



(RESEARCH ARTICLE)



## Effects of mining activities on social-cultural development: A case of Kapijipanga chiefdom in Solwezi district of North-Western Province, Zambia

Nachete Maila <sup>1,\*</sup> and Chanda Chansa Thelma <sup>2</sup>

<sup>1</sup> *Solwezi Day Secondary School, P.O. Box 110020, Rockview University, Zambia.*

<sup>2</sup> *Department of Humanities, Chreso University, Education, and Social Sciences, Zambia.*

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### Abstract

**Overview:** This study examined the impact of mining activities on the social and cultural development of Kapijipanga chiefdom of Solwezi District. The study investigated various ways in which mining activities influence the social and cultural identity of local people.

**Body of knowledge:** The findings contribute to a better understanding of the complex relationship between mining activities and social cultural development and offer insight for sustainable development and community well-being in Kapijipanga chiefdom of Solwezi District.

**Methods:** The study employed both qualitative and quantitative methods and descriptive survey design that sampled local people of Kapijipanga chiefdom, mine workers, headmen and chief. The sample size for this study was 150. Data was obtained from respondents by means of interviews and questionnaires. Tables, graphs and pie-charts were used to analyze the quantitative and qualitative data obtained. Data was then analyzed manually in some cases and also, a combination of software MS Access, and MS Excel.

**Results:** The results indicated that the effects of mining activities on social –cultural development in Kapijipanga chiefdom of Solwezi District is negative in the sense that social development is strongly influenced by the loss of farmland, houses, and livelihoods in Kapijipanga chiefdom. Additionally, the study found that mining activities has led to the loss of traditional authority in Kapijipanga chiefdom of Solwezi District. This is because mining projects often require the relocation of indigenous communities and villages to make way for mining infrastructure.

**Recommendation:** The government of Zambia through the Ministry of Tourism, Arts and Culture and the Department of culture should ensure that mines offer cultural awareness training programs for their employees to increase understanding and appreciation of local customs, traditions, and languages.

**Keywords:** Chiefdom; Effects; Socio-Cultural; Development and Mining Activities

### 1. Introduction

Mines have played a significant role in shaping societies and cultures thought out history, leaving lasting impacts on communities and their development. Understanding the effects of mines on social and cultural aspects is crucial for comprehending the multifaceted consequences of extractive industries. Mining is seen as one of the necessary evils of the modern world, which provides the materials required to improve the standard of life (Dubey, 2017). The last 20 years have signified a drastic rise in global mining. Mining is the extraction and enrichment or refinement of metallic

\* Corresponding author: Nachete Maila

ores, coal and industrial mineral deposits (Heikkinen et al., 2008). In simple terms, it is the extraction of any non-renewable resource (Dubey, 2017). Dubey (2017) categorizes mining, depending on the purpose and size of the mining operations and can be in the form of stone mining, sand mining and mining of valuable stones among others. The world's biggest mines can now be found in Africa, Asia and Latin America (De Haas & Poelhekke, 2016). Since the early years of the 20th century, Zambia's economy has been dominated by the core industrial and mining zone of the Copperbelt (Smart et al., 2015). With time, mining has spread to the North-Western Province of the country. However, the mining sector has undergone three main phases of ownership namely private ownership under a colonial administration, then national ownership post-independence and finally privatization from the late 1990s (Sikamo, Mwanza and Mweemba, 2015). The above-mentioned changes have had important consequences for investment in the mining sector as well as the provision of public goods and social services to communities surrounding the mines.

During the time when the mines were run by the government through the Zambia Consolidated Copper Mines (ZCCM), the government took upon itself the responsibility for non-core business Services to the people. The government provided social services such as water, recreational facilities, health and educational facilities to communities which surrounded the mines they were operating. After privatization, mostly on the Copperbelt, the new owners of the mines took over the provision of social services to the host communities as part of corporate social responsibility (CSR). Corporate Social Responsibility is concepts were companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis (EU, 2002). CSR leads to a positive impact on the lives of people living in local mining communities (Andrews, 2016). Apart from the Copperbelt, there are also mining activities taking place in the North-Western part of the country. The mines in the North-Western province are relatively new compared to those found on the Copper belt. Some of the mines in the province are the Kalumbila mine, Lumwana mine and Kansanshi mine which are located 150km west, 65km west and 10km north respectively, of Solwezi Town. In this study, Kansanshi will be the target reference which is in Kapijipanga Chiefdom of Solwezi District, Zambia. The Kansanshi mine is jointly owned by First Quantum Minerals Limited (FQML) (80%) and the government of the Republic of Zambia through the Zambia Consolidated Copper Mines-Investment Holdings (20%). The mine was commissioned on November 11th, 2004 and commenced commercial production in April, 2005 (FQML, 2005).

World over, whenever there is a new project in a location, a number of changes are experienced especially by the local inhabitants. Some of the changes are influx of people seeking employment opportunities, goods and other services. Additionally, there could also be infrastructure developments such as roads, recreational facilities, and health and education facilities coming into such a location which could probably be a rural area. Further, rural areas could also experience social and cultural change (Bixleret al., 2015). On the other hand, urban areas could also experience their own changes which would either be positive or negative (Bixleret al., 2015). In the case of the Northwestern region, what is not known are the impacts of Kansanshi Mine on socio-cultural development? Many studies have extensively looked at the effect of mining on socio-economic development. Through corporate social responsibilities (Kitula, 2006; Mhone, 2019; many have also extensively researched on the effects of mining on society, livelihoods and environment (Waiganjo, 2019; Zollo, 2019; Mwakesi, 2021; Mwakumanya, 2016, Hilson & Bachinga. However, little is known about the impact of mines on socio-cultural development. This coerced the researcher to establish the effect of mines on social-cultural development in Kapijipanga Chiefdom of Solwezi District, Zambia.

### **1.1. Statement of the problem**

Mining comes with a lot of negative impacts to a particular area (host community) where operations are taking place. Most often, mines are located in rural areas-locations where such operations would be taking place for the very first time. Some of the negative impacts of mining in host communities are water pollution (surface and underground), land degradation, air pollution and displacement of people. Despite the above stated negative impacts, mining activities are critical in linking rural and urban areas. Mining activities may bring about technology which promotes rural-urban connections, employment opportunities for the host community and improvements in education facilities, among others. Many studies have looked at the effect of mines on social-economic development (Kitula, 2006; Mhone, 2019; Yeboah, 2008; Case et al., 2010; Mensahet al., 2015; Damigoset al., 2016; Northeyet al., 2016). In the case of Northwestern province, for example, researchers have extensively researched on the effect of mines on socio-economic development (Mhone, 2019; Mwamba, 2020; Kumwenda & Chileshe, 2019; Kumar, 2016). However, little is known about the effect of mines on social-cultural development in Kapijipanga in particular Kansanshi Mine. For example, it is not clear how Kansanshi mine, through its' Corporate Social Responsibility (CSR) initiatives has contributed to the socio-Cultural development of the local people in Kapijipanga Chiefdom of Solwezi District. As observed by Zohaib et al (2024) in their study on "Sustainable Development: Challenges and Strategies in South Asia, Spotlighting Pakistani Higher Education", the 2030 Agenda for Sustainable Development highlights the need for an education system that effectively cultivates people who can engage in lifelong learning, successfully navigate future difficulties, and flourish in a rapidly changing

society and environment. Therefore, this study sought to establish the effect of mines on social-cultural development in Kapijipanga Chiefdom of Solwezi District, Zambia.

### 1.2. Purpose of the study

The purpose of the study was to establish the effect of mining activities on social-cultural development in Kapijipanga Chiefdom of Solwezi District, Zambia.

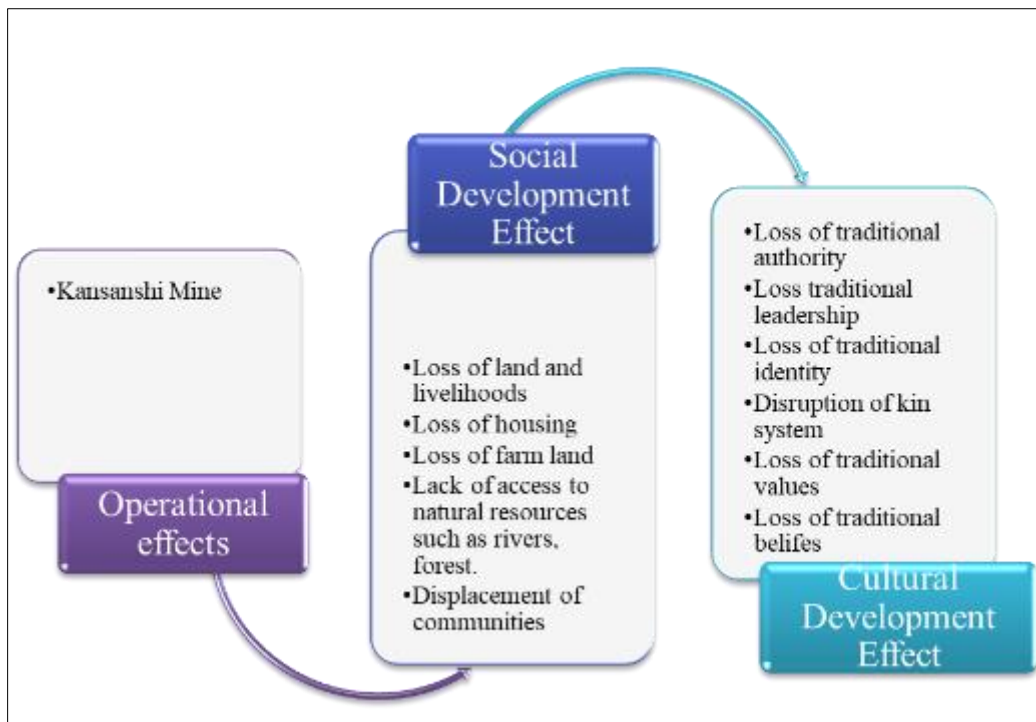
### 1.3. Research objectives

The objectives of the study were to:

- Identify the effect of mining activities on social-cultural development in Kapijipanga Chiefdom of Solwezi District.
- Assess how mining activities affect the social-cultural development in Kapijipanga Chiefdom of Solwezi District.
- Evaluate the strategies put in place for mines to preserve cultural heritage in Kapijipanga Chiefdom of Solwezi District.

### 1.4. Conceptual Framework

The study was modelled by a conceptual framework which depicts a representation of the operation of Kansanshi Mine, social effects and cultural effects and the relationships among them as shown by arrows in Figure 1.



**Figure 1** Conceptual Framework of the Study

### 1.5. Significance of the study

This study may contribute towards the coming up of laws which can see to it that communities which host mines benefit socially and culturally during and after the lifespan of a mine. Further, the study can assist policy makers to review some of the agreements which governments enter into with mining companies so that at the end of the day benefits can trickle down to Kapijipanga Chiefdom and other communities which host mines. Additionally, the findings of the study could help policy makers to come up with Corporate Social Responsibility (CSR) strategies which can be used by the mines to improve local people's welfare and also encourage them to preserve their culture so that it be passed on to the next generation of Kapijipanga Chiefdom in Solwezi District.

## **2. Material and method**

### **2.1. Study Design**

The research design was descriptive cross-sectional design with both qualitative and quantitative methods of data collection in order to attain the comprehensive results (Banda et al, 2017). In terms of the approaches, the study employed both qualitative and quantitative approaches. Quantitative approach was employed to establish the effects of mining activities on social-cultural development and assess how mining activities affected the social-cultural development in Kapijipanga chiefdom of Solwezi district. Further, qualitative approach was used to establish strategies put in place for mines to preserve cultural heritage in Kapijipanga chiefdom of Solwezi District.

### **2.2. Research site**

This study was conducted in Kapijipanga Chiefdom of Solwezi district in North-Western province of Zambia from where the participants were selected for the study.

### **2.3. Population, sample and sampling procedure**

The population comprised of community leaders (village headmen), ordinary community members, chief and mine workers. The total target population was 1500. The sample size involved a total of 150 respondents which is 10% of the target population. The study included 119 ordinary community members, 20 Kanshashi mine workers, 1 chief and 10 village headmen. The study used purposive sampling on the chief and simple random sampling technique to select ordinary members, headmen and mine workers.

### **2.4. Data Analysis**

The study used descriptive analysis to analyse the data. Qualitative data for this study was analysed thematically and this process involved the following steps: transcribing of data, cleaning up the data by identifying important aspect that will be necessary in answering the research questions. On the other hand, the quantitative data was analysed using the analytical tools such as SPSS, tables and figures.

### **2.5. Ethical Issues**

With regards to ethical consideration, permission was sought from the chief and First Quantum Mining Limited (FQML) before the interviews and before giving questionnaires to respondents as one of the ethical demands of any research. Informed consent was sought from the respondent before collecting information from them and guaranteed them with security of the information they provided. Furthermore, the main objective of gathering such information was made clear to the respondents. The study avoided pressuring respondents to take part in the research. In this research, the study was fully conscious of the need to abide by the ethical rule of respecting the privacy of individuals taking part in the research.

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## **3. Results and Discussions**

The following findings and discussion were presented according to set research objectives:

### **3.1. Effects of Mining Activities on Social Development in Kapijipanga Chiefdom of Solwezi District**

The study has established that mining affects social development in Kapijipanga chiefdom of Solwezi District negatively. The findings of this study suggest the effect of mines on social-cultural development in Kapijipanga chiefdom of Solwezi District is negative. However, the negative effect of mines on social development is strongly influenced by the loss of farmland, houses, and livelihoods in Kapijipanga chiefdom. Mining activities in Kapijipanga chiefdom have led to displacement. This loss of land was due to an increased number and size of mining pits especially in the areas. The loss of land, houses, and livelihoods was due to land size where mining activities are supposed to be placed. It has also been observed that before mining activities started in Kapijipanga chiefdom, large areas of land were cleared which led to deforestation and loss of natural habitats for plants and animals. These findings are supported by Edward (2021) who found that mining can contaminate water sources with toxic chemicals and heavy metals, making them unfit for human consumption and agricultural use. As observed by Yenu and David (2015) impacts of mining included losing agricultural land to large-scale mining, resulting in reduced crop yields and increased poverty. On the contrary, Davidson (2021) found that mining improved the livelihood of communities through employment at the mines, accessible healthcare, education, and skill transfer as well as better housing. It has also been found that mining activities in Kapijipanga

chiefdom have destroyed ecosystems and habitats, loss of herding skills, and farming skills. These findings are in tandem with the study done by Timothy (2021) who found that mining activities can destroy ecosystems and habitats, leading to the loss of biodiversity and the extinction of plant and animal species, which can have long-term consequences for ecosystem services and human well-being. Similarly, Timothy (2021) in his study found that led to loss of land because mining activities often require clearing large areas of land, leading to deforestation and loss of natural habitats for plants and animals. This can disrupt ecosystems and lead to loss of biodiversity. On the other hand, according to William (2022), mining has multiple effects on development, since it creates job opportunities both directly, and indirectly, increasing purchasing power. Due to mining activities in Kapijipanga chiefdom, the local people have been displaced. It has been observed that due to mining activities in the area, communities within the chiefdom were relocated. The relocation of the communities is something that was expected because mining activities require large areas of land. The study's argument is supported by Gilbert (2016) who postulated that mining projects often require the relocation of communities living in the area, leading to the loss of homes, land, and livelihoods. In some cases, communities in Kapijipanga chiefdom were forcibly removed from their ancestral lands without adequate compensation or resettlement options. On the contrary, the study has established that mining has greatly led to infrastructure development i.e. construction of roads, health posts, market centres, clinics, primary and secondary schools. This was probably due to the increase in income levels as well as the living standards of the community around the area. These findings are not in line with the study done by Killiam (2021) which found that mining activities can damage roads, bridges, and other infrastructure in communities, making it difficult for people to access their homes and farms. This can result in the loss of housing and farmland as people are unable to maintain or use their properties effectively. Aragon and Rud (2015) also noted a positive effect of mine operations on access to better and improved health care due to an increased number of health centres in areas nearing the mining areas. The study has also revealed that mining activities in Kapijipanga chiefdom have led to contaminating water sources with toxic chemicals and heavy metals, making them unfit for human consumption and agricultural use. This has led to the loss of livelihoods for communities that have been relying on farming and fishing for their income. These findings are supported by Frank (2021) who found that dust and emissions from mining operations can degrade air quality, leading to respiratory problems and other health issues for nearby communities, affecting their well-being and ability to work. However, the local people complained about air pollution which has led to health issues in Kapijipanga chiefdom. According to Richard (2021), dust and emissions from mining operations can degrade air quality, leading to respiratory problems and other health issues for nearby communities, affecting their well-being and ability to work.

**Table 1** The Effects of Mines on Social Development in Kapijipanga Chiefdom of Solwezi District

	Items	A(%)	N(%)	SD(%)	Mean	S.D	Decision
1.	Mining has led to the loss of land and livelihoods	78%	6%	16%	1.23	0.60	NE
2.	Mining has led to the loss of housing	65%	12%	23%	1.35	0.65	NE
3.	Mining has led to the loss of farm land	59%	15%	26%	1.61	1.10	NE
4.	Mining has led to lack of access to natural resources such as rivers, forest	75%	18%	7%	1.67	0.65	NE
5.	Mining has led to displacement of communities	74%	9%	17%	1.39	0.66	NE
6.	Prevents local people from accessing clean land and water	67%	14%	19%	1.44	0.76	NE
7.	Mining has led to infrastructure development i.e. construction of roads, health post, clinics, primary and secondary schools	69%	5%	26%	2.6	1.29	PE
	Mining has reduced farming skills and activities	71%	7%	22%	1.49	0.31	NE
	Mining has reduced herding skills and activities	76%	10%	14%	1.34	0.13	NE
	Mining has reduced poultry skills and activities	79%	15%	6%	1.56	1.01	NE
	Overall Effect				1.57	0.72	NE

Additionally, mining activities in Kapijipanga chiefdom have seriously led to the loss of productivity and income as people become sick and unable to work due to harmful pollutants released in the air. Chanda et al (2024) says that pollution refers to the introduction of contaminants into the natural environment that cause adverse changes. These contaminants can be in various forms such as chemicals, particles, or energy, and they can originate from natural

sources or human activities. According to Vainelta (2017), mining activities can release harmful pollutants into the air, causing respiratory problems and other health issues for nearby communities. This can lead to loss of productivity and income as people become sick and unable to work. In light of the above findings of the study, one would be compelled to argue that mining in Kapijipanga chiefdom has led to land degradation and soil erosion making it difficult for communities to grow crops or raise livestock. This has also led to the loss of food security and income for communities that rely on agriculture for their livelihoods (Chitondo et al, 2024). Overall, mining in Kapijipanga chiefdom has a devastating impact on communities by causing loss of land, livelihoods, and access to clean water and air. Therefore, governments and mining companies to consider the social and environmental impacts of mining activities and work with communities to mitigate these effects.

### **3.2. Effects of Mining Activities on Cultural Development in Kapijipanga Chiefdom of Solwezi District**

It has been revealed that the effect of mines on cultural development in Kapijipanga chiefdom of Solwezi District is negative. Mining activities has led to the loss of traditional authority in Kapijipanga chiefdom of Solwezi District. This is because mining projects often require the relocation of indigenous communities and villages to make way for mining infrastructure. Many respondents cited that when mining activities were starting in Kapijipanga chiefdom, large areas of land were cleared which led to the relocation of indigenous communities and villages to make way for mining infrastructure. This however disrupted traditional social structures and practices, leading to the loss of cultural identity tied to specific locations and ways of life. As observed by Edward (2021), the transformation brought about by mining activities can challenge the continuity of traditional identities in villages, often resulting in the erosion or loss of cultural heritage and practices that have been passed down through generations. Also, Timony (2023) noted that mining activities often require large areas of land, leading to the displacement of communities living in these areas. This can result in the loss of traditional homes, livelihoods, and social structures, disrupting the traditional way of life of the villagers. The study also revealed that mining has led to the loss of traditional identity. Many respondents mentioned that the influx of outside workers and the development of mining-related infrastructure have led to the dilution or loss of traditional identity, customs, languages, and beliefs as communities adapt to new influences and lifestyles. Nelson (2017) explains that mining activities can degrade the natural environment, including forests, rivers, and other landscapes that hold cultural significance for indigenous communities. The destruction of these environments can erode the cultural identity tied to traditional lands and natural resources. It has also been found that mining activities in Kapijipanga chiefdom due to the loss of traditional identity has led to social changes in the village i.e. changes in social norms and values. These findings are supported by Uneya (2016) who found that mining projects can bring significant social changes to villages, including increased economic disparities, the influx of transient populations, and changes in social norms and values. These disruptions can weaken the bonds that sustain traditional identities within communities (Chitondo & Chanda, 2023). It has been established that mining activities in Kapijipanga chiefdom have led to the loss of traditional norms and the loss of sacred sites. Many participants mentioned that the coming of mining activities in the chiefdom encroached on sacred sites in the villages. These sacred sites were treasured but mining activities led to the loss of traditional customs and norms and the loss of sacred sites. Thus, it can be contended that mining operations may encroach upon or destroy sacred sites, landmarks, and ancestral burial grounds, undermining the spiritual and cultural connections that communities have with their land and heritage. Additionally, Jimmy (2022) postulated that as communities become economically dependent on mining activities, they may prioritize economic gain over cultural preservation, leading to the marginalization or abandonment of traditional practices and knowledge systems. This is the case in Kapijipanga chiefdom. In Peru, mining activities adversely affected cultural identity like land rights, burial grounds, and sacred sites research for the future. Mining has led to the displacement of local people from their ancestral lands resulting in marginalization and oppression of lower-income classes of people (Kitula, 2017). The study also established that mining activities have led to the loss of traditional beliefs in Kapijipanga chiefdom. This is due to the influx of outsiders into mining areas which has led to a dilution of traditional beliefs and values. The influx of outsiders into mining areas can lead to the dilution of traditional cultural practices and beliefs. This can result in the loss of traditional knowledge, languages, and customs that have been passed down through generations in the village. According to Frank (2019), mining activities can bring about social disruption in villages, as outsiders may come in and disrupt the social fabric of the community. This can lead to conflicts over land, resources, and cultural differences, further eroding the traditional identity of the village. What was observed in Kapijipanga chiefdom is that mining activities have led to social disruptions due to the coming of new people into the villages working for the mine. Mining projects often bring rapid economic development and demographic changes to local communities, leading to social disruptions that weaken traditional social structures and values (James, 2021). Also, my argument is supported by Gillard (2021) who contended that the influx of outside workers and investors into mining areas can introduce new cultural norms and values that may conflict with or overshadow traditional beliefs and practices, leading to the erosion of indigenous cultural values.

In light of the above, it can be argued that mining operations can damage or destroy natural environments that hold cultural significance for indigenous communities, such as sacred sites, forests, and water sources (Chanda & Chitondo, 2023). This destruction can undermine the spiritual and symbolic value of these places, weakening traditional beliefs tied to the land. However, Mathews (2023) said that economic opportunities associated with mining can shift the focus of communities away from traditional values of sustainability, communal harmony, and respect for nature, towards material wealth and individualistic pursuits, leading to the erosion of traditional values over time. It can also be argued that mining activities often bring in a large influx of outsiders, including miners, contractors, and support staff, who may have different values and beliefs than the local community. This can lead to the introduction of new ideas and practices that may clash with traditional values and beliefs, causing them to be gradually eroded over time. It has also been observed that due to the loss of self-sufficiency, villages in Kapijipanga chiefdom have lost traditional values and beliefs. As communities become dependent on external sources of income from mining activities, they may rely less on traditional subsistence practices and communal cooperation, diminishing the importance of values such as self-sufficiency, mutual support, and intergenerational knowledge transmission. This is supported by Happy (2022) who noted that the dominance of Western scientific and technological approaches in mining projects can marginalize indigenous knowledge systems and traditional practices, undermining the value and relevance of traditional beliefs and wisdom within the community. Overall, it can be inferred that the socio-economic and environmental changes brought about by mining activities can contribute to the loss of traditional values and beliefs in villages, as communities grapple with the pressures of modernization, economic development, and cultural assimilation.

The loss of traditional values and beliefs is due to the loss of land and resources in Kapijipanga chiefdom. The local people explained that before mining activities in the village, there was no loss of traditional values and beliefs in Kapijipanga chiefdom. But after mining activities started there was. Because mining activities often require large tracts of land and resources, leading to the displacement of communities and loss of access to traditional lands and resources. This can sever the connection that the community has with their ancestral lands, impacting their traditional values and beliefs that are deeply rooted in their relationship with the land. Additionally, the loss of traditional values and beliefs can be attributed to the disruption of traditional social structures within the village. The presence of mining activities can disrupt traditional social structures within the village, leading to changes in power dynamics, social hierarchies, and community relationships (Chitondo et al, 2024). This can weaken the transmission of traditional values and beliefs from one generation to the next, as traditional knowledge may not be passed down as effectively in a disrupted social environment. However, Dayentela (2022) observed that mining activities often bring economic benefits to the local community, such as job opportunities, infrastructure development, and increased income. This can lead to a shift in priorities towards economic gain, potentially overshadowing the importance of traditional values and beliefs that may not be directly tied to economic prosperity. The study has revealed that mining has led to the disruption of the kin system. Mining projects often require the displacement of entire communities or the fragmentation of villages, leading to the separation of family members and the disruption of kinship networks. In Kapijipanga chiefdom, families were required to be relocated to different areas, breaking the bonds that sustain traditional kinship systems. This could be due to the displacement of families. Mining activities often require the acquisition of large areas of land, leading to the displacement of families and communities from their traditional homes. This can disrupt kin systems by separating family members from each other, breaking up extended families, and weakening the bonds that hold the community together. According to Hilda (2017), mining projects attract a transient workforce from outside the local community, leading to the influx of migrant workers who may not have existing ties to the village or kinship networks. This can weaken the influence of traditional kinship structures and create social tensions within the community. Disruption of kin systems in Kapijipanga chiefdom could be due to changes in economic roles. According to Benson (2021), mining activities can alter traditional economic roles and responsibilities within families, as new employment opportunities may shift power dynamics and decision-making processes. This can lead to conflicts over resource allocation and distribution within kinship groups. Also, Peter (2021) observed in his study that the rapid influx of wealth and economic development associated with mining can lead to social disruptions within villages, including increased inequality, changes in social status, and conflicts over land and resources. These disruptions can strain kin relationships and weaken the cohesion of extended family networks. However, it can be argued that the introduction of outside influences and values through mining activities can erode traditional kinship practices and beliefs, as communities adapt to new social and economic realities. This can lead to the adoption of individualistic attitudes and behaviors that challenge the collectivist nature of traditional kin systems. Additionally, due to loss of community cohesion, mining projects can create divisions within villages, as different groups may have competing interests and priorities related to land use, employment opportunities, and resource extraction. These divisions can weaken the bonds of kinship and solidarity that traditionally hold communities together. Thus, the disruptive effects of mining activities on kin systems in villages can lead to social tensions, cultural changes, and challenges to traditional forms of social organization and support networks within communities. The study has revealed that mines are preserving cultural heritage in Kapijipanga Chiefdom of Solwezi District by promoting family ties. Mines can host events and activities that promote family visits to the site, such as open days, guided tours, and cultural workshops. Many participants pointed out those mines in

Kapijipanga chiefdom encourage family visits. The participants further expressed that mines encourage families in the village to visit the mines together. By inviting families to visit the mine together, they can learn about the history and heritage of the site while spending quality time together. To encourage family ties in the villages, mines in Kapijipanga chiefdom of Solwezi have been organizing regular community events and activities that bring families together. This includes festivals, picnics, sports tournaments, cultural performances, and other recreational activities. These events provide opportunities for families to bond, socialize, and create lasting memories. Further, the study established mines in Kapijipanga chiefdom of Solwezi promote family ties as a way of preserving cultural heritage by implementing family support programs that provide resources, guidance, and counselling for families. These programs the mines have implemented focus on parenting skills, marital relationships, financial management, and mental health. As observed by Gellead (2021), by strengthening family dynamics and providing support, families are more likely to maintain strong bonds and navigate challenges together.

**Table 2** The Effects of Mines on Cultural Development in Kapijipanga Chiefdom of Solwezi District

	Items	A(%)	N(%)	SD(%)	Mean	S.D	Decision
1.	Mining has led to the loss of traditional authority	72%	8%	20%	1.55	0.83	NE
2.	Mining has led to the loss of traditional identity	62%	15%	23%	1.64	0.13	NE
3.	Mining has led to the disruption of kin system	69%	8%	24%	1.33	1.03	NE
4.	Mining has led to the loss of traditional norms	75%	9%	17%	1.46	0.45	NE
5.	Mining has led to the loss of traditional values	73%	10%	17%	1.59	0.69	NE
6.	Mining has led to the loss of traditional beliefs	68%	8%	24%	1.47	0.38	NE
	Overall Effect				1.51	0.59	

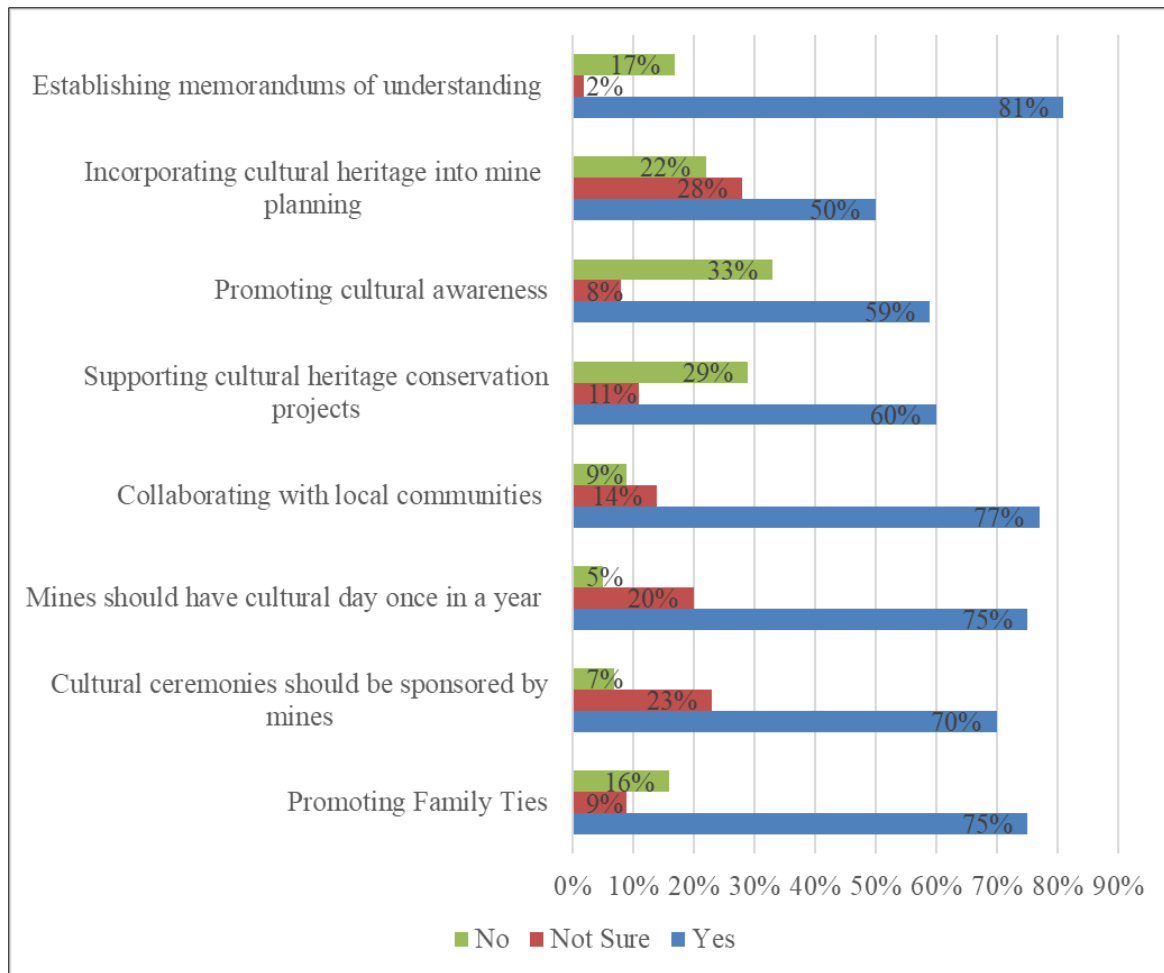
### 3.3. Strategies Put in Place for Mines to Preserve Cultural Heritage in Kapijipanga Chiefdom of Solwezi District

The study has revealed that mines are preserving cultural heritage in Kapijipanga chiefdom of Solwezi District by promoting family ties by sponsoring cultural ceremonies. Chanda (2024) says that cultural factors encompass a broad spectrum of elements that shape societies, communities, and individuals. These factors include traditions, customs, beliefs, values, languages, norms, rituals, arts, and social institutions that are shared by a particular group of people. It was observed during the interviews that mines celebrate and sponsor cultural ceremonies in Kapijipanga chiefdom. During the ceremony, they emphasize on the importance of cultural traditions and customs within the village. They also encourage families to participate in cultural celebrations, rituals, and ceremonies. These events not only provide opportunities for families to come together but also help preserve and pass on cultural heritage from one generation to another. These findings are supported by Vivandhi (2021) who found that mines sponsor cultural ceremonies in villages as a way of uniting families and preserving culture. Kelvin (2022) also noted that mines can provide financial support for organizing cultural ceremonies, which often require resources for venue rental, materials, food, and other expenses. This sponsorship helps ensure the continuation of these important events, which play a vital role in preserving cultural traditions and values. By sponsoring cultural ceremonies, mines demonstrate their commitment to supporting local culture and traditions. This fosters positive relationships with community members and promotes a sense of pride and belonging among residents, strengthening the social fabric of the community. Banwashe (2017) contended that cultural ceremonies are often central to a community's identity and sense of belonging. By sponsoring these events, mines help reinforce the importance of cultural heritage and promote intergenerational transmission of traditions, language, and customs. Phiri et al (2024) says that Zambia is a linguistically heterogeneous and diverse country with many indigenous (mother tongues) and exogenous languages. However, cultural ceremonies often involve rituals, performances, and storytelling that convey traditional knowledge and wisdom. Therefore, by supporting these events, mines contribute to the preservation of indigenous knowledge systems and ensure that valuable cultural practices are passed down to future generations. These events not only provide opportunities for families to come together but also help preserve and pass on cultural heritage from one generation to another. There is a need to emphasize the importance of cultural traditions and customs within the village and families should be encouraged to participate in cultural celebrations, rituals, and ceremonies in Kapijipanga chiefdom. The study has shown that mines can preserve cultural heritage by having a cultural day once a year. Christopher (2023) explained that cultural day ceremonies can attract visitors and tourists to the region, providing economic opportunities for local businesses and artisans. Mines can leverage these events to promote tourism and showcase the rich cultural heritage of the area, contributing to the economic development of the community. It was also observed that mines can collaborate with community leaders, elders, and



cultural experts to ensure that sponsored cultural ceremonies are respectful, inclusive, and aligned with local traditions and customs. This collaborative approach helps build trust and mutual respect between the mining company and the community (Jimmy, 2019). The study has established that mines collaborate with local communities to preserve cultural heritage in in Kapijipanga chiefdom. Mines in Kapijipanga chiefdom have engaged with local communities and indigenous groups to understand their cultural heritage and traditions. Cultural identity refers to the sense of belonging and self-perception that arises from an individual's association with a particular culture or group. It encompasses shared customs, traditions, language, values, and historical experiences that shape one's worldview and social interactions (Chanda & Madoda, 2024). This is one of a way of preserving cultural heritage in Kapijipanga chiefdom. This has however promoted open and effective communication among families in the village. These collaborative efforts helped in developing strategies that respect and preserve cultural sites. Richard (2019) observed that mines encourage families to collaborate on community projects, organize social gatherings, and support each other during times of need. Thus, establishing strong communication and collaboration networks within the village enhances a sense of belonging, fosters a supportive community environment, and promote cultural heritage in villages. Therefore, to ensure that cultural heritage is preserved, mines should actively engage with local communities and involve them in decision-making processes. This includes consulting with community members to understand their cultural heritage and the importance of family ties within the community. By valuing local knowledge and perspectives, mines can develop strategies that respect and promote the preservation of cultural heritage. Henduyan (2021) noted that mines can actively engage with local communities to understand their cultural heritage and traditional kinship systems. By involving community members in decision-making processes and project planning, mines can ensure that cultural values and family ties are respected and incorporated into mining activities. It has been established that mines can preserve cultural heritage by supporting cultural heritage. Many participants cited that mines can establish buffer zones around cultural heritage sites to prevent any damage or disturbance. To achieve this, mines can provide financial support or resources to local organizations or institutions that are dedicated to preserving cultural heritage. This can include funding for restoration, conservation, or educational programs Gilbert (2015) argued that physical barriers, signage, and regular monitoring can help in protecting these sites. Arguably, it can be argued that to support cultural heritage in Kapijipanga chiefdom, mines can organize cultural awareness programs for employees, contractors, and visitors to educate them about the importance of cultural heritage preservation. This can help in fostering a culture of respect and appreciation for cultural sites. It has also been established that mines can preserve cultural heritage in Kapijipanga chiefdom by incorporating cultural heritage into mine planning. Mines can achieve this by integrating cultural heritage considerations into their overall mine planning process. This can involve mapping out cultural heritage sites, developing strategies for their protection, and incorporating these measures into operational plans. The participants pointed out that mines can collaborate with local communities, government agencies, and cultural heritage organizations to establish formal agreements that outline responsibilities for preserving cultural heritage. These agreements can help ensure the long-term protection of cultural sites (Merriam, 2022). Additionally, the study has established that mines can preserve cultural heritage in Kapijipanga chiefdom by promoting cultural awareness. One way mines can preserve and promote cultural awareness is through education and training. Through education and awareness, mines can offer cultural awareness training programs for their employees to increase understanding and appreciation of local customs, traditions, and languages. This helps foster respect for cultural heritage and promotes positive interactions between the mining company and the community. Also, mines can engage in community outreach activities to raise awareness about the importance of cultural heritage preservation. Timothy (2021) suggested that this can include organizing workshops, seminars, and cultural events that highlight local traditions, stories, and practices. The participants however mentioned that mines can promote cultural awareness in Kapijipanga chiefdom by collaborating with local cultural organizations, indigenous groups, and heritage conservation societies to support initiatives aimed at preserving cultural heritage. This may involve providing funding, resources, or technical expertise to support cultural preservation projects. Edward (2018) explained that mines can support efforts to document and research local cultural heritage, including oral histories, traditional knowledge, and archaeological sites. By preserving and sharing this information, mines can contribute to the understanding and appreciation of cultural heritage both locally and globally. In light of the above findings, it can be contended that mines in Kapijipanga chiefdom can promote cultural awareness through the promotion of indigenous artisans. To achieve this, they can support local artisans and craftspeople by providing opportunities for them to showcase their work and sell their products. This not only helps preserve traditional art forms and craftsmanship but also provides economic opportunities for local communities. Through cultural awareness, mines can incorporate cultural heritage conservation principles into their operational planning and land management practices. This may include avoiding or minimizing impacts on culturally significant sites, implementing heritage protection measures, and supporting the restoration and maintenance of cultural landmarks. However, Davide (2029) postulated that mines can facilitate cultural exchange programs between employees and community members to promote cross-cultural understanding and appreciation. This may involve organizing cultural immersion experiences, language exchange sessions, or cultural heritage tours. Further, it can also be argued that promoting cultural awareness and engagement is essential for mines to effectively contribute to the preservation of cultural heritage in the communities where they operate. By fostering respect, understanding, and

collaboration, mines can help ensure that cultural heritage is valued, protected, and celebrated for future generations. The study established that mines can preserve cultural heritage by establishing memorandums of understanding. This finding indicated that mines can play a crucial role in preserving cultural heritage by establishing Memorandums of Understanding (MoUs) with villages. In his study, Ntensiamu (2021) found that collaboration with local communities promotes cultural norms and values in villages. However, mines can collaborate with local communities through MoUs to ensure that cultural heritage sites and artifacts are identified, protected, and preserved. This collaboration involves engaging community members in the decision-making process regarding the management and conservation of cultural heritage. The MoUs between the mines and the local people can outline the responsibilities of the mine and the local community in protecting cultural heritage sites within the village. This can include measures such as restricted access to sensitive areas, regular monitoring, and maintenance of heritage sites, and implementing appropriate conservation practices. Bwendolen (2023) recommended that MoUs can establish guidelines for cultural resource management within the village. This can include conducting archaeological surveys, documenting cultural practices, and developing strategies for the sustainable use and preservation of cultural resource.



**Figure 2** The Strategies Put in Place for Mines to Preserve Cultural Heritage in Kapijipanga Chieftdom in Solwezi District

#### 4. Conclusion

The study has established that the effect of mines on social-cultural development in Kapijipanga chiefdom of Solwezi District is negative. Additionally, the effect of mines on cultural development in Kapijipanga chiefdom of Solwezi District is negative. Further, the study has shown that mines can preserve cultural heritage by promoting family ties, promoting cultural heritage, sponsoring cultural ceremonies, having a cultural day once a year, collaborating with local communities, supporting cultural heritage, promoting cultural awareness, incorporating cultural heritage into mine planning, and establishing memorandums of understanding.

### *Recommendations*

As a result of the findings of this study, and the conclusion drawn, the following recommendations were made:

- **Education and Training:** The government of Zambia through the Ministry of Tourism, Arts and Culture and the Department of culture should ensure that mines offer cultural awareness training programs for their employees to increase understanding and appreciation of local customs, traditions, and languages.
- **Community Outreach:** The government of Zambia through the Ministry of Tourism, Arts and Culture and Department of culture should ensure that mines engage in community outreach activities to raise awareness about the importance of cultural heritage preservation in Kapijipanga chiefdom.
- **Promotion of Indigenous Artisans:** Mines in Kapijipanga chiefdom should be supporting local artisans and craftspeople by providing opportunities for them to showcase their work and sell their products.
- **Cultural Heritage Conservation:** The government of Zambia through the Ministry of Tourism, Arts and Culture should ensure that mines incorporate cultural heritage conservation principles into their operational planning and land management practices.
- **Cultural Exchange Programs:** Mines should facilitate cultural exchange programs between employees and community members to promote cross-cultural understanding and appreciation. This may involve organizing cultural immersion experiences, language exchange sessions, or cultural heritage tours.
- **Partnerships with Local Organizations:** Mines should collaborate with local cultural organizations, indigenous groups, and heritage conservation societies to support initiatives aimed at preserving cultural heritage.

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### **Compliance with ethical standards**

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

#### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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### **References**



- [1] Aragon, B.V. & Rud, R.T. (2015). Mining Subsidence and its Effect on the Environment: Some Differing Examples. *Environmental Geology*, 40(1-2), 135-152.
- [2] Banda, S., Mpolomoka, D. L., Mbono, D., & Sampa, R.L (2017). "Use of Questions in Qualitative Research: How Questions Guided Our Study", *International Journal of Development Research*, 7, (12), 17895-17898, Available: <http://www.ijdr.com>, ISSN: 2230-9926.
- [3] Banwashe, I. (2017). "Sustainable Development in Mining Industry: Clarifying The Corporate Perspective, *Resource policy* 26, pp 227-238.
- [4] Bwendolen, S.G. (2023). "Corporate Social Responsibility in the Mining industry: Exploring trends in social and environmental disclosure", *Journal of Cleaner production* 14, pp-271-284.
- [5] Chanda, C.T. (2024). Cultural Factors Contributing to Gender-Based Violence in Zambian Societies. *World Journal of Advanced Research and Reviews*, 22(02), 123-138, April 2024, Available: <https://wjarr.com/>, <https://doi.org/10.30574/wjarr.2024.22.2.13>.
- [6] Chanda, C.T., and Madoda, D. (2024). Exploring the Relationship Between Cultural Identity and Educational Equity: A Zambian Analysis. *International Journal of Research Publication and Reviews*, Vol 5, no 5, pp 11440-11448, May 2024, Available: [www.ijrpr.com](http://www.ijrpr.com), ISSN 2582-7421.
- [7] Chanda, C.T., and Chitondo, L. (2023). Exploring the Interplay Between Culture and Religion in African Countries: A Case of Zambia. *International Research Journal of Modernization in Engineering Technology and Science*, Volume 05, Issue 11, 3139-3148, November 2023, Available: [www.irjmets.com](http://www.irjmets.com), <https://doi.org/10.56726/IRJMETS46879>.
- [8] Chanda, C.T., Chitondo, L., and Ngulube, L. (2024). "Plastic Pollution: Causes, Effects, and Solutions". *International Journal of Research Publication and Reviews*, Vol 5, no 3, pp 6570-6581, March 2024, Available: [www.ijrpr.com](http://www.ijrpr.com), ISSN 2582-7421.

- [9] Chitondo, L., Chanda, C.T, & Phiri, E.V. (2024). Ensuring National Food Security in Southern Africa: Challenges and Solutions. *International Journal of Novel Research in Interdisciplinary Studies*, Vol 11, Issue 2, pp (1-18), March - April 2024, Available: [www.noveltyjournals.com](http://www.noveltyjournals.com), ISSN 2394-9716.
- [10] Chitondo, L., and Chanda, C.T. (2023). Effects of Ethnic Diversity on the Development of a Country: A Case of Zambia. *International Journal of Current Business and Social Sciences*, Vol 9, Issue 5, 01-13, September, 2023, Available: [www.ijcbss.org](http://www.ijcbss.org), ISSN: 2312-5985.
- [11] Chitondo, L., Chanda, C. T., Mwila, M. G., & Madoda, D. (2024). The Paradox of a World Aspiring for Peace amidst Pervasive Conflicts. *International Journal of Research and Innovation in Social Science*, Volume VIII, Issue II, 2471-2484, February 2024, Available: [www.rsisinternational.org](http://www.rsisinternational.org), 10.47772/IJRISS.2024.802177, ISSN No. 2454-6186.
- [12] Christopher, R.U. (2023). "Benefits & Issues of Open-Cut Coal Mining on the Socioeconomic Environment-The Iban Community in Mukah, Sarawak, Malaysia" *World academy of Sciences, Engineering and Technology* 25.
- [13] Christerline, N. (2018). The Effects of Mine Downscaling (And Closure) On The Socioeconomic Development of Mining Communities: The Case of Oranjemund.
- [14] Davide, K.L. (2015). Future Trends in Mining, Chapter 1.3 (pp 21, 38) in Darling, Peter (ed.), 2011. *SME Mining Engineering Handbook*, Society for Mining, Metallurgy, and Exploration, Inc.
- [15] Davidson S.D. (2021). Natural Resources and Local Communities: Evidence from A Peruvian Gold Mine. *American Economic Journal: Economic Policy*, 5(2), 1-25
- [16] Dayentela, B.V. (2022). Effect of Cement Dust on Stomatal Structure". *Ecology and Environmental Conservation*, 1: 7-9.
- [17] Edward, M.F. (2018). *Effects of Mining of Society, Livelihoods and Cultural, in Taita Taveta Country, Kenya*. University of Kenya Press: Kenya.
- [18] Kitula, A (2017), "The Environmental and Socio-economic Impacts of Mining on Local Livelihoods in Tanzania: A Case Study of Geita District", *Mendeley, vol-14*, pages: 405-414.
- [19] Gellead, S.T. (2021). "Mining and Poverty Reduction", *Natural Envrion. Pollut. Technol.*, 5: 263-272.
- [20] Gilbert, C.R. (2016). *Factors Influencing the Performance of Artisanal and Small Scale Mining Projects in Taita Taveta County, Kenya*.
- [21] Gilbert, N.D. (2015). "Corporate Social Responsibility in Ghana: Lessons from the mining sector", 29th Annual conference proceedings of the international association for impact assessment, Accra international conference centre.
- [22] Gillard, H. (2021). "Effect of Cement Kiln Dust Pollution on Groundnut". *Indian Bot Cont.*, 7(4): 159-162.
- [23] Happy, B.N. (2022). Effect of Cement Dust On Growth and Yield of Brassica Campestris. *Envntal. Pol.*, 66: 81-88.
- [24] Hillda, E.D. (2017). Impact of Granite Mining on Some Plant Species Around Quarries and Crushers of Bangalore District". *Poll. Res.*, 18(4): 445-451.
- [25] James, M. (2021). Reduction in Protein and Chlorophyll Contents in Calotropis Gigantean (L) R.Br. Growing Near a Stone Crusher". *Poll. Res.*, 15(4): 375-376
- [26] Merriam, F. (2022). U.S. Geological Survey. 2022. *Mineral commodity summaries 2014*. Virginia: U.S. Geological Survey.
- [27] Nelson (2017). Corporate Social Responsibility in the Mining industry: Exploring trends in social and environmental disclosure, *Journal of Cleaner production* 14, pp-271-284.
- [28] Ntensiamu, E.S. (2021). "Environmental and Social Economic Assessment of Impacts by mining activities. Western Carpathians, Romania, Environmental Science Pollution Research Institute. Aug: 16 Supply 1 S14-26.
- [29] Peter, W. (2021). "Effect of Stone Crusher Dust on Leaves Melia azadirach Linn. And Dalbergia sissoo Roxb. In Jammu (J and K)". *Natural Envrion. Pollut. Technol.*, 7: 279-282.
- [30] Phiri, M., Chanda, C. T., & Mwanapabu, N. H. (2024). The Effect of Using Local Languages as A Medium of Instruction on Academic Performance of Learners: A Case of Selected Primary Schools in Solwezi District of North-Western Province, Zambia. *International Journal of Novel Research in Humanity and Social Sciences*, Vol 11, Issue 3, pp (9-26), May - June 2024, Available: [www.noveltyjournals.com](http://www.noveltyjournals.com), ISSN 2394-9694.

- [31] Widana, Anura, The Impacts of Mining Industry: Socio-Economics and Political Impacts (July 21, 2019). Available at SSRN: <https://ssrn.com/abstract=3423562> or <http://dx.doi.org/10.2139/ssrn.3423562>
- [32] Uneya, (2016). Chile's Environmental Momentum: ISO-14001 and the Large Scale Mining Industry-Case Studies from the State and the Private Sector, *Journal of Cleaner production* 14, pp-248-261.
- [33] Vainelta, A. (2017). "Valuing Health Effects of Air Pollution in Developing Countries: The Case of Taiwan", *Journal of Environmental Economics and Management* (34), pp: 107-126.
- [34] Vivandhi, L.P. (2021). "Impact of Coal Mining and Other Coal Based Industries on The Pigment Concentration and Productivity of Paddy". In: R.K. Trivedy and M.P. Sinha (ed.) *Impact of mining of Environment*. Ashish Publishing House, New Delhi.
- [35] William, N.B. (2022). Effects of Loss of Agricultural Land Due to Large-scale Gold Mining on Agriculture in Ghana: The Case of the Western Region. *Br J [Internet]*, 2(6), 196-221Y.
- [36] Zohaib H. S., Sitti, N., Moses, A. A., & Chanda, C.T. (2024). Sustainable Development: Challenges and Strategies in South Asia, Spotlighting Pakistani Higher Education. *Journal of Information Systems and Technology Research*, Volume 3, Issue 2, 80-85, May 2024, Available: <https://journal.aira.or.id/index.php/jistr/>, ISSN: 2828-2973.

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### Authors' Short Biography

	<b>Maila Nachete</b> specializes in Social Sciences, and Education. She has taught and still teaching at Secondary School level under Social Sciences Department.
	<b>Chanda Chansa Thelma</b> specializes in Political and Social Sciences, as well as Education. She has lectured and still lecturing at the University level under the school of Humanities, Social Sciences, and Education.