller, R. (2021) discusses effective conflict resolution frameworks tailored to the agricultural and mining sectors. Miller highlights the role of facilitative mediation processes that involve local communities, allowing for transparent communication and quicker resolutions to disputes over land usage.

Agricultural innovation contributes much towards economic growth in Canada because, it inspires competitiveness as well as vast prospects towards attaining food security and sustainability goals. This has contributed immensely to the transformation of the agriculture sector thereby strengthening their competitive position at an international level. AIC (2017).

Smith, J. & Taylor, L. (2023) outlines the importance of Integrated Resource Management models that bring together diverse stakeholders. Case studies from Alberta show that collaborative planning can minimize land use conflict and enhance resource efficiency, benefitting both farmers and miners. Johnson, T. (2022) examines economic models that facilitate benefit-sharing between farmers and miners. Case studies in the Prairie provinces highlight successful revenue-sharing agreements that compensate farmers for land and resource use, fostering goodwill and cooperation.

While farmers and producers stand to gain from advancements in technology, information, and technical support, the absence of collaborative platforms frequently hinders them from fully leveraging extensive research initiatives like precision agriculture. Canada's agricultural industry benefits from a strong scientific foundation, diverse stakeholder network, and various

innovation centres, fostering inclusive innovation systems that respond to market demands. These systems are backed by evidence-based policies, supportive regulations, and governance mechanisms that facilitate ongoing technological advancements and foster the uptake of innovations on farms.

Moreover, there is a convergence of funding mechanisms, aiming to develop investment strategies tailored to the specific requirements and attributes of the sector, ensuring comprehensive support for various types of research. Nguyen, A. (2021) emphasizes the significance of educational programs designed to inform farmers and miners about sustainable practices and mutual benefits. Workshops and training sessions in Ontario have proven effective in building capacity and encouraging collaboration between sectors.

Additionally, it is important to integrate participatory research methods that engage all stakeholders in research endeavours and knowledge dissemination initiatives, guaranteeing that emerging knowledge and technologies align effectively with the requirements of end-users. Chen, W. & Gupta, S. (2023) advocate for agroecological methods in mining areas, emphasizing how these practices can enhance soil health and promote biodiversity. By adopting sustainable agricultural techniques alongside responsible mining practices, both sectors can thrive without sacrificing environmental integrity.

There is a requirement for a change in approach that fosters sustainable development, facilitating a more inclusive and participatory Agricultural Innovation System (AIS) driven by demand. This model involves a diverse set of participants who lead, facilitate, generate, share, and embrace innovation (OECD, 2013). This active network-focused framework necessitates ongoing cooperation, robust stakeholder connections, knowledge sharing, and a conducive institutional, policy, and governance framework. Lafleur, D. (2022) explores successful multi-stakeholder partnerships, showcasing initiatives in British Columbia. The research indicates that inclusive dialogues among farmers, miners, and government bodies lead to shared goals and better outcomes for sustainability. These partnerships often address environmental and economic concerns jointly.

The collaborative models reviewed indicate that effective partnerships between farmers and miners in Canada require an integrated approach that emphasizes stakeholder engagement, conflict resolution, and sustainable practices. Recent literature underscores the importance of multi-stakeholder partnerships and economic incentives to promote a more harmonious coexistence, ultimately benefiting both sectors.

2.10 RESEARCH GAPS AND CHALLENGES

There is need for further exploration and research in the context of farmer-miner conflicts in order for researchers and policymakers to foster sustainable development approaches that promote the well-being of both agricultural communities and mining stakeholders. This can be achieved through, analysing the existing policy and governance framework related to land use, mining activities, and community development. Research can assess the coherence, effectiveness, and inclusivity of policies governing the interactions between farmers and miners, as well as the implementation challenges and opportunities for improving regulatory mechanisms and institutional coordination.

Investigating the effectiveness of existing conflict resolution mechanisms in resolving farmer-miner conflicts and promoting peaceful coexistence. Research can explore the role of traditional dispute resolution systems, formal legal framework, community-based approaches, and the involvement of relevant stakeholders in managing and preventing conflicts. Research can delve deeper into the specific social, economic, and environmental impacts of mining activities on agricultural communities in different regions. This includes studying the long-term effects on land degradation, water resources, agricultural productivity, and community well-being.

2.11 CHAPTER SUMMARY

Chapter two primarily focussed on analysing the relevant literature, encompassing theoretical and empirical studies. Reviewing the literature is essential for constructing the conceptual framework and identifying gaps in the field. The research methodology for the present study was influenced by the methodologies employed in these previous studies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The research methodology pertains to the distinct methods or strategies employed to discover, choose, handle, and assess data concerning a specific subject. This chapter elucidates the methodology utilized by the researcher to gather information for the study, detailing the research design chosen. It also rationalizes the selection of study participants and data collection methods. Furthermore, it delineates the data analysis process and addresses the ethical considerations surrounding data collection and how they will be managed.

3.2 PHILOSOPHY

According to Babbie, 2020, research philosophy refers to a set of values, precepts, and presumptions that direct the course of research is known as a research philosophy. It supports a study's methodology, research design, and data collection strategies (Field, 2021). Furthermore, it supports decision-making for researchers regarding the methodology, approaches, and interpretation of their findings. It is essential to select a research philosophy because it directs the process of understanding the attainment and interpretation of knowledge. There are three research philosophies which are interpretivism, positivism and pragmatism, but this study will focus on the interpretivism approach.

Interpretivism is a research paradigm or philosophy that emphasizes the subjective and context-dependent nature of reality, asserting that social phenomena can only be comprehended through a meticulous exploration and interpretation of the meaning's individuals attach to them (Denzin & Lincoln, 2018). This approach suggests that gaining an understanding of social phenomena necessitates viewing the world from the perspective of the participants, focusing on the meanings and interpretations they assign to their experiences.

Researchers adopting an interpretivist stance often employ methods such as participant observation, interviews, and document analysis to uncover the nuanced meanings underlying social phenomena (Creswell, 2013). Interpretivism is commonly associated with fields like sociology, anthropology, and qualitative research methods, offering a valuable framework for studying complex social interactions and dynamics. Interpretivism is commonly associated with fields such as sociology, anthropology, and qualitative research methods. Researchers

following an interpretivist approach often use methods like participant observation, interviews, and document analysis to uncover the meanings and interpretations that individuals ascribe to their experiences.

The research was guided by the interpretivist which suggests that, people's perspectives on the world are shaped by their own experiences, values, and worldviews. These techniques enable researchers to probe deeply into the interpretations and meanings of the experiences which people make in life.

3.3 RESEARCH APPROACH

Cooper and Schindler, (2017) stated that, the research approach is the research plan and procedure made up of steps of broad assumptions to detailed method of data collection, analysis and interpretation. To conduct a comprehensive analysis, a qualitative research approach would be ideal in order to have a holistic understanding of the dynamics surrounding farmer-miner conflicts in Zimbabwean agricultural land and inform evidence-based policy interventions. It is therefore, based on the nature of the research problem being addressed and the reasoning behind the choice.

Qualitative research entails gathering and examining non-numerical data (such text, audio, or video) in order to comprehend ideas, viewpoints, or experiences. It can be applied to provide fresh research ideas or obtain in-depth understanding of an issue. The researcher chose this method because qualitative research is used to learn how people experience the world. Creswell, (2012).

Research involves investigation that leads to discovery and increasing knowledge in a systematic way (Saunders, *et al.*, 2019). In this study, the researcher adopts a thorough research methodology that is suitable and appropriate to answer the research questions. According to Saunders et al. (2019) there are three main approaches of research, which can be used in any research investigation: deductive, inductive, and abductive approaches. A deductive approach is a suitable method when developing a research strategy to test hypotheses, while an inductive approach is more suitable for the development of theory. An inductive approach will be used in this research.

The researcher will commence by conducting an extensive review of existing literature on farmer-miner conflicts, legal framework, regulatory mechanisms in Zimbabwe. Further the researcher will identify gaps, theoretical framework, and previous findings related to the topic.

3.3.1 Qualitative Research

The researcher will conduct semi-structured interviews with key stakeholders such as farmers, miners, government officials, legal experts, and community leaders to understand their perspectives on the legal and regulatory framework and their impact on conflicts and production.

Further, the researcher will organize focus group discussions to gather collective insights on farmer-miner conflicts, regulatory challenges, and potential solutions.

3.4 RESEARCH DESIGN

The research will follow an Explorative Research Design by using a mixed-methods approach to gather comprehensive data and explore the complex relationship between legal and regulatory framework, farmer-miner conflicts, and agricultural production in Zimbabwean agricultural land. The primary methods of exploration research will include secondary data analysis, surveys, case studies and focus groups. Exploratory research allows for a thorough examination of various perspectives, practices, and challenges associated with farmer-miner conflicts in the Zimbabwean agricultural land.

Given the evolving nature of conflicts and amendments of the legislation, an exploratory approach enables the researcher to delve deeply into the current legal provisions in order to identify gaps and to generate practical strategies and policy recommendations that can promote sustainable coexistence and conflict mitigation between farmers and miners in Zimbabwe.

3.5 STUDY SETTING

The study was conducted in Harare at Ministry of Lands, Agriculture, Fisheries, Water and Rural Development (MLAFWRD) and the Ministry of Mines and Mining Development (MMMD) as well as farmers and miners in Kadoma, Kwekwe, Mazowe districts.

3.6 RESEARCH POPULATION

In this research, the research population consist of employees at different levels within the two Ministries, ranging from lower-level staff members to mid-level managers in leadership positions within the public sector who include top government officials, department heads, managers, employees within MLAFWRD and MMMD and farmer-miner representatives.

3.7 TARGET POPULATION

A research population refers to the entire group of individuals, objects, or events that meet specific criteria and from which a sample is drawn for a study. In this research, the research population consist of employees at different levels within the Ministry, ranging from lower-level staff members to mid-level managers in leadership positions within the public sector in Zimbabwe who include top government officials, department heads, managers, employees within MLAFWRD and MMMD and farmer miner representatives.

3.8 SAMPLING AND SAMPLE SIZE

Gay (1992) explains that sampling involves choosing a subset of individuals for a study in a way that they accurately represent the larger group they were chosen from. She emphasizes the significance of sample selection in determining how applicable the findings can be to the population. Mack et al. (2006) also describes purposive sampling as a method of categorizing participants based on predetermined criteria relevant to the research question. This technique aids in selecting participants based on specific attributes. In this study, purposive sampling was used to select 20 participants, including personnel ranging from lower-level employees to Directors within MLAFWRD and MMMD, as well as farmer-miner representatives.

3.9 FEASIBILITY OF THE STUDY

The researcher has technical capacity to carry out the study.

3.10 DATA GATHERING TOOLS

The case study serves as the primary methodological approach in this research, complemented by various data collection techniques to ensure a comprehensive understanding of the legal and regulatory framework of farmer-miner conflicts in the Zimbabwe.

3.10.1 Data Collection Techniques and Instruments

Data collection is a method of gathering data from the targeted population (Yin, 2002). The researcher conducted in-depth interviews. The researcher used interviews to collect data. Interviews are a method of collecting data that involves presentation of oral- verbal stimuli and reply in terms of oral verbal responses (Landridge, 2004). The researcher used the semi structured interview in which the interviewer enquired into the participant's responses in order to get clarifications.

A qualitative research instrument employed when a researcher deems it necessary to obtain data from experts. It requires the preparation of interview guides in advance. The researcher collected primary data and secondary data (Creswell, 2000). The questions where carefully chosen, and the manner of the questions allowed the respondents to express their views. The researcher used in-depth interviews and key informant interviews to collect primary data. Secondary data is sourced from journals and other articles related to the study.

3.11 QUALITATIVE DATA COLLECTION METHODS.

3.11.1 In-depth Interviews

The researcher conducted, in-depth interviews with individual interviewees. The primary objective of in-depth interviews was to be able to appreciate the basic inspirations, beliefs, dispositions and feelings on a particular topic (Data et al., 2011). This research used unstructured in-depth interviews with the study participants. Throughout the in-depth interviews, researchers and participants have the freedom to explore additional points and change the direction of the process when necessary (Cresswell 2014). It is an independent research method that can adopt multiple strategies according to the needs of the research. In-depth interviews were used because, they allowed me and participants to have a comfortable relationship to generate more in-depth responses regarding sensitive topics (Cresswell 2014). The researcher was able to ask follow-up questions, obtained additional information, and refer to key questions to gain a better understanding of challenges faced by the farmers and miners regarding competing land use.

3.12 SAMPLING TECHNIQUES

For an analysis of the legal and regulatory framework concerning farmer-miner conflicts on production in Zimbabwean agricultural land, a mixed methods approach will be adopted in order to get a comprehensive understanding of the issue. The sampling techniques I would study include:

3.12.1 Qualitative Sampling Techniques:

1. Purposive Sampling: The researcher will adopt the Purposive random sampling technique through selecting specific farmers and miners who possess unique characteristics or experiences relevant to the research topic. The technique was developed by Teddie and Yu (2007) as part of the five typologies of mixed method research. Purposive random sampling involves taking a random sample of a small number of units from a much larger target population (Kemper et al., 2003). Creswell (2002) proposes a minimum sample size of between 3-5 participants for case study research designs. This technique allows for targeted selection of participants who can provide valuable insights into specific aspects of the issue. This researcher will select the key stakeholders such as farmers, miners, government officials, and legal experts who have direct experience with farmer-miner conflicts. The research will focus on districts where farmer-miner conflicts are prevalent.

2. Snowball Sampling: The researcher will identify initial participants who have knowledge or experience with farmer-miner conflicts and asking them to refer other individuals who may fit the study's criteria. This technique enables the researcher to reach individuals who may be difficult to identify using traditional sampling methods. Identify initial informants knowledgeable about the legal framework and regulations related to these conflicts, and ask them to refer you to other relevant sources.

3.13 DATA ANALYSIS TECHNIQUES

The research utilized thematic analysis as its analytical approach. Thematic analysis is a qualitative data analysis method that entails examining the dataset to recognize, examine, and present recurring patterns. Braun and Clarke (2006) define thematic analysis as a technique for capturing data characteristics, interpreting the data through code selection, and developing themes. Thematic analysis is particularly suitable where researchers want to understand the subjective experiences, opinions, or narratives participants in terms of data presentation and analysis. These techniques can assist to unearth valuable insights into the strengths,

weaknesses, and potential improvements of the legal and regulatory framework on farmer-miner conflicts in Zimbabwe.

3.13.1 Qualitative Analysis

The qualitative data will be transcribed, coded, and categorized to identify key findings and themes. For example, for information on audio recordings will be transcribed into a written record of the interviews and or focus group discussions. The researcher will transcribe and analyze interview data to identify recurring themes related to farmer-miner conflicts, legal framework, and their impact on production. The interviews will be coded to come up with understandable participants statements and conclusions. Code interview transcripts will be developed to categorize responses and extract key insights regarding stakeholder perspectives, challenges, and potential solutions.

The researcher will also develop narratives based on qualitative data to provide context and depth to the findings. The researcher will utilise NVivo to analyze that qualitative data. This system will allow the researcher to code and categorise qualitative data by assigning codes or themes to specific sections of interview transcripts, focus group discussions or other textual documents.

3.14 ETHICAL CONSIDERATIONS

Ethical considerations on research are a set of principles that guide research designs and practices and are crucial in ensuring upholding ethical standards, promote integrity, and ensuring the well-being of participants and communities involved. These principles help to protect the rights, safety, and well-being of research participants, as well as the integrity and credibility of the research itself. These include:

3.14.1 Obtaining voluntary participation from study participants, which means they must not be coerced, deceived, or manipulated to join or stay in the study. Participants should have the freedom to choose whether or not to participate in the study without any negative consequences. Furthermore, participants involved in the research, including farmers, miners, government officials, and other stakeholders, provide voluntary and informed consent to participate.

3.14.2 Ensuring that participants' anonymity and confidentiality are protected. This means that personal information should be kept confidential and not shared without the participant's

consent. The researcher will ensure that data is stored securely to protect it from unauthorized access, and adhere to data protection regulations to ensure confidentiality and trustworthiness.

Participants should not be identifiable by their names, codes, or other identifiers in the study or its reports. The researcher will use pseudonyms or identifiers to anonymize participant data.

3.14.3 Respecting the cultural norms, beliefs, and practices of the communities and individuals involved in the research. Be mindful of cultural sensitivities, traditions, and local customs to ensure that research activities do not cause harm or offense.

3.14.4 Treating all participants with fairness, respect, and equity. Avoid discrimination, bias, or favoritism based on factors such as gender, ethnicity, religion, or social status. Ensure that research activities are conducted in a just and inclusive manner.

3.14.5 Disclosing any potential conflicts of interest that may arise from the research, such as affiliations with specific organizations or stakeholders. Maintain transparency and integrity in the research process to uphold the credibility and reliability of the findings.

3.14.6 Furthermore, ethical approval from the relevant institutional review board, such as the Bindura University of Science Education (BUSE), is required to conduct the research in accordance with established ethical guidelines.

3.14.7 It is also important to acknowledge the contributions of participants when reporting findings, recognizing their invaluable input and cooperation throughout the research process.

3.8 CHAPTER SUMMARY

The chapter outlined the steps a researcher must take to gather, analyze, and report research findings. A multiplicity of data collection methods was used in order to overcome some of the data limitations encountered including; questionnaires, detailed interviews of key informants to complement the case study approach, and detailed review of secondary data in the form of published essays and media articles to measure the trends of the conflicts and the debates surrounding these. The chapter provided appropriate research techniques for the researcher to use. A brief look of the methods for data display and analysis was provided in the chapter.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 INTRODUCTION

This chapter describes the results of the study emerging from the in-depth interviews, Key Informant Interviews, observations and secondary data analysis on farmer-miner conflicts, legal and regulatory mechanisms in the context of agricultural land management in Zimbabwe. Through a detailed analysis of qualitative data collected from stakeholders, this chapter aims to elucidate the nature of conflicts, assess the effectiveness of existing regulations, and provide insights for addressing challenges in land use management. The Chapter presents data on frequencies generated by SPSS using tables, pie charts and graphs. The Chapter also presents the major topics that emerged from the interviews carried out and interpreted the meaning of the findings and at the end a chapter summary is presented.

4.2 QUALITATIVE ANALYSIS OF CONFLICT PATTERNS AND REGULATORY EFFECTIVENESS

Conducted a comprehensive literature review to understand the existing research in the field by identifying gaps in the literature that needed to be addressed. Data was collected through (interviews, surveys, observations, etc.), thematic analysis, content analysis was used to analyse the data. Analysed the collected data using coding, identifying themes, and interpreting the data to draw meaningful conclusions. The findings were presented in a clear manner using quotes, examples, and other supporting evidence to illustrate points. Implications of findings were discussed in relation to existing literature and theories. the significance of my research was addressed in the context of conflict management and regulatory effectiveness.

4.3 BACKGROUND INFORMATION OF PARTICIPANTS

The section looks at the background information of participants to determine the participant's suitability for the study. The response rate, gender, age groups relevant sector is looked at.

Table 4.1 below shows the response rate of the in-depth interviews.

Table 4.1 Response rate

Instrument	Targeted	Successful	Response rate
In-depth interviews	20	20	100%

Source: Researcher's primary data, 2024

The researcher targeted to conduct 20 in-depth interviews with the study participants. The response rate for these interviews was a 100% response rate which resulted in a further analysis. The targeted participants managed to collect rich data since the study was a qualitative study.

4.3.2 Demographic Characteristics of Participants

When carrying out research of this nature it is very important to get the voices of both men and women so that discussions are balanced and inclusive in order to critically and effectively address societal needs. Women have been observed to take a back stance when it comes to issues concerning their livelihoods and yet they should be participating as they are largely affected as well and sometimes even more than the men. The research had aimed to get at least an equal number of men and women but this was not possible. The figure below indicates the profiles of the interviewees of the study.

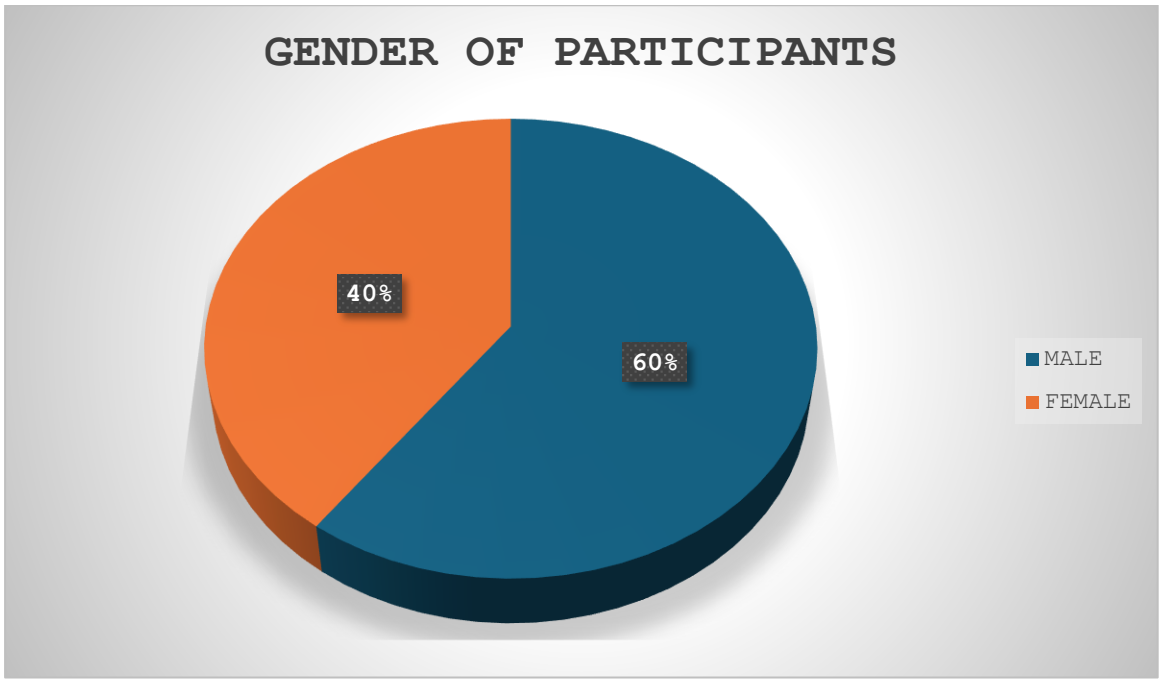

Fig 4.1: Gender of participants

Source: Researcher's primary data, 2024

From the results presented above, 60% were male while, 40% were female. Of the 20 interviewed, 12 of them were males and 8 were females. Among the 12 who were males, 3 of them where government officials at Director and Deputy Director and Officer levels, while 5 of them were farmers and the rest were miners. Of the 8 females who participated, 3 of them were Director and Deputy Director and Officer levels while 4 were farmers and the rest miners.

4.3.4 Profiles of Interviewees

The figure below indicates the profiles of the interviewees of the study.

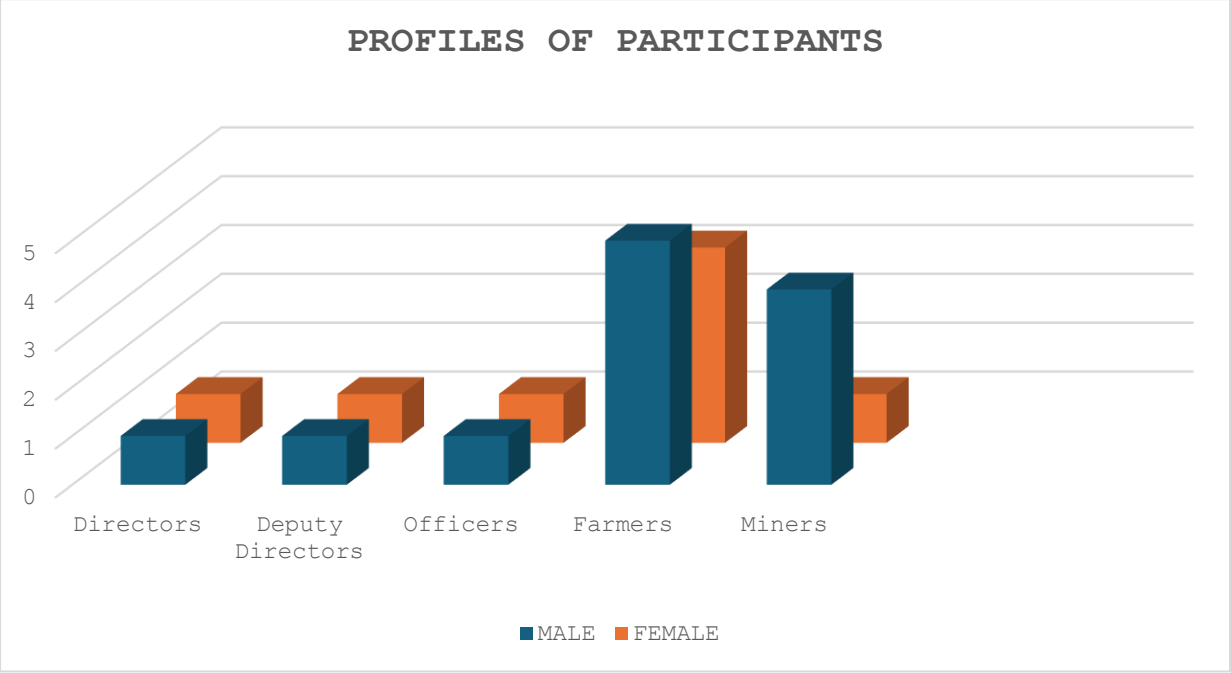

Figure 4.2: Profiles of Participants

Source: Researcher's primary data, 2024

4.3.3 Characteristics of Survey Participants by Age

The ages of the respondents are necessary as it helps to streamline the discussion. In this case the research required data concerning a brief history of the farm during the initial occupation by the farmers.

From the participants who were interviewed, there was only 3 participant who was below 30, 9 were between 31 and 39, while 6 were between 40 and 49. There were 2 participants who were above 50. The figure below indicates the profiles of the interviewees of the study.

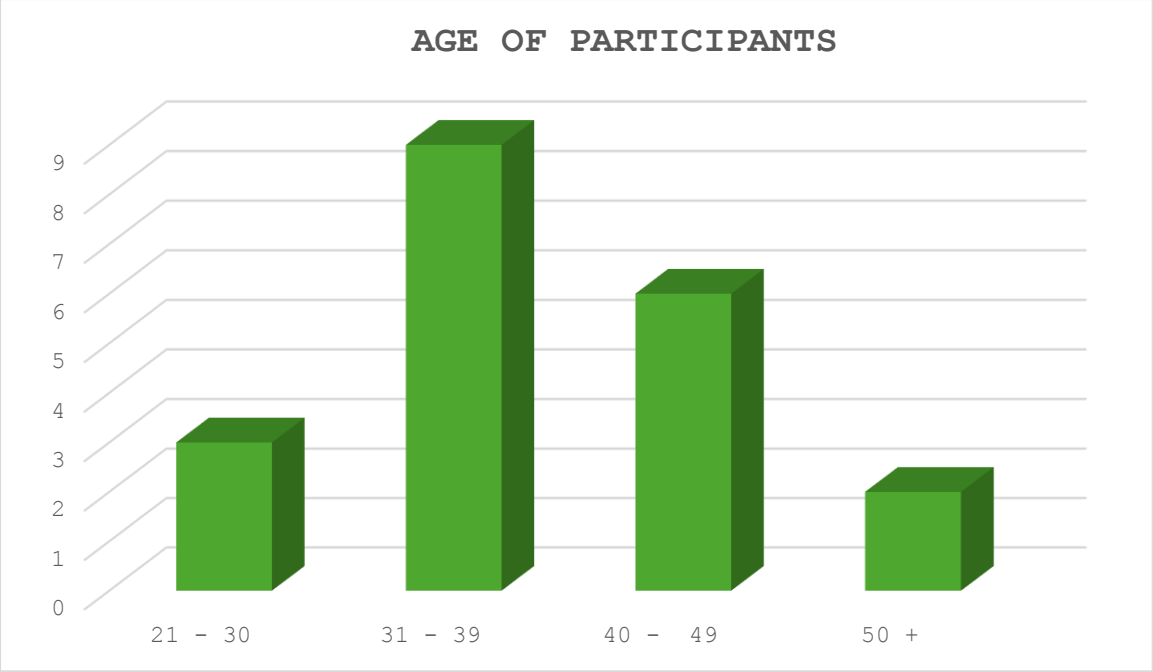

Figure 4.3: Age of Participants

Source: Researcher's primary data, 2024

4.4 DATA ANALYSIS

A comprehensive data analysis approach was undertaken. The data was collected from various sources, including case studies, legislative documents, policy reports, and scholarly articles.

4.4.1 Qualitative Analysis

Employed content analysis to identify key themes and issues within legal frameworks governing farmer-miner conflicts. Conducted thematic analysis to categorize the regulatory responses and their implications. Applied comparative analysis to assess the effectiveness of different legal approaches in mitigating conflicts.

4.4.2 Case Study Analysis

Examined specific case studies of farmer-miner conflicts to provide in-depth insights into the dynamics at play. Analysed the legal processes and outcomes of selected cases to understand the practical implications of the regulatory framework. Identified best practices and lessons learned from successful conflict resolution initiatives.

4.4.3 Policy Review

Reviewed existing laws, regulations, and policies governing farmer-miner conflicts at local, national, and international levels. Assessed the alignment of legal provisions with international standards and best practices in conflict resolution. Identified gaps and inconsistencies in the regulatory framework and proposed recommendations for improvement.

4.5 OBJECTIVE 1. TO IDENTIFY THE IMPACT OF FARMER-MINER CONFLICTS ON AGRICULTURAL PRODUCTION IN ZIMBABWE.

This section delves into the narratives and perspectives of farmers, miners, and other key stakeholders involved in conflicts over land use. Themes emerging from interviews and focus group discussions are analyzed to uncover the root causes of disputes, the impacts on agricultural production, livelihoods and the effectiveness of conflict resolution mechanisms.

What is the impact of farmer-miner conflicts on agricultural production in Zimbabwe?

The first research objective of the study was to identify the impact of farmer-miner conflicts on agricultural production in Zimbabwe. The study participants were able to identify a number of the effects of such conflicts such as leading to disruptions in agricultural activities, economic losses for both agriculture and mining sectors and may discourage investments in agriculture, leading to underutilization of arable land and limited adoption of modern farming practices among other factors. The study participants noted that by implementing incentive structures such as joint Ventures, revenue-sharing models can incentivize collaboration, foster mutual benefits, and strengthen relationships between farmers and miners.

Below are the extracts featuring the perspectives of the research participants.

INTERVIEWEE 1 said, “Farmer-miner conflicts lead to disruptions in agricultural activities”.

INTERVIEWEE 2 said, “Farmer-miner conflicts lead to reduced crop yields due to land disputes”.

INTERVIEWEE 3 said, “The miners haphazardly set fire on large tracts of grazing land to clear the land for mining leaving the livestock with no grazing land”.

INTERVIEWEE 4 said, “Mining activities have negative environmental impacts, including soil erosion, water pollution, and deforestation”.

INTERVIEWEE 5 said, “Prospecting is done everywhere and sometimes even on the farmers’ arable land”.

INTERVIEWEE 6 said, “Conflicts over land use can result in deforestation which has a negative impact on the long-term sustainability of agriculture in the Zimbabwe”.

INTERVIEWEE 7 said, “Mining caused reductions in crop agriculture (fields), livestock grazing”.

INTERVIEWEE 8 said, “destabilize communities that are dependent on agriculture, thereby affecting livelihoods, food security, and income generation for farmers and their families

INTERVIEWEE 9 said, “Persistent conflicts between farmers and miners may discourage investments in agriculture, leading to underutilization of arable land and limited adoption of modern farming practices”.

INTERVIEWEE 10 said, “Mining activities causes pollution and some mining activities are being carried out closer to homesteads posing a health hazard to people”.

INTERVIEWEE 11 said, “Mining has created numerous hazards for agricultural production and livestock as a result of deposits that are left behind which end up in the water and make both people and animals sick”.

INTERVIEWEE 12 said, “Farmers and miners compete over land and water and such reliance contributes to conflicts whereby one group may feel that their interests are being compromised by the activities of the other”.

INTERVIEWEE 13 said, “Farmer -miner conflicts impact agricultural output and result in tensions between farmers and miners”.

INTERVIEWEE 14 said, “grazing lands have been taken over by mining and thus our livestock have reduced pasture and are at risk of falling into pits, as most of these miners do not fence off their mining activities”.

INTERVIEWEE 15 said, “Farmer-miner conflicts may lead to economic losses for both agriculture and mining sectors

INTERVIEWEE 16 said, “contribute to a sense of insecurity thereby hindering cooperation and development initiatives”.

INTERVIEWEE 17 said, “farmer-miner conflicts affect generation of income which end up affecting food security”.

INTERVIEWEE 18 said, “Farmer-miner conflicts cause soil erosion, water pollution since there will be competition over the same resources”.

INTERVIEWEE 19 said, ““Farmer-miner conflicts affect overall productivity in both agriculture and mining sectors.

INTERVIEWEE 20 said, “These conflicts between farmers and miners affects productivity and investment opportunities”.

4.5.1 Crop Yield Reduction

It has been noted that, farmer-miner conflicts lead to disruptions in agricultural activities, agricultural land degradation, and reduced crop yields due to land disputes, pollution, or resource competition. Conflicts disrupt agricultural activities, such as planting, harvesting, and transportation of produce. Farming communities are then forced to abandon their fields due to violence or threats, resulting in reduced yields and food insecurity.

4.5.2 Decreased Investment in Agriculture

It has been observed that, persistent conflicts between farmers and miners may discourage investments in agriculture, leading to underutilization of arable land and limited adoption of modern farming practices. Mining caused reductions in crop agriculture (fields), livestock grazing.

4.5.3 Environmental Degradation

It was noted that, conflicts over land use can result in deforestation, soil erosion, water pollution, and other environmental degradation, impacting the long-term sustainability of agriculture in the region. Mining operations cause adverse environmental effects such as soil erosion, water contamination, and forest loss. These impacts can hinder agricultural productivity and contribute to tensions between farmers and miners. Farmer miner disputes shows that the magnitude of the impact of famer-miner disputes is huge and it only occurs where there are minerals. Mining activities can lead to land degradation, which directly affects agricultural productivity. Pollution from mining activities can contaminate soil and water sources, making them unsuitable for agriculture.

4.5.4 Livelihood Disruption

It was observed that, farmer-miner conflicts destabilize communities dependent on agriculture, affecting livelihoods, food security, and income generation for farmers and their families. Farmers and miners contend for land and water resources, intensifying conflicts stemming from their reliance on these shared resources. A certain group may feel that their interests are being compromised by the activities of the other.

4.5.5 Social, Economic Tensions and Insecurity

Farmer-miner conflicts can result in economic losses for both sectors affecting local economies, market access, and overall productivity in the region. Disruptions in agricultural production can lead to food shortages and price fluctuations, while mining activities may also be affected due to insecure environments. Ongoing conflicts between farmers and miners can exacerbate social tensions thereby hindering cooperation and development initiatives. Farmer-miner conflicts can create an atmosphere of insecurity for farmers, leading to a decrease in agricultural investments and productivity. Farmers may be reluctant to plant crops or tend to their fields if they fear for their safety.

4.5.6 Competition for resources

Competition for resources between farmers and miners often compete for land and water resources. This competition can lead to disputes, displacements of farmers, and ultimately reduce the area available for agricultural activities.

4.6 OBJECTIVE 2. TO ASSESS THE EFFECTIVENESS OF THE CURRENT LEGAL AND REGULATORY FRAMEWORK IN MITIGATING FARMER-MINER CONFLICTS IN ZIMBABWE.

This section explores the legal framework governing land use in Zimbabwe, focusing on the adequacy of laws and regulations in addressing farmer-miner conflicts. By analysing compliance levels among farmers and miners, the chapter assesses the effectiveness of enforcement mechanisms, the clarity of land tenure rights, and the role of institutions in mediating disputes.

How effective is the current legal and regulatory framework on farmer-miner conflicts in Zimbabwe?

The second research objective of the study was to assess the current legal and regulatory framework in mitigating farmer-miner conflicts. The study participants were able to recognize a number of factors that affect the efficacy of the current legislation such as conflicting interpretations of laws and regulations of farmers and miners leading to uncertainty among stakeholders, lack of awareness on the rights within the framework of existing laws and regulations and lack of community involvement in decision-making processes, resource management, and conflict resolution within the existing legal framework among other factors. The study participants noted that aligning regulatory frameworks, land tenure systems, and policy interventions help to support collaborative initiatives and promote shared responsibilities between farmers and miners.

Below are the extracts featuring the perspectives of the research participants.

INTERVIEWEE 1 said, "lack of community involvement in decision-making processes, resource management, and conflict resolution within the existing legal framework, impacting the effectiveness of conflict mitigation efforts".

INTERVIEWEE 2 said, "the Mines and Minerals Act should be revised to accommodate new developments that have occurred since the enactment of the said Act".

INTERVIEWEE 3 said, "conflicting interpretations of laws and regulations may lead to uncertainty among stakeholders, exacerbating tensions and hindering effective resolution of farmer-miner disputes".

INTERVIEWEE 4 said, "There is lack of enforcement of existing laws in both the agriculture and mining sectors".

INTERVIEWEE 5 said, "lack of legal avenues that are available to farmers and miners to enable them to seek redress, settle disputes, and uphold their rights within the framework of existing laws and regulations".

INTERVIEWEE 6 said, "policy interventions help to support collaborative initiatives and promote shared responsibilities between farmers and miners".

INTERVIEWEE 7 said, "lack of awareness on their rights within the framework of existing laws".

INTERVIEWEE 8 said, “conflicting interpretations of laws hinders effective resolution of farmer-miner disputes”.

INTERVIEWEE 9 said, “issues of land administration need to be addressed. It is recommended that there should be one ministry that is responsible for land issues such that it is easier to monitor activities and allocations. However, Zimbabwe land Commission has been established to deal with disputes on agricultural land but it appears they lack capacity to handle the cases and again it is not an independent commission like other commissions so decisions may be biased”.

INTERVIEWEE 10 said, “there is corruption in land administration, the authorities are aware of the problems on the ground but are not being addressed”.

INTERVIEWEE 11 said, “lack of awareness on their rights within the framework of existing policies”.

INTERVIEWEE 12 said, “No enforcement of laws when it comes to overlapping of roles”.

INTERVIEWEE 13 said, “The current legal and regulatory framework in Zimbabwe aimed at addressing farmer-miner conflicts has challenges in implementation and enforcement”.

INTERVIEWEE 14 said, “The agrarian laws are not aligned”.

INTERVIEWEE 15 said, “weak implementation mechanisms”.

INTERVIEWEE 16 said, “lack of awareness on their rights within the framework of existing policies”.

INTERVIEWEE 17 said, “there are gaps in the existing laws”.

INTERVIEWEE 18 said, “lack of awareness on their rights within the framework of existing laws and regulations”.

INTERVIEWEE 19 said, “lack of capacity within regulatory agencies responsible for mediating conflicts”.

INTERVIEWEE 20 said, “lack of awareness existing laws”.

4.6.1 Legal Frameworks and Regulatory Compliance

The findings revealed deficiencies in existing laws, regulations, and policies related to land use that contributed to conflicts between farmers and miners. An examination of the current legal framework revealed gaps and inconsistencies in laws and regulations related to land use, resource allocation, and conflict resolution mechanisms that contributes to farmer-miner conflicts. Perusal of the Mines and Minerals Act (Chapter21:05) showed that the Act is old and may be outdated in some instances. The Act was enacted in 1961 and 62 years later we still refer to the same. A lot of changes have taken place and new ideas have come up which means that the Act should be revised or updated. For Example, during that period of 1961, when the Act was enacted, gold mining was not rampant like it is currently and the issue of illegal miners was restricted.

4.6.2 Enforcement Challenges

Findings indicated issues relating to the enforcement of existing laws, including weak implementation mechanisms, corruption, or lack of capacity within regulatory agencies responsible for mediating conflicts. It has further been noted that, the current legal and regulatory framework of farmer-miner conflicts face challenges in implementation and enforcement. There are gaps in the laws, lack of clarity in responsibilities, limited resources for enforcement, and issues with stakeholders' compliance.

4.6.3 Impact of Policy Ambiguity

The findings indicated that, the existence of indistinctness or conflicting interpretations of laws and regulations on farmer-miner conflicts often lead to uncertainties among stakeholders in the agriculture and mining sectors thereby, exacerbating tensions and hindering effective resolution of farmer-miner disputes. It has been observed that, quite a number of participants lacked the general understanding of how mining licenses are obtained.

4.6.4 Stakeholder Perceptions of Regulatory Effectiveness

Stakeholders' perceptions of the legal frameworks and regulatory mechanisms were examined to measure their levels of satisfaction, confidence in organizations that deals with such conflicts and recommendations were obtained for enhancing compliance and conflict resolution.

According to the Mines and Minerals Act, miners must fill in any excavated pits; failure to do so may result in a fine and a potential one-year prison sentence. The investigation uncovered

that these uncovered pits are predominantly left by unregistered artisanal gold miners, making accountability difficult. While established commercial mines adhere to regulations and implement environmental protection measures, informal small-scale miners frequently operate without regard for ecological guidelines. It has further been revealed that, mining is creating numerous hazards for agricultural production and livestock as a result of deposits that are left behind which end up in the water and it often leads to sickness for both people and animals. The uncovered pits can contaminate water sources, leading to illnesses in both humans and animals. Certain artisanal miners utilize gold sensors to locate gold deposits and subsequently burn extensive areas of grazing land recklessly to prepare the land for mining, depriving livestock of their pasture.

4.6.5 Community Participation

It has been highlighted the need to increase the level of community involvement in decision-making processes, resource management, and conflict resolution within the existing legal framework, impacting the effectiveness of conflict mitigation efforts.

4.6.6 Access to Justice

Findings emphasized on accessibility and effectiveness of legal avenues available to farmers and miners to seek redress, settle disputes, and uphold their rights within the framework of existing laws and regulations.

4.6.7 Stakeholder Engagement

The findings revealed the need to provide insights into the effectiveness of the current legal framework in preventing and resolving conflicts. This could be done through understanding the level of engagement and collaboration that is required between government authorities, local communities, farmers, miners, and other relevant stakeholders.

4.7 OBJECTIVE 3. TO DESIGN A MODEL TO ENHANCE EFFECTIVE COLLABORATION AND MUTUAL UNDERSTANDING BETWEEN FARMERS AND MINERS IN ZIMBABWE.

This section explores suitable models that can be developed to address farmer-miner conflicts. By analysing the models, the chapter will adopt a suitable model which will enhance collaboration and mutual understanding between farmers and miners in Zimbabwe.

What model can be developed to enhance collaboration and mutual understanding between farmers and miners?

The third research objective of the study was to design a model to enhance effective collaboration and mutual understanding between farmers and miners in Zimbabwe. The study participants were able to diagnose a typical model such as Alternative Dispute resolution Mechanisms such as negotiation and mediation between conflicting farmers and miners. The study participants noted that through developing proactive strategies for conflict prevention and dialogue facilitation can help address potential sources of tension before they escalate into disputes between farmers and miners.

Below are the extracts featuring the perspectives of the research participants.

INTERVIEWEE 1 said, "There is need for stakeholder engagement can help identify key areas of collaboration".

INTERVIEWEE 2 said, "There is need facilitate effective communication channels".

INTERVIEWEE 3 said, "lack of mechanisms for sharing resources, resolving disputes, and negotiating land use".

INTERVIEWEE 4 said, "promote mutual understanding and peaceful coexistence between farmers and miners in Zimbabwe".

INTERVIEWEE 5 said, "The need for capacity building programs, training workshops, and awareness campaigns to improve knowledge, skills, and attitudes towards sustainable land management practices among farmers and miners".

INTERVIEWEE 6 said, "lack of awareness to improve knowledge on sustainable resource management".

INTERVIEWEE 7 said, "lack of community involvement in decision-making processes causes escalation of conflicts".

INTERVIEWEE 8 said, "Promoting natural resource management activities to enhance trust, inclusivity, and ownership of collaborative efforts".

INTERVIEWEE 9 said, "There is need for policy interventions to support collaborative initiatives among farmers and miners".

INTERVIEWEE 10 said, “there is need to encourage conflict resolution initiatives among farmers and miners”.

INTERVIEWEE 11 said, “Identifying and implementing incentive structures such as joint projects, revenue-sharing models, or cooperative ventures can incentivize collaboration, foster mutual benefits, and strengthen relationships between farmers and miners”.

INTERVIEWEE 12 said, “There is need to maintain healthy relationships and foster harmony within agricultural and mining communities”.

INTERVIEWEE 13 said, “aligning regulatory frameworks, land tenure systems and promote shared responsibilities between farmers and miners”.

INTERVIEWEE 14 said, “consent should be sought from farmers before mining takes place because generally most communal lands are parceled out in small pieces”.

INTERVIEWEE 15 said, “effective dispute resolution mechanisms are required and will lead to more harmonious relationships, workable agreements and peaceful coexistence”.

INTERVIEWEE 16 said, “Developing proactive strategies for conflict prevention, early warning systems, and dialogue facilitation can help anticipate and address potential sources of tension before they escalate into disputes between farmers and miners”.

INTERVIEWEE 17 said, “conflicts between farmers and miners should be navigated in a way that promotes understanding, collaboration.

INTERVIEWEE 18 said, “the issue of compensation for loss of agricultural land has not been addressed for a long time and this has resulted in conflicts between the two sectors”.

INTERVIEWEE 19 said, “there is need for an organization that is impartial set to address some of these issues so that there is production in both sectors”.

INTERVIEWEE 20 said, “There is an urgent need for policy and legislative promulgation that will holistically address these conflicts”.

4.7.1 Stakeholder Perception and Communication

The findings revealed that there is need to understand the perceptions, needs, and concerns of both farmers and miners through stakeholder engagement in order to help identify key areas of collaboration and facilitate effective communication channels.

4.7.2 Resource Sharing and Conflict Resolution Mechanisms

The need to develop mechanisms for sharing resources, resolving disputes, and negotiating land use agreements was emphasized in order to promote mutual understanding and peaceful coexistence between farmers and miners in Zimbabwe.

4.7.3 Capacity Building and Training

The findings underscored the need for capacity building programs, training workshops, and awareness campaigns to improve knowledge, skills, and attitudes towards sustainable land management practices among farmers and miners.

4.7.4 Incentive Structures

The findings revealed the need to identify and implement incentive structures such as joint ventures, models that encourage revenue-sharing in order to incentivize collaboration, foster mutual benefits as well as strengthening relationships between farmers and miners.

4.7.5 Community Engagement and Participation

The findings highlighted the need of promoting community involvement in decision-making processes, conflict resolution initiatives, and natural resource management activities which will enhance trust, inclusivity, and ownership of collaborative efforts.

4.7.6 Regulatory Support and Policy Alignment

The findings accentuated the importance of aligning regulatory frameworks, land tenure systems, and policy interventions to support collaborative initiatives and promote shared responsibilities between farmers and miners.

4.7.7 Conflict Prevention Strategies

The findings stressed the need to develop proactive strategies for conflict deterrence and dialogue facilitation in order to address potential sources of tension before they escalate into disputes between farmers and miners.

4.8 DISCUSSION OF FINDINGS AND LITERATURE REVIEW

The primary aim of the study was to to assess the effectiveness of the current legal and regulatory framework of farmer-miner conflicts in addressing and resolving such conflicts. A variety of observations were noted by the survey participants. The participants in the study

observed that lack of community involvement in decision-making processes among other factors contributes to conflicts between the two sectors. Additionally, research participants expressed that alternative dispute resolution mechanisms and best practices to promote sustainable coexistence and collaboration between these stakeholder groups.

Legislation often emphasizes community involvement in decision-making, but gaps in enforcement can marginalize farmers' voices. Mwalimu, N. (2023) assesses the legal framework regarding community participation. The findings indicate that while laws promote inclusion, actual implementation often fails to reflect this principle, with many farmers feeling excluded from the decision-making processes affecting their lands. According to Anderson, P. (2021), this study addresses the disparity in resources between farmers and mining corporations, which often leaves farmers unable to protect their interests effectively. It advocates for the establishment of legal aid programs to support farmers navigating these conflicts, ensuring equitable representation.

Further, Kibanda, J. (2022) discusses how local governance structures can either mitigate or exacerbate conflicts. The study emphasizes the need for better coordination between local and national policies to enhance conflict resolution mechanisms. Chikura, K., & Mudzonga, E. (2021) discusses the role of policy enforcement and governance in exacerbating conflicts, highlighting the need for inclusive governance structures that incorporate the perspectives of both farmers and miners.

Moyo, S., & Gumbo, T. (2022) critiques existing mining laws in Zimbabwe, proposing necessary reforms to protect agricultural land while still permitting responsible resource extraction. The Mines and Minerals Act (Chapter 21:05) implemented in 1961 has remained unchanged for over two decades, lacking any progressive revisions. This absence of updated policies or regulations in the mining sector has impacted land occupiers, particularly in communal areas, as highlighted by Mudimu et al. (2024).

Under Section 188 of the Mines and Minerals Act, the government should publish a schedule detailing yearly compensation rates for landowners. Nevertheless, the current Act does not establish a right to compensation for mining operations that disrupt agricultural lands, as noted by Mudimu et al. (2024). This lack of acknowledgment of communal land systems in the Act contributes to conflicts arising over land use.

Section 31 of the Act safeguards communal lands by requiring consent from the landholders before mining commences, recognizing that these lands are typically small parcels not

exceeding 100 hectares. However, the same section empowers the Minister to grant a mining license if consent is unreasonably withheld, leaving communal landholders' rights subject to executive discretion. Additionally, the absence of a guaranteed right to compensation weakens the negotiating leverage of landholders in terms of compensation.

Conversely, according to Section 72 of the Constitution of Zimbabwe, Amendment No. 20 Act, 2013, individuals are entitled to compensation for property loss, including land and any associated interests. Consequently, land occupiers have the option to seek compensation through legal avenues notwithstanding the limitations posed by the Mines and Minerals Act.

On the other hand, the Zimbabwe Land Commission (ZLC) is established in terms of section 296 of the Constitution of Zimbabwe Amendment (No. 20) Act, 2013. The ZLC has an oversight role over administration of agricultural land vested in the State. In terms of Section 297 (1) (d), it is mandated to investigate and determine complaints and disputes on agricultural land. ZLC however, is not an impartial entity that would be well-suited to resolve some of these disputes.

This study suggests that immediate action is required to establish comprehensive policies and laws to tackle these conflicts effectively. The majority of mining operations currently involve surface mining, leading to unavoidable conflicts with farmers or landowners. It has been noted that farmers are facing significant challenges as mining activities encroach on their grazing lands. The lack of oversight by authorities and the failure of relevant government departments to collaborate and coordinate their efforts contribute to the miners' disregard for the well-being of farmers. Fisher, R. J., & Ury, W. (2021) *Getting to Yes,* remains foundational in conflict resolution, advocating for principled negotiation, where parties focus on interests rather than positions. The updated edition incorporates contemporary examples of conflicts and resolutions.

The results of this study align with those of a 2022 study conducted by (Magidi et al., 2022) where it was discovered that mining caused extensive environmental destruction, creating artificial hills and open pits as well as promoting massive soil erosion, contaminating water and land with dangerous chemicals making them unusable for productive purposes.

The research recommended that, there is need for robust legal and regulatory frameworks to set clear guidelines for the administration, supervision and use of natural resources. A study by Thompson, J. & Garcia, M. (2023 emphasizes that while regulations exist to protect agricultural

land, inconsistencies in enforcement often lead to conflicts. The authors argue for more stringent regulatory oversight to ensure compliance and protection of farming interests.

Furthermore, the study participants stressed the need to develop proactive strategies for conflict deterrence and dialogue facilitation in order to address potential sources of tension before they escalate into conflicts between farmers and miners. Bercovitch, J., & DeRouen Jr., K. (2022) in his research focuses on protracted conflicts, exploring how alternative dispute resolution (ADR) mechanisms can play a critical role in managing longstanding disputes that traditional methods struggle to resolve. Pruitt, D. G., & Kim, S. H. (2023) outlines the role of emotion in conflict resolution, emphasizing how emotional intelligence can enhance negotiation outcomes by improving communication and understanding among parties.

The effectiveness of legal and regulatory frameworks in managing farmer-miner conflicts is contingent on robust enforcement, comprehensive land use planning, environmental protections, and active community involvement.

According to Dube, T., Chikwanje, T., & Moyo, S. (2023), this study illustrates the direct effects of mining operations on commercial agriculture, arguing for more integrated approaches to land use that prioritize community interests. Additionally, it was recommended that the extraction of these minerals should leverage more sophisticated technology, with the potential for farmers and miners to harmoniously coexist.

Recent literature emphasizes the necessity for adaptive regulatory measures and collaborative conflict resolution strategies to balance the interests of both parties. By addressing the identified gaps in enforcement and community engagement, sustainable resolutions can be achieved that respect both agricultural viability and responsible mining practices.

4.9 CHAPTER SUMMARY

This section provides a comprehensive assessment of the efficacy of current regulatory approaches regarding farmer-miner conflicts. The major aim of this chapter was to present the study results. Qualitative research approach was used by the researcher. The researcher collected demographic data of the study participants to have an appreciation of the demographics of the study participants. The next chapter will present the summary, conclusion and the recommendations of the study.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter synthesizes the key findings from the research on farmer-miner conflicts, legal frameworks, and regulatory mechanisms in Zimbabwe. This chapter offers a comprehensive overview of the challenges faced in land use management and provides a basis for formulating targeted recommendations.

5.2 SUMMARY OF FINDINGS

This section provides a comprehensive assessment of the efficacy of current regulatory approaches regarding farmer-miner conflicts.

The following are the major findings, based on the research objectives.

- Lack of community involvement in decision-making processes among other factors contributes to conflicts between the two sectors.
- Alternative dispute resolution mechanisms and best practices promote sustainable coexistence and collaboration between these stakeholder groups.

5.3 CONCLUSIONS

The following conclusions were derived basing on the research objectives.

5.3.1 Objective 1: To identify the impact of farmer-miner conflicts on agricultural production in Zimbabwe.

The first research objective of the study was to identify the impact of farmer-miner conflicts on agricultural production in Zimbabwe. The study participants were able to identify a number of the effects of such conflicts such as leading to disruptions in agricultural activities, economic losses for both agriculture and mining sectors and may discourage investments in agriculture, leading to underutilization of arable land and limited adoption of modern farming practices among other factors. The study participants noted that by implementing incentive structures such as joint Ventures, revenue-sharing models can incentivize collaboration, foster mutual benefits, and strengthen relationships between farmers and miners.

5.3.2 Objective 2. To assess the effectiveness of the current legal and regulatory framework in mitigating farmer-miner conflicts in Zimbabwe.

The second research objective of the study was to assess the current legal and regulatory framework in mitigating farmer-miner conflicts. The study participants were able to recognize a number of factors that affect the efficacy of the current legislation such as conflicting interpretations of laws and regulations of farmers and miners leading to uncertainty among stakeholders, lack of awareness on the rights within the framework of existing laws and regulations and lack of community involvement in decision-making processes, resource management, and conflict resolution within the existing legal framework among other factors. The study participants noted that aligning regulatory frameworks, land tenure systems, and policy interventions help to support collaborative initiatives and promote shared responsibilities between farmers and miners.

5.3.3 Objective 3. To design a model to enhance effective collaboration and mutual understanding between farmers and miners in Zimbabwe.

The third research objective of the study was to design a model to enhance effective collaboration and mutual understanding between farmers and miners in Zimbabwe. The study participants were able to diagnose a typical model such as Alternative Dispute resolution Mechanisms such as negotiation and mediation between conflicting farmers and miners. The study participants noted that through developing proactive strategies for conflict prevention and dialogue facilitation can help address potential sources of tension before they escalate into disputes between farmers and miners.

5.4 RECOMMENDATIONS

Based on the findings and analysis presented in this chapter, recommendations are proposed for policymakers, government agencies, and other stakeholders to improve land use management, mitigate farmer-miner conflicts, and strengthen regulatory frameworks. These recommendations aim to promote sustainable development, protect the rights of farmers and miners, and foster harmonious coexistence in the agricultural and mining sectors.

5.4.1 Enhancing community participation in decision-making processes

The government and other stakeholders can mitigate these conflicts through implementing various measures, including involving community in decision-making processes to resolve

disputes. A comprehensive approach that combines short-term solutions with long-term strategies, can restore the mining industry while also preserving its environment for future generations. In order to tackle this issue effectively, it is necessary to embrace a holistic strategy encompassing both immediate and prolonged remedies.

In the short-term, there needs to be an increased enforcement of laws and better access to alternative economic opportunities. Additionally, farmers need assistance with re-planting trees and restoring soil health in order to restore their cocoa plantations. In the long-term, there need to be more sustainable approaches to agricultural production that do not rely on deforestation or contaminated water sources. This could include agroforestry systems such as alley cropping and integrated farming systems that reduce soil erosion and improve water quality while still providing a valuable crop.

Participatory approaches are encouraged which involves engaging stakeholders such as Rural District Councils, Farmer, miners, Local NGOs and EMA, ZELA amongst others in the decision-making processes.

5.4.2 Promoting dialogue and mutual understanding between farmers and miners

The notion that a valuable mine should take precedence over farming is rational, as a productive mine can generate more wealth from a small area than a farming operation. However, in today's era, if a farmer must relocate, they not only require compensation but also suitable new land for agricultural purposes. There are alternative investment opportunities in agriculture that also make sense at national and local levels but may necessitate relocating individuals.

This situation calls for two separate negotiation processes: one with the overall community to ensure they receive employment priority and other benefits, and another with the minority who need to be provided with a new farm. A standardized process is essential to safeguard the farmer's interests, ensuring they are fairly treated and able to continue farming, even after relocation. Hence, new procedures must be established. This can be relatively straightforward to resolve.

It is crucial for mining authorities to collaborate closely with land and agriculture authorities from the exploration phase, which might occur on operational farmland, to the production phase, which could disrupt or cease farming activities. Once the farmer is introduced to the new land and the new infrastructure, they may feel more positive about the transition. Various investments in infrastructure and agricultural operations are on the horizon, such as irrigation

projects and the cultivation of plantation crops. However, these developments should be agreed upon since they can have significant impacts on communities.

5.4.3 Developing sustainable land use practices to minimize environmental impacts

Sustainable mining practices are essential for minimizing the environmental impact of mining operations and ensuring long-term benefits for both communities and ecosystems. Here are some approaches to promote sustainability in mining. Traditional mining methods, such as open-pit and underground mining, can have severe environmental consequences. Adopting lower-impact techniques can help reduce harm. For example, In-Situ Leaching which is a method that involves injecting a leaching solution directly into the ore body to dissolve minerals, minimizing surface disturbance. The other method that can be incorporated is selective mining which targets specific high-grade ore zones rather than extracting everything. Backfilling is also encouraged to fill excavated areas with waste material to restore the landscape.

5.4.4 Capacity building

Investing in training and capacity-building for local communities is recommended about responsible land management practices so that farmers can avoid damaging their land and crops in the future.

5.4.5 Negotiation and Mediation

Conflicts can be effectively resolved through negotiation and mediation, involving stakeholders with diverse perspectives and interests to address and strive for mutually agreeable solutions. Mediation employs a neutral third party to facilitate communication and negotiation among conflicting parties, especially beneficial in situations with heightened tension or uncertainty among the parties.

While these methods aid in easing tensions between conflicting groups, additional efforts are required to assist communities in addressing issues related to conflicts in Zimbabwe. Passing the Mines and Mineral Bill is crucial to empower traditional leaders and law enforcement agencies to contribute to mitigating conflicts between farmers and miners.

5.4.6 Robust Legal and regulatory frameworks

Robust legal and regulatory frameworks are essential in preventing conflicts by establishing transparent rules governing the management, oversight, and utilization of natural resources. These frameworks also offer avenues for addressing disputes if and when they occur. To evaluate the actual effectiveness, a comprehensive analysis of the framework's impact on mitigating conflicts, protecting farmers' rights, ensuring sustainable land use, and promoting peaceful coexistence between farmers and miners would be necessary.

5.4.7 Implementation, Monitoring and Evaluation Strategies

Strategies for implementing the recommendations should be outlined, taking into account the roles and responsibilities of different actors, resource mobilization mechanisms, and timelines for action. Collaboration among stakeholders, capacity-building efforts, and advocacy campaigns are emphasized as essential components of successful implementation. To ensure the effectiveness of the recommended interventions, a monitoring and evaluation framework is proposed to track progress, measure impact, and adapt strategies based on feedback and new developments. Clear indicators, data collection methods, and reporting mechanisms are established to facilitate ongoing assessment and learning. Continuous monitoring, evaluation, and adaptation of the legal and regulatory framework may be necessary to improve its effectiveness in managing farmer-miner conflicts in Zimbabwe.

5.5 PROPOSED MODEL

Alternative Dispute Resolution (ADR)

Alternative Dispute Resolution (ADR) mechanisms play a crucial role in handling disputes outside the formal court system. Through implementing ADR model, conflicts between farmers and miners in Zimbabwe can be addressed in a more collaborative and sustainable manner, leading to improved relations and outcomes for all stakeholders involved. This model outlines the key steps and components of an ADR process, from initiation to resolution and follow-up.

The diagram below indicates the proposed model of the study.

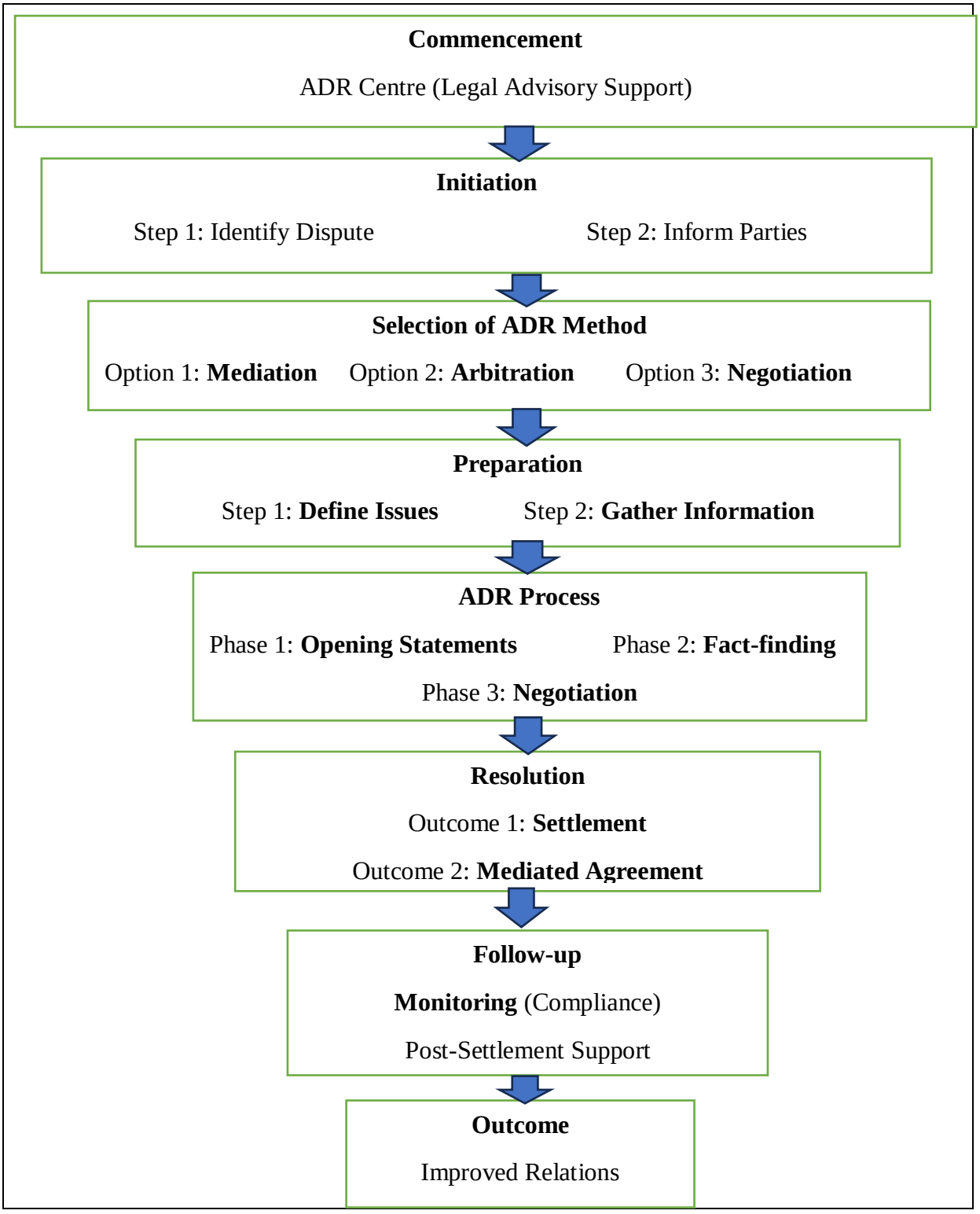

Fig 5.1: Proposed Model

Source: Researcher's own construct, 2024

The Alternative Dispute Resolution (ADR) refers to various processes used to resolve disputes outside of traditional courtroom settings. ADR encompasses methods like mediation,

arbitration, and negotiation, which are often preferred for their efficiency, cost-effectiveness, and flexibility compared to litigation. The ADR model offers a versatile and effective alternative to traditional dispute resolution methods. As the landscape evolves, particularly with advancements in technology and shifts in cultural perspectives, ongoing research continues to shape best practices and adapt these processes to meet contemporary needs.

ADR has many advantages such as:

- Cost-Effectiveness: Generally, ADR processes are less expensive than litigation.
- Time Efficiency: ADR can resolve disputes faster than traditional court proceedings, which can be lengthy.
- Flexibility: Parties have greater control over the process, including the choice of the mediator or arbitrator and the scheduling of sessions.
- Confidentiality: ADR proceedings are often private, protecting the parties' sensitive information from public disclosure.
- Preservation of Relationships: ADR methods, particularly mediation, can help maintain amicable relationships between parties, which is beneficial in ongoing partnerships or community relationships.

In order to implement the ADR model, there is need to create specialized mediation centers that focus solely on farmer-miner conflicts. These centers could be government-run or established by relevant stakeholders in the agriculture and mining sectors. For instance, in terms of section 296 of the Constitution of Zimbabwe Amendment (No. 20), Act, 2013 provides for the establishment of Zimbabwe Land Commission and its functions are spelt out in particular 297(1) (d) “to investigate complaints and disputes regarding supervision, administration and allocation of agricultural land”. There is need to have legal advisors available to provide guidance on relevant laws and regulations related to farming and mining activities. This can help ensure that any agreements reached are legally sound and enforceable.

Mediation refers to a situation whereby, a neutral third party (the mediator) facilitates discussions between conflicting parties to help them reach a voluntary agreement. The mediator does not impose a decision but guides the conversation to explore mutual interests. Studies highlight the effectiveness of mediation in family disputes and workplace conflicts, emphasizing emotional intelligence and cultural competency in mediators to enhance outcomes. There is need to provide training programs for mediators specifically targeting

farmer-miner conflicts. Certification could be required to ensure mediators have the necessary expertise and understanding of the issues involved.

Mediation encourages voluntary participation in the sessions by both farmers and miners. The process facilitates open communication, understanding of each party's concerns, and exploration of mutually beneficial solutions. Where appropriate, it incorporates traditional dispute resolution mechanisms that are respected by both farmers and miners in the local context. This could help in gaining trust and acceptance of the mediation process.

Mediation can also involve local communities in the mediation process to ensure that the solutions reached are accepted and supported by the broader community. Community representatives could also participate as observers in the mediation sessions. Recent writings emphasize the need for inclusive ADR processes that consider diverse cultural and socio-economic backgrounds. This includes training mediators in cultural competency and ensuring equitable access to ADR services.

Arbitration on the other hand, requires a neutral arbitrator or a panel that makes binding decisions based on the evidence and arguments presented by both parties. It is a more formal approach than mediation but typically less formal than court proceedings. There has been an increase in examining international arbitration, particularly in commercial disputes. It is important to incorporate this mechanism even in land matters.

Negotiation is a voluntary process where parties communicate directly to reach an agreement. Negotiation may occur with or without the assistance of a facilitator. Recent studies have emphasized the role of negotiation tactics and emotional intelligence in reaching favorable outcomes, particularly in high-stakes environments like business deals and diplomatic relations.

Implementation of mechanisms for monitoring and follow-up are relevant to ensure that any agreements reached are being upheld by both parties. This could help in preventing future conflicts and building trust between farmers and miners.

Literature highlights ongoing developments in regulatory frameworks governing ADR practices, emphasizing the need for standardization and ethical guidelines, especially in international contexts. Increasingly, legal systems regionally, are integrating ADR models to resolve disputes more effectively, pushing for mandatory ADR in certain cases. Studies discuss the implications of such policies and their impact on judicial efficiency.

5.6 CONCLUSION

Chapter 5 concludes the research by summarizing the key findings, highlighting the significance of addressing farmer-miner conflicts in Zimbabwe's land use management context, and emphasizing the importance of collaborative efforts in promoting sustainable development. An analysis of farmer-miner conflicts in Zimbabwe has revealed a multifaceted interaction of factors that impact agricultural and mining activities, as well as the broader socio-economic landscape of the country.

Insufficient regulatory frameworks and enforcement mechanisms have contributed to the escalation of conflicts between farmers and miners. The lack of distinct guidelines on land rights, environmental protection, and community engagement has created a regulatory vacuum, fostering disputes over land ownership and resource utilization. The contention over land between farmers and miners, intensified by limited resources and conflicting land use practices, has been a primary cause of conflicts in Zimbabwean agricultural land.

The prevalence of conflicts between farmers and miners has negative effects on production, affecting communities reliant on agriculture and mining for their income. Addressing farmer-miner conflicts in Zimbabwe requires the implementation of robust conflict resolution mechanisms that promote dialogue, collaboration, and sustainable resource management.

5.7 AREA FOR FURTHER STUDY

Future research into farmer-miner conflicts should focus on establishing how traditional conflict resolution methods can incorporate technologies such as artificial intelligence, machine learning, blockchain, or virtual reality are being utilized to mitigate conflicts in various industries or sectors.

Appendix 1: Interview Guide for Management & Employees

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

May 2024

Dear Respondent

My name is Pauline Chamunorwa a final year student at Bindura University of Science Education at the Graduate School of Business, student number B227759A and undertaking a postgraduate degree, Master in Leadership and Corporate Governance. As part of my degree program, I am required to do a research project, and therefore request for your assistance to this end. My research project is titled **"The legal and regulatory framework of farmer miner conflicts. A critique"**

I therefore kindly request you to respond to the questions provided and the responses will be solely used by myself to complete this research. The questionnaire is made up of mostly open-ended questions, therefore feel free to express yourself in your own words. Your corporation in participating in this interview will be greatly appreciated and all the information you give will be treated in the strictest confidence.

Thank you in advance.

Contacts:

Phone: +263 773 107 545

Email: wenyasha39@gmail.com

Appendix 2: Interview Guide 1

KEY INFORMANT INTERVIEW (Ministry of Lands)

1. Full Name

2. Position Held

3. Numbers of Years on Current Position

4. Can you outline the steps taken for one to fully occupy a farm?

5. Are there any farmer-miner disputes reported to your Ministry?

5.1 If yes, how does your Ministry deal with these issues?

6. Do you think that farmer-miner conflicts have affected the following:

a. Agriculture Production
b. Investments
c. Infrastructure development
d. Environmental management

7. Are you satisfied with the way farmer miner disputes are resolved currently?

8. In your own opinion and from experience what measures can be put in place to address conflicts between farmers and miners?

Thank you

Appendix 3: Interview Guide 2

KEY INFORMANT INTERVIEWS (Ministry of Mines)

1. Full Name

2. Current Position Held

3. Years in current position

4. Can you outline the steps taken for one to fully occupy a claim?

5. How does your Ministry deal with the issue of illegal miners?

6. May you give example(s) of a specific case of farmer-miner dispute reported on the farm and how it was handled?

7. Do you think that farmer-miner conflicts have affected the following:

a. Agriculture Production
b. Investments
c. Infrastructure development
d. Environmental management

8. In your own opinion how do you think handling of farmer-miner disputes should be improved?

Thank you

Appendix 4: Interview Guide 3

INTERVIEW GUIDE (Farmers and Miners)

1. Introduction

The researcher will start by greeting the interviewee, introduce herself and explain the purpose of the interview. Further, she will provide an overview of the interview process and clarify confidentiality and data usage.

1. Background Information

The researcher will also proceed to ask about the interviewee's background, experience, and expertise in relation to farming and mining and enquiring on their current roles and responsibilities.

3. Crucial Questions

The researcher will ask open-ended questions to encourage detailed responses and follow up on responses to explore further insights.

Does the current legal framework effectively address conflicts between farmers and miners?

Has the legal and regulatory framework impacted your decision-making processes in farming/mining activities?

How do you effectively communicate and collaborate with other players in the farming and mining sectors?

How have farmer-miner conflicts affected agricultural production in Zimbabwe?

4. Inquisitive Questions

The researcher will probe questions to dig deeper into specific responses in order to seek clarification or examples to better understand the interviewee's perspectives.

How do you approach decision-making when faced with conflicting priorities or limited resources?

What changes or additions would you suggest to improve the current legal and regulatory framework concerning farmer-miner conflicts?

Can you describe a time when you had to make a difficult decision and how it impacted the outcome?

5. Interactive Questions

The researcher will also pose behavioral questions to understand how the interviewee has handled specific situations in the past. For example:

What are the challenges that you have met and how did you overcome them?

What recommendations would you suggest to improve the current legal and regulatory framework concerning farmer-miner conflicts?

6. Summarize discussion

The researcher will wrap up the discussion by summarizing key points discussed during the interview. The interviewee will be given an opportunity to outline any additional insights or information to share regarding the subject matter. The researcher will then proceed to thank the interviewee for their time and willingness to participate and reiterate confidentiality on the discussion they had conducted. Further, she will proceed to inform about the next steps in the interview process, such as follow-up actions or feedback.

Thank you

9. REFERENCES

AIC (2017), An Overview of the Canadian Agricultural Innovation System. Ottawa, ON: Agricultural Institute of Canada.

Anderson, P. (2021). Legal Aid and the Representation of Farmers in Miner Conflicts: *A Need for Change. Journal of Agricultural Law.*

Anderson, T. L., & Leal, D. R. (2022) Free Market Environmentalism.

"Artisanal and Small-Scale Mining". Intergovernmental Forum. Retrieved 30 March 2023

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17(1), 99-120.*

Bautista, F. (2022). Economic Incentives for Effective Collaboration in Mining and Agriculture. *Philippine Journal of Internal Economics.*

Chanyenga, P., Nyahuye, M., & Chinyama, A. (2018). Farmer-Miner Conflicts in Zimbabwe (1998-2017): A Critical Appraisal of the Government's Restorative Policies. *Journal of Sustainable Development in Africa, 20(7), 195-214.*

Chen, W., & Gupta, S. (2023). Agroecological Approaches for Sustainable Mining and Farming. *Canadian Journal of Environmental Management.*

Chigonda, T., Chigonda, R. W., & Muzondiwa, D. (2021). Competing Land Use Interests between Mining and Agriculture in Zimbabwe: A Critical Analysis of the Implications of Access to Land for Resource Conflicts. *Journal of Sustainable Development, 14(2), 184-200.*

Chikowore, G., & Marongwe, N. (2020). The Impact of Mining Activities on Agricultural Land: A Case Study of Bindura District, Zimbabwe. Jàmbá: *Journal of Disaster Risk Studies, 12(1), 1-8.*

Chikura, K., & Mudzonga, E. (2021). *Governance and Conflicts in Natural Resource Management in Zimbabwe: A Review. Journal of African Studies.*

Constitution of Zimbabwe Amendment NO: 20 Act, 2013

Communal Land Act (Chapter 20:04)

Creswell, J. W. (2013). Qualitative inquiry & research design: Choosing among five approaches. Sage Publications.

Dela Cruz, A., & Torres, E. (2023). Frameworks for Integrated Land Use Management in the Philippines. *Journal of Environmental Policy*.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). The Sage handbook of qualitative research. Sage Publications.

De Soto, H. (2007). The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else. Basic Books.

Demsetz, H. (1967). Toward a Theory of Property Rights. American Economic Review, 57(2), 347-359.

Dick-Sagoe C.: International Journal of Research in Engineering, IT and Social Sciences, (2016), 6 (6)

Dube, T., Chikwanje, T., & Moyo, S. (2023). *The Impact of Mining on Agriculture: The Case of Zimbabwe. Zimbabwe Environmental Journal.*

Environmental Management Act (Chapter 20:27)

Fisher, R., Ury, W., & Patton, B. (2011). Getting to Yes: Negotiating Agreement Without Giving In. Penguin Books.

Folger, J. P., & Bush, R. A. (1996). The Promise of Mediation: The Transformative Approach to Conflict. Jossey-Bass.

Farmers versus Miners: A case of pollution. Mining History, 14(5).

Garcia, R. (2022). Community-Based Resource Management in Mining-Affected Areas. *Journal of Rural Studies.*

Gwesela, M., Mambara, A., & Zuwarimwe, J. (2021). Competition and Conflict between Mining and Agriculture in Zimbabwe: A Review. *Journal of Business and Economic Management, 9(1), 1-10.*

Hilson, G., & Yakovlela, N. (2007). Strained relations: a critical analysis of the mining conflict in Prestia, Ghana.

Johnson, D. (2019). "Regulatory Approaches to Farmer-Miner Conflict Resolution." Environmental Policy Review, 6(1), 45-58.

Johnson, T. (2022). Economic Models for Benefit-Sharing Between Mining and Agriculture. *Journal of Canadian Agriculture.*

Klein, R. (2023). Collaborative Approaches in Farmer-Miner Conflicts: Case Studies Across the U.S. *Environmental Policy Journal.*

Lafleur, D. (2022). Multi-Stakeholder Partnerships: Bridging Farmers and Miners in British Columbia. *Journal of Regional Development.*

Lahiri-Dutt, K (2006). Women Miners in Developing Countries: Pit women and others.

Land Commission Act (Chapter 20:29)

Land Reform and Resettlement Act (Chapter 20:01)

Lee, C., Smith, A., & Johnson, D. (2021). "Dependent Variables Analysis in Farmer-Miner Conflict Management." *Sustainable Development Journal, 12(4), 312-325.*

Lee, K., & Nguyen, T. (2021). Environmental Regulations and Their Impact on Agricultural Lands in Mining Regions. *Journal of Environmental Law.*

Lima, J. (2021). Essential Conflict Resolution Mechanisms for Farmers and Miners. Philippine *Journal of Conflict Resolution.*

Miller, S. (2022). The Role of Community Engagement in Resolving Farmer-Miner Conflicts. Conflict Resolution Quarterly.

Magidi, M., & Hlungwani, P. M. (2022). Development or destruction? Impacts of mining on the environment and rural livelihoods at Connemara Mine, Zimbabwe. *South African Geographical Journal*, 105(2), 157–178. https://doi.org/10.1080/03736245.2022.2032294

Manjoro, M., & Nhete, T. (2019). Land conflicts within commercial agriculture in Zimbabwe: Implications on farm workers' livelihoods. African Identities, 17(2), 199-215.

Marongwe, N. (2011). “Who was allocated Fast Track land, and what did they do with it? Selection of A2 farmers in Goromonzi District, Zimbabwe and its impacts on agricultural production.” Journal of Peasant Studies, 38(5), 1069–1092. https://doi.org/10.1080/03066150.2011.636483

Marongwe, N. (2011). Land Reform in Zimbabwe: Challenges and Opportunities. African Studies Review.

Mathibe, T. (2021). Best Practices in Conflict Resolution Between Farmers and Miners in South Africa. *Journal of Conflict Management.*

Miller, R. (2021). Conflict Resolution Frameworks for Agriculture and Mining Sectors in Canada. *Canadian Journal of Conflict Management.*

Mines and Minerals Act (Chapter 21:05)

Mkhize, L. (2021). *Community Development Initiatives: Bridging Gaps Between Farmers and Miners. South African Journal of Community Development.*

Molefe, T., & Ngwenya, M. (2022). *Integrated Land Use Planning in Mining Areas: The Case of the Free State. Environmental Planning Journal.*

Moyo, S., & Gumbo, T. (2022). Legal Frameworks and Agricultural Conflicts in Zimbabwe: An Analytical Perspective. *International Journal of Legal Studies.*

Mudimu, G. T., Chirisa, I., & Vhiriri, B. (2024). Customary Land Tenure, Mining, and the Development Question: Insights from a Transitional State. 1–15.

Murwira, A., Mombeshora, R., & Hassan, M. (2020). Mining Activities and Community Conflicts: Trends, Implications and Policy Options in Zimbabwe. *International Journal of Mining Science and Technology, 30(5), 777-783.*

Musodza, C. (2015). Zimbabwe’s Fast Track Land Reform Programme and the Decline in National Food Production: Problems of Implementation, Policy and Farming Practices. Master of Arts Thesis. http://www.library2.smu.ca/handle/01/26476

Nguyen, A. (2021). Building Capacity Through Education in Agricultural and Mining Communities. *Journal of Community Education.*

Nkosi, R., & Pillay, S. (2022). Sustainable Practices for Agriculture and Mining: A Shared Approach. *Journal of Environmental Sustainability.*

Nyoni, B., & Banda, P. (2022). *Resource Conflicts in Africa: A Contemporary Analysis. African Journal of Development.*

Ostrom, E. (1990). Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge University Press.

Oxford Dictionary of English. Oxford University Press. 2010. doi:10.1093/acref/9780199571123.001.0001

Penrose, E. T. (1959). The Theory of the Growth of the Firm. Oxford University Press.

Ponce, D. (2021). Educational Programs for Enhancing Collaboration in Agricultural and Mining Communities. *Journal of Community Development.*

Roberts, L. (2022). Zoning Laws and Agricultural Protection: Evaluating Local Approaches. Land Use Policy.

Robertson, R. (2023) Developing and Implementing a framework for dispute resolution. Florida Political Chronicle, 2023, *Academic journal Vol 30, Issue 1, p17*

Rural land Act (Chapter 20:18)

Saghatelyan, A. and Sahakyan, Lilit, (2009) The impact of mining activities on agriculture.

Salvador, M., & Constantino, L. (2023). Integrating Sustainable Practices in Agriculture and Mining. *Journal of Sustainability Studies.*

Slack, R. (2001). Farmers versus miners: A case of pollution. Mining History, 14(5).

Silverman, D. (2015). Interpreting qualitative data. Sage Publications.

Smit, J. (2023). Economic Incentives and Compensation Models in Mining-Affected Agricultural Regions. *Journal of Economic Policy.*

Smith, A., & Brown, E. (2020). "Mediating Variables in Farmer-Miner Conflict Resolution." Conflict Studies Quarterly, 28(3), 201-215.

Smith, A., Jones, B., & Lee, C. (2018). "Legal Frameworks for Managing Farmer-Miner Conflicts." *Journal of Land Use and Resource Management, 14(2), 78-92.*

Smith, J., & Taylor, L. (2023) Integrated Resource Management: A Pathway to Sustainable Coexistence in Canada. *Journal of Environmental Policy.*

Thompson, J., & Garcia, M. (2023). Mining Regulations and Agricultural Land Use: A Review of the Status Quo. Resources Policy.

Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal,* 5(2), 171-180.

Zimbabwe Economic Policy Analysis and Research Unit (ZEPARU), Pathway to Formalization of artisanal mining in Zimbabwe, 2018

Zulu, P. (2023). Public-Private Partnerships as a Tool for Collaboration Between Agriculture and Mining in KwaZulu-Natal. South African *Journal of Business Management.*

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