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Promoting State Training Strategies on Socio-Economic Wellbeing of Community Soapstone Carvers in Gucha South Sub-County, Kenya

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Soapstone, a valuable mineral rock, has been utilized for centuries, contributing significantly to the livelihoods of community carvers and households near mines. Despite its economic potential, recent years have seen diminishing benefits for these local artisans. While the Kenyan government has implemented various training programs aimed at enhancing the skills of soapstone carvers, these initiatives have not fully addressed the needs of the community. This study investigates how state-sponsored training strategies can improve the socio-economic well-being of soapstone carvers in Gucha South Sub-County, Kenya. Utilizing empowerment and resource-based theories as a framework, the research employs a case study design, focusing on a sample of 244 respondents drawn from a population of 626, including carvers, mining site owners, and local administrators. The findings reveal that 52.8% of respondents prefer on-the-job training as a means to enhance their skills. This preference suggests that tailored training strategies can significantly improve the socio-economic conditions of soapstone carvers. The study concludes that effective state training programs can lead to notable improvements in carvers' socio-economic well-being and recommends the implementation of continuous on-the-job training conducted by experienced instructors to maximize skill development and economic outcomes.

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INTRODUCTION

Mining serves as a significant alternative source of livelihood, contributing to job creation, poverty reduction, and income generation in mineral-endowed communities across Africa. Mining regions and cities play a crucial role in national growth and prosperity by stimulating local economies and providing employment opportunities. In recent decades, mining has garnered considerable attention from researchers and policy-makers as a strategy for livelihood diversification and economic development in Sub-Saharan Africa (World Bank, 2007). The potential of mining to drive poverty reduction and economic growth has been extensively examined, highlighting its dual role as both a critical economic driver and a source of challenges for local communities (Hilson, 2016; Mikesell, 2017).

Recent studies emphasize the transformative impact of mining on local economies, noting its potential to significantly reduce poverty in resource-rich areas (Bebbington & Bury, 2013). For instance, mining has been shown to increase local revenues and infrastructure development, which can improve living standards in mining communities (Sachs & Warner, 2020). However, this potential is tempered by challenges such as environmental degradation and social conflict, which can undermine the benefits of mining if not managed properly (MacDonald & Kellow, 2018). Consequently, there is a growing emphasis on developing sustainable mining practices that balance economic benefits with social and environmental considerations (Hilson & Potter, 2020). These insights reflect a nuanced understanding of mining's role in economic development, underscoring the need for effective policies that maximize benefits while addressing the associated challenges (Tschakert & Singhal, 2019). As mining continues to evolve as a pivotal component of livelihood diversification, ongoing research and policy efforts are essential to

ensuring that its contributions to poverty reduction and economic growth are sustainable and equitable.

Africa is renowned for its rich deposits of gemstones and other mineral resources, yet many African countries, despite this wealth, face significant developmental challenges, with many miners living in poverty (Wangari et al., 2020). The socio-economic impact of artisanal and small-scale mining (ASM) on national and local economies is substantial, yet the benefits are often unevenly distributed. Studies on the exploitation of mineral resources in these regions have produced variable findings, reflecting the complex effects of mining activities on different stakeholders (Anyona & Rop, 2015). Addressing these challenges requires place-based policies tailored to the specific needs of mining communities. Monitoring and evaluating well-being dimensions in these areas can provide empirical data to design policies that foster more inclusive and sustainable regional development (Carvalho, 2017).

In Kenya, the adoption of a devolved system of government aims to enhance cooperation between national and county governments. This system is intended to facilitate collaboration and consultation in addressing local issues, including those related to mining (Wanjiku, 2019). The project will offer evidence and insights essential for policymakers to foster continued collaboration with stakeholders in mining ecosystems. The goal is to co-design local sustainability solutions that reduce the environmental and health impacts of mining, improve climate resilience, and enhance community well-being (Ngugi, 2020).

Furthermore, investment in human capital through state training is crucial for improving employee retention and reducing recruitment costs. Organizations that prioritize career development programs see increased retention rates, saving both time and resources on hiring and training

new staff (Greener, 2021). Training and development are particularly vital in the mining sector, where the introduction of automation and control room technologies has highlighted the need for skilled personnel. Chirgwin (2021) notes the transition from manned to autonomous control rooms, which requires additional support staff and new roles to manage advanced systems effectively. This shift underscores the importance of targeted skills development and training to maintain operational safety and efficiency.

Moreover, the high incidence of accidents in the mining industry, driven by hazardous conditions and the human factor, underscores the need for cyclic training and comprehensive safety programs (Palka, 2017). Proper preparation and ongoing education are essential for new employees to navigate the complexities of modern mining equipment and ensure their safety. Enhanced training not only improves operational efficiency but also contributes to the overall development and safety of mining companies.

Originally, soapstone's traditional handcraft was meant for local consumption. However, over the years, the products have been evolved into tourist attraction items, sold to both domestic and international tourists. Soapstone artefacts have formed the main part of Kenyan tourism industry, and are sold in major handcraft shops globally. This has generated income both for the local leading to improved living standards as well generating income to the government (Akama & Onyambu, 2020).

A substantial body of research has investigated conflicts in the mining sector globally, highlighting a notable correlation between these conflicts and the operational performance of mining enterprises. While numerous studies have focused on the societal impacts of mining-related disputes, there is a relative scarcity of research specifically addressing the role of stakeholders in influencing mining performance (Hilson, 2020; Bebbington, 2018). According to the Investment Attractiveness Index by the Fraser Institute (2017), Finland is ranked as the top jurisdiction

for mining investment, whereas Kenya is placed among the bottom ten jurisdictions worldwide.

Despite its potential, the mining sector in Kenya currently contributes less than 1% to the national GDP. The Kenya Mining Investment Handbook (2015) estimates that the sector could potentially contribute between 4% and 10% to GDP. However, this potential remains unrealized, with the sector's contribution declining from 1.1% in 2012 to 0.8% in 2016. Similarly, the growth rate of the mining sector's GDP contribution decreased from 19% in 2012 to 9.5% in 2016 (Economic Survey, 2017). This decline reflects broader trends, including a significant reduction in wage employment across both public and private sectors and a corresponding decrease in lending within the mining industry during the same period (Economic Survey, 2017).

These figures underscore the challenges facing Kenya's mining sector and suggest a need for improved stakeholder engagement and policy interventions to unlock its full economic potential (World Bank, 2019; Ngugi & Mwaura, 2020). Tabaka region in Gucha Subcounty, Kenya is endowed with low lying bedrock of soapstone mineral that has been exploited since 1885. According to the Geological department in Kenya, the stone spread across 25 kilometers and runs up 265 meters deep. Up to 20% of it has been exploited with the possibility that the rock regenerates from the debris left behind during quarrying processes. It has been economic back borne to the local people and the state. The Tabaka soapstone is carved into many beautiful artefacts, that are sold to a thriving tourist market and local, people who use them for home decorations. Thus, it provides employment and generating income for local people hence, empower them economically (Njoroge et al., 2015).

State training plays a crucial role in addressing issues of monotony and outdated knowledge within organizations, particularly in the mining industry. Effective training helps employees identify and rectify mistakes that arise from skill mismatches and insufficient updates to training programs (Aghimien et al., 2020). The absence of

contemporary training methods often results in a gap between employees' knowledge and the demands of modern mining technology, which can impede performance and efficiency. Employees generally show a strong interest in modern training techniques and in extending training programs to enhance their technical skills and overall output (Gibson et al., 2021).

Training and development are essential processes for improving employees' aptitude, skills, knowledge, abilities, and attitudes, ensuring they are well-equipped to perform their specific tasks (Kirkpatrick & Kirkpatrick, 2016). Training programs are designed to enhance competencies related to an employee's current job, while career development encompasses broader aspects, including training and progression opportunities (Owusu et al., 2021). On-the-job training, employee development, and comprehensive career development plans collectively foster strategic thinking and effective planning, contributing to enhanced organizational performance (Noe, 2017). This paper provides a groundbreaking analysis of how state training strategies can be leveraged to enhance the skills and livelihoods of community soapstone carvers. By focusing on tailored training approaches, the study aims to demonstrate how targeted skill development can significantly improve the economic outcomes and sustainability of artisanal communities (Smith & Taylor, 2022).

Statement of the Problem

The mining sector in developing countries, including Kenya, has experienced significant economic growth due to rapid reforms and improved administrative strategies. Effective management practices, such as training, innovation, budgeting, and monitoring and evaluation, are crucial for enhancing the economic well-being of miners. Despite these advancements, there has been a notable decline in total income from mining activities, which fell by 5.8% to Ksh 22.7 billion in 2020. This decrease is attributed to a reduction in the production of gold, refined gemstones, and other minerals (Kenya National Bureau of Statistics [KNBS], 2020).

Additionally, employment in the mining and quarrying sector contracted by 0.5% in 2020, further exacerbating the economic challenges faced by miners and quarry workers in Gucha South Sub-County.

Previous studies have explored various aspects of the soapstone mining industry. Chauhan and Meena (2018) investigated the growth of soapstone mining in Rajasthan, focusing on factors such as leases, production, revenue, and employment. Tilji (2018) examined the effects of soapstone quarrying on geomorphic and socio-economic activities in the Tabaka region of Kisii County, considering variables such as slope processes and policy frameworks. Onyambu (2021) analyzed the development and evolution of the soapstone industry in Kisii from 1895 to 2010, exploring themes such as market forces, cultural impacts, and industry resilience. However, these studies did not address the role of government policies related to training, innovation, budgeting, and monitoring. This study aims to fill this gap by assessing the impact of state intervention strategies on the socio-economic well-being of community soapstone carvers in Gucha South Sub-County, Kisii County. By examining the effectiveness of state policies and interventions, this research seeks to provide insights into how these strategies can improve the livelihoods of local artisans and contribute to more sustainable development in the region.

Research Methodology

This study employed a case study research design, which is particularly effective for gaining a comprehensive understanding of complex issues within a specific context. The research was conducted in the Tabaka area of Tabaka Division, South Mugirango Sub-County, Kisii County, located in the South-Western part of Kenya. This region is bordered to the south by Kamagambo in Migori County, to the west by Bogetenga Ward in Gucha Sub-County, and to the north by Mesesi Ward in Bomachoge Chache Sub-County. The target population for the study comprised 626 respondents, including quarry owners, quarry workers, and local administrative officials. A field

survey conducted in 2022 identified 24 quarries in the region, with Bomware, Nyagichenche, Bokimai (Nyaroa), and Nyatike being the largest and most significant sites.

To determine the sample size, the study utilized a cluster simple random sampling method. The population was divided into clusters, and representatives from each cluster were randomly selected. Specifically, the study focused on four major mining sites: Bomware, Nyagichenche, Bokimai (Nyaroa), and Nyatike. Using Yammane’s (1967) formula, a sample size of 244 respondents was calculated. Primary data was gathered through structured questionnaires. The

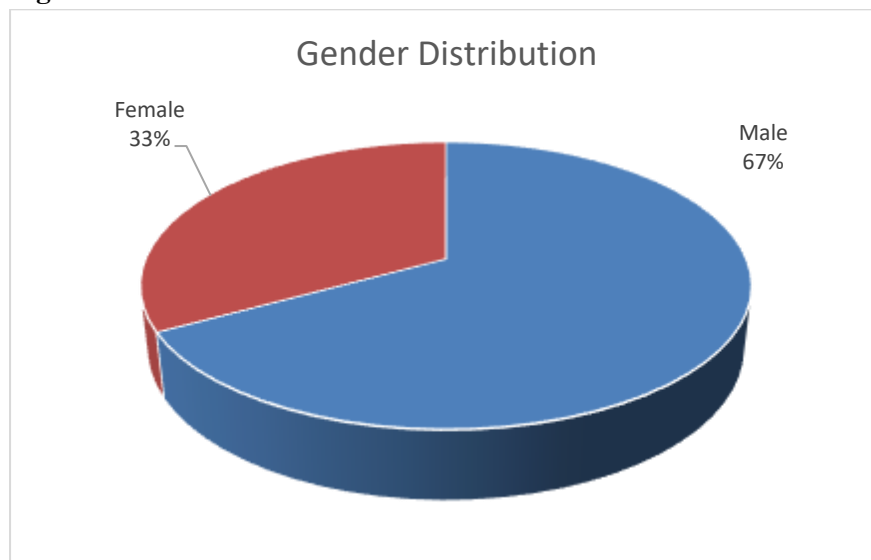
collected data were analyzed using descriptive statistics, including percentages, frequencies, and tabular presentations. For more detailed analysis, regression and content analysis techniques were applied. Data analysis was performed using SPSS version 26.1 to ensure accuracy and reliability.

Results and Discussions

Demographic Information

Demographic information revealed that 244 questioners were issued, out of those 221 were returned. 67.0 percent were male and 33.0 percent were female. This section highlights relevant findings on training strategies.

Figure 1. Gender Distribution



State-Training Strategies

In this paper the researchers sought to examine the influence of state-training strategies and their

influence on socio socio-economic wellbeing of community soapstone carvers. Table 1. below presents the findings on training strategies as shown below.

Table 1: Training Strategies

Statement	SD	D	N	A	SA	Mean	Std. Dev.
On job training	4.9%	8.5%	6.9%	52.8%	26.9%	3.88	1.05
Technology based learning	3.3%	4.6%	6.9%	57.7%	27.5%	4.01	0.90
Use of artefacts films and videos	7.5%	10.2%	20.0%	45.9%	16.4%	3.53	1.11
Hard and soft skill learning	6.9%	7.9%	11.5%	56.1%	17.7%	3.69	1.06

Table 1 presents the results of the survey on various training methods and their perceived effectiveness among respondents. On-the-job training received a mean score of 3.88 with a standard deviation of 1.05, indicating that 53% of

respondents agreed on its effectiveness. This suggests that on-the-job training is a widely accepted approach, valued for its practical and immediate applicability. The relatively high standard deviation indicates some variability in

responses, reflecting differing opinions on how effectively this method addresses training needs.

Technology-based learning scored a mean of 4.01 with a standard deviation of 0.90, with 58% of respondents in agreement. This high mean score highlights a strong positive perception of technology-based learning, which is likely attributed to its flexibility and accessibility. The lower standard deviation suggests more uniform agreement among respondents, underscoring its broad acceptance as an effective training method. The use of artifacts such as films and videos had a mean of 3.53 and was agreed upon by 46% of the respondents. This lower mean score and higher standard deviation compared to other methods imply a more mixed opinion about the effectiveness of this training approach. While some respondents see value in visual aids, others may find them less impactful compared to interactive or hands-on training methods.

Hard and soft skill learning was rated with a mean of 3.69 and a standard deviation of 1.06, with 56% of respondents agreeing. This indicates a moderate level of agreement on the importance of developing both technical and interpersonal skills. The substantial standard deviation reflects varied opinions on the relative importance of these skills in the training process. Overall, the survey reveals that respondents support a range of training strategies, including on-the-job training, technology-based learning, the use of artifacts (films and videos), hard and soft skill learning, and instructor-led training. Each of these methods has its proponents, but also faces challenges.

Key challenges identified include budget constraints on the cost of creating community awareness, training materials, and other resources; training material costs, expenses associated with acquiring and maintaining training materials; instructor remuneration for financial compensation for trainers; procurement issues for costs related to obtaining films and videos. These challenges highlight the need for strategic planning and resource allocation to effectively implement and sustain these training methods. Addressing these issues will be crucial

for enhancing the overall effectiveness of training programs and ensuring they meet the diverse needs of the workforce.

The study's findings are consistent with the work of Palka (2017), who analyzed the impact of training on improving safety and awareness among technical staff in the mining industry. Palka's study revealed that the mining sector frequently experiences high rates of accidents due to multiple hazards, challenging working conditions, and human error. The research emphasized the importance of regular training for teams working rotational shifts and highlighted the necessity for new employees to receive comprehensive training to perform complex tasks safely and effectively.

Similarly, the results align with those of Foya and Masukume (2021), who investigated the impact of appropriate mining techniques and skill training on small-scale mining operations in the districts of Insiza and Umzingwane, Matabeleland South Province, Zimbabwe, from 2010 to 2021. Using a triangulation research design, their study found that men predominantly occupied mining roles, while women were less represented due to the physically demanding nature of mining work. The study underscored the need for targeted training and support to address the gender disparities and improve operational efficiency in small-scale mining.

These findings collectively highlight the crucial role of effective training programs in enhancing safety, operational competence, and inclusivity within the mining sector. Addressing the identified challenges through structured and comprehensive training can significantly improve safety outcomes and operational performance.

Correlation between State Training Strategies and Socio-economic Wellbeing of the Community Soapstone Carvers

This section highlights on the correlation results between state training strategies and socio-economic wellbeing of the community as shown below.

Table 2: Correlation between Study Variables

Variables		State Training Strategies	Socio-economic wellbeing
State Training strategies	Pearson Correlation Sig. (2-tailed)	1	
Socio-economic wellbeing of the community	Pearson Correlation Sig. (2-tailed)	.719** .000	1

The results in Table 2 above reveal a significant and positive correlation between state training strategies and the socio-economic wellbeing of the community soapstone carvers. This is evidenced by a correlation coefficient of 0.719, which is statistically significant ($p < 0.01$). This finding implies that an increase of one unit in state training strategies is likely to correspond to a 0.719 units increase in the socio-economic wellbeing of community soapstone carvers. A correlation coefficient of 0.585 shows a strong and positive correlation between governmental innovation strategies and the socio-economic well-being of community soapstone carvers. If the level of state innovation initiatives increases by one unit, the socio-economic wellbeing of community soapstone carvers is anticipated to increase by 0.585 units.

Conclusion

The study concludes that state training strategies show a positive correlation, which is statistically significant. This finding implies that an increase of one unit in state training strategies is likely to correspond to an increase in the socio-economic wellbeing of community soapstone carvers. The study concluded that State training strategies resulted in a statistically significant increase in the socio-economic wellbeing of community soapstone carvers. Therefore, innovation strategies positively affect socio-economic wellbeing of community soapstone carvers.

Recommendations

- **Enhance Sponsorship of State Training Programs:** Increased investment in state-sponsored training strategies is essential for transforming the livelihoods and well-being of community soapstone carvers and miners.

By expanding and improving training programs, the state can significantly boost skill levels, operational efficiency, and economic outcomes within these communities.

- **Develop Targeted Policy Insights:** The State Department of Mining should cultivate a deeper and more nuanced understanding of soapstone carving and its socio-economic impact. This understanding will facilitate the creation of evidence-based policies and foster a more integrated approach to policy development, ensuring that interventions are tailored to the specific needs of the soapstone carving community and the broader mining sector.

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