COMMUNITY ACCEPTANCE OF CHINESE MINING INVESTMENT IN RURAL ZIMBABWE: THE SITUATION OF HWANGE DISTRICT

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Abstract

An empirical investigation on the acceptance of Chinese mining activities in rural Zimbabwe was done for this article. Its two main goals were to: (1) assess public opinion of Chinese mining operations; and (2) present a workable investment model that takes into account the main locals' complaints. Additionally, it touched on two related issues of concern: (1) what causes host community disputes with foreign mining companies in rural Zimbabwe; and (2) what investment model may be used to settle host community disputes between investors and host communities? It then assessed Chinese mining investments against the 3Ps of the Triple Bottom Line theory (TBL). Created by John Elkington in 1994, TBL recommends a balance between people, profitability, and the planet (environmental conservation) in business operations. Based on the study's

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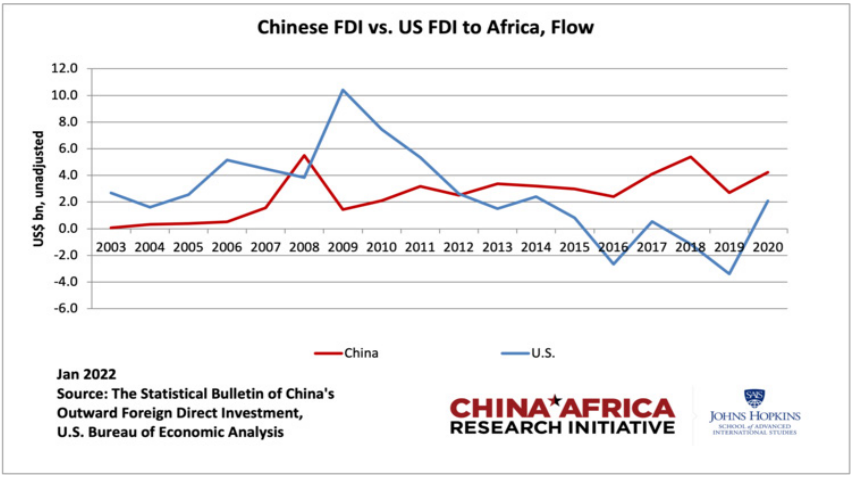
somewhat negative findings, the article created the PESE investment model (short-cut for people, environment, social, and economy) which it is presenting as an ideal framework that may have broader application for sustainable investment in Zimbabwe's mining industry.

1. Introduction

The rapid expansion of Chinese investments in Africa and in Zimbabwe continues to attract both interest and concern (Alao 2014, 1; Mapaure 2014, 1). According to the UNCTAD (2021, 1) study, statistics from China's Ministry of Commerce indicates an upward trend in China's investment in Africa. In 2012, it was projected that China's foreign direct investment in Africa was $217.3 billion and following the 2015 Sino-Africa Cooperation Forum, it increased from $399.3 billion in 2016 to $444.9 billion in 2018 (see Figure 1).

Figure 1: China Foreign Direct Investment in Africa

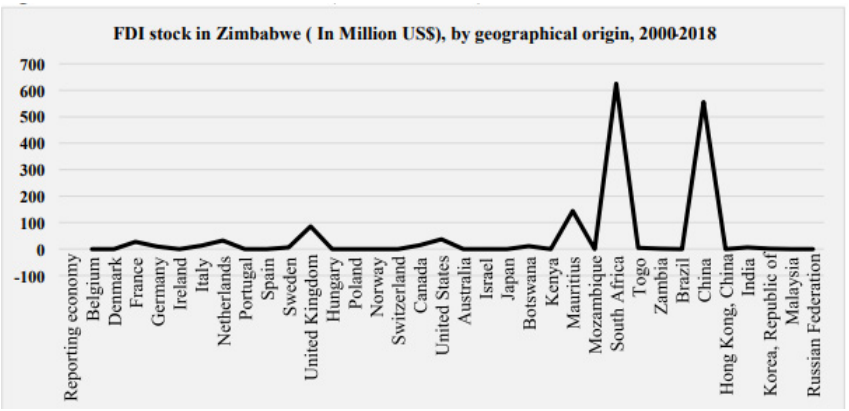


Source: Calculations based on data compiled by the China-Africa Research Initiative based on the statistical bulleting of China's outward (FDI) (2021) (www.sais-cari.org/chinese-investment-in-Africa)**.**

Chinese investment in Zimbabwe rose by more than 5000% from 2009 to 2013, with

the country now among Africa's largest recipients of foreign direct investment (FDI) from China (Adisu 2013, 3; Chipaike and Bischoff 2019, 947; The Herald 2014, 1). Annual FDI from China increased from $11.2 million in 2009 to $602 million in 2013 as Chinese investors focused on mining, agriculture, and manufacturing (The Herald 2014, 1). In total, Chinese companies invested $1.3 billion over this period. Zimbabwe's portion of Chinese investment in Africa increased from just 0.8% of $1.43 billion in 2009 to 7.2% of $3.5 billion in 2013 (The Herald 2014, 1). This made Zimbabwe the top recipient of Chinese investment in 2013 (see Figure 2).

Figure 2: FDI stock in Zimbabwe (In Million US$)



Source: UNCTAD FDI Statistics (2019)

Chinese investment in Zimbabwe straddles the manufacturing, construction, service, and mining industries, among others. Enhancing productivity, assisting host nations, accumulate foreign reserves, and facilitating for skills and technology transfer are some of the stated objectives of Chinese investment in Africa and Zimbabwe (Mugwara, Yuliang and Kai 2022, 1; Mapaure 2014, 1; Weng et al. 2018, 6). Even then, allegations of exploitative behaviours, disregard for environmental regulations, damage to local heritage and accusations of marginalisation of local labour fuel negative perceptions of Chinese investment in the mining sector in Zimbabwe (Shinn 2016, 26; ZELA 2022, 2).

Other issues of concern relate to accusations of failure to transmit knowledge and expertise, exploitative labour practices, human rights abuses, and driving of local small-

scale miners out of the market. These are some of the bad practices allegedly associated with Chinese mining investments in Africa (Mlevu 2022, 1; Alao 2014, 1; Okeowo 2019, 1). It is also said that there is inherent tension between local and national rights to mineral wealth, and the other benefits brought about by mining and people living near mines or adversely affected by them continue to raise questions about compensation for inconvenience, hardship, or loss of opportunity suffered as a result of the extractive activities of Zimbabwe's Chinese mining companies (Mugwara, Yuliang and Kai 2022, 1). Although China's President Xi Jinping stated that "China-Africa cooperation will never be pursued at the expense of Africa's eco-system and long-term interests," CRI (2015, 1) notes that given the already subpar environmental governance generally observed across African countries, it is unclear to what extent Chinese investors, traders, and consumers will demand high sustainability safeguards. The article has two main goals: (1) it analyses how well-received Chinese mining investment is in Hwange district; and (2) it develops a model for optimal mining investment that takes into account the major locals' concerns.

2. Structure and organisation of the study

After the introduction, the article engages Sino-Africa relations from three angles. First, it reflects on China's "win-win" messaging narratives in its engagements with African countries. Second, it reflects on "win-lose" debates surrounding Chinese investments in Africa. Third, it engages briefly on narratives of cooperation and opportunism in Sino-Zimbabwe relations. Thereafter, it introduces in brief Zimbabwe the country and Hwange, the district which is the area of study. The idea is to provide context. Following this, the article introduces Triple-Bottom Line (TBL). Importantly, it engages on the theory's 3Ps which are: (1) people; (2) profit; and (3) the planet.

The significance of the 3Ps is that they are the framework around which Chinese investment in rural Zimbabwe is evaluated. Next, the article engages on the research methodology, issues such as pilot testing of the research instruments, development and distribution of questionnaire, and the setting of the research sample. After this, the article presents and digests some of its research findings. In this regard, it focused on (1) the conflicts arising from Chinese mining investments in Hwange; (2) locals' perspective on Chinese mining companies' engagements with the community; and (3) local environmental concerns on Chinese mining investments. After this, the article presents its suggested model for facilitating foreign mining investment in rural Zimbabwe. Thereafter it presents its concluding remarks.

3. Debates and discussions

Two contrasting narratives characterise growing Sino-Africa relationship. There is the "win-win" and "win-lose" narratives. The primary forms of messaging China uses in its "win-win" engagement with African countries in which it is investing underscore the notions of common development, mutually beneficial cooperation, cultural co-existence, equality and sovereign equality, among others (Aidoo 2015, 3; Ousmane 2016, 135). It is also said that the investments benefit recipient countries by generating revenue, improving quality of life and facilitating technology transfer (Leung 2013, 1). These are the general arguments usually put forward by the Chinese government and recipient countries in Africa (Weng et al. 2018, 6).

The other side to China's outward foreign direct investment coin is that it is characterised by the "win-lose" narrative. International academics and the mainstream media outside of Africa are of the opinion that Sino-Africa economic contacts are one-sided, favouring China at the expense of African nations (Leung 2013, 1; Weng et al. 2018, 6; Aguilar and Goldstein 2009, 1543). It is also often said that Chinese investments in African countries are not intended to boost African exports but rather to give African consumers more access to cheaper Chinese-made goods (Pigato and Tang 2015, 10).

The narratives of cooperation and opportunity versus opportunism and destabilisation serve as a foundation for Sino-Zimbabwe cooperation. Even though China is frequently referred to as Zimbabwe's all-weather friend, the relationship is seemingly unbalanced, with China appearing to use the uneven power structure to benefit more (Marumahoko and Chigwata 2020). It is also often said that the investment made by Zimbabwe's Chinese companies do not necessarily result in meaningful employment opportunities for locals as Chinese corporations tend to bring their own staff from China to work in their companies (Chinyama 2015, 1).

4. Introducing Zimbabwe and Hwange District

Zimbabwe, a landlocked nation in Southern Africa, is bordered to the northwest by Zambia, to the east by Mozambique, to the south by South Africa, and to the southwest by Botswana. Zimbabwe gained its independence in 1980 after the British South Africa Company had seized it as Southern Rhodesia in 1923 (Marumahoko 2016, 1; Marumahoko 2018, 16). Eight provinces and two cities with provincial status make up

the country. The major three official languages of Zimbabwe are English, Shona, and Ndebele. Harare is the country's capital.

With nearly 40 different minerals, Zimbabwe's mining industry is both wealthy and diverse. Gold, platinum, chrome, coal, diamonds, and lithium are a few of the minerals (Government of Zimbabwe 2020, 98). Hwange District is an administrative district in Zimbabwe's Matabeleland North Province. The Zambezi River defines its northern boundary with Zambia, while Botswana shares its western border with it (Hwange Rural District Council 2023, 1). Most Chinese companies in the Hwange region mine coal for export back to China and for domestic power production.

Figure 2: Hwange District Map

Source: https://en.wikipedia.org/wiki/Hwange_District.

5. Triple Bottom Line theory (TBL)

In discussing and analysing locals' acceptance to Chinese investors in the mining sector, the paper employs the 'Triple Bottom Line theory'. TBL, an accounting framework created by John Elkington in 1994, is a method of combining a company's social and environmental goals with its financial goals (see Figure 3). TBL underscores that profit, social, and environmental issues cannot be separated (Vaidya 2022, 1; Indeed 2022, 1).

It claims that rather than solely focusing on their financial performance, purpose-driven organisations consider the positive impact they can make regarding environmental sustainability and human rights (Indeed 2022, 1).

By adopting TBL, businesses take on added significance. When businesses adopt TBL ideology, they are essentially redistributing their yields to people and nature because they were the ones who made the yields possible. TBL encourages sustainable development, which is an added advantage. This increases profitability since it attracts new businesses, investors, and clients. After all, everyone wants to do business with organisations that value nature preservation (Vaidya 2022, 1). TBL theory comprises 3Ps which are: (1) the people; (2) profit; and (3) the planet (Indeed 2022, 1; Kenton 2023, 1).

5.1 The "people" in TBL theory

The first component of the TBL theory is "people". In the context of TBL, "people" refers to every individual that is in touch with a company. Customers, vendors, and employees are a few of the examples of people in TBL theory (Indeed 2022, 1; Miller 2020, 1; Kenton 2023, 1). In this regard it may mean that customers have fair access to products and their feedback regarding equity or safety are considered, that a company prioritises small businesses in its supply chain, and that its employees receive fair wages and salaries. Traditionally, a business would put its shareholders or investors first. The triple bottom line focuses attention to people who may not have a financial stake in the firm but are nonetheless tangentially involved in its operations.

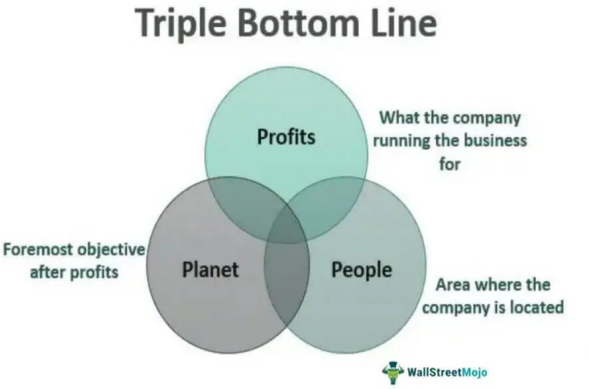
5.2 The "profit" in TBL theory

The second element of the TBL is profit. In this sense, it is said that a company's financial performance, or the profit it makes for shareholders, plays a major role in determining its success (Miller 2020, 1; Kenton 2023, 1). Key corporate decisions and strategic planning activities are typically carefully crafted to maximise earnings while minimising expenses and risk. There is now a realisation that profit-making organisations have the ability to change the world for the better by focusing on people and the environment without necessarily sacrificing financial performance. Companies may also enjoy financial benefits from growing their environmental and social awareness, lowering pollution, and making use of renewable energy instead of fossil fuels (Indeed 2022, 1).

5.3 The "planet" in TBL

Planet, the third component of the TBL, deals with concerns like environmental pollution, cutting one's carbon footprint, maintaining clean neighborhoods, and climate change, among others (Miller 2020, 1; Kenton 2023, 1). The theory is set against the enormous amount of environmental damage that big businesses have caused since the start of the Industrial Revolution. Even so, the theory contends that profit-making organisations can, through changes such as responsible supply-chain management, conserving energy, and optimising shipping procedures spur progress through their obligation to promote sustainability.

Figure 3: Triple Bottom Line (TBL)



Source: Vaidya 2022

6. Research Methodology

The researchers collected data through the use of primary and secondary data collection methods. Secondary data was collected by reviewing published sources of data such as books, government databases, UN agencies, election statistics, medical files, sales data, internet searches, yearly reports, journals, periodicals, annual reports, books, and articles. Open and closed-ended questionnaires were used to collect primary data. The surveys were distributed and collected by hand. The questionnaire was pilot-tested for reliability using the Cronbach's Alpha coefficient. The response rate for the pilot study is shown in Table 1.

Table 1: Pilot study response rate

Groups	Questionnaire Distributed	Questionnaire Received	Questionnaire Excluded	Questionnaire Analysed	Analysed Percentage
Hwange local community members	10	7	2	5	19
Mine employees (locals and Chinese)	10	6	2	4	15
Local mining investors	10	7	1	6	22
Chinese Investors	10	6	1	5	19
Wild life conservancy workers	10	7	-	7	25
Total	50	33	6	27	100%

Source: Own data (2023)

The study population consisted of 420 people from Hwange who had direct experience of Chinese mining activities in the area of study. It was broken down as follows: five traditional chiefs, 10 headmen, 10 wildlife conservation workers, 10 ministry of mines employees, five local government councilors, 10 local education institution heads, 50 local mining investors, 25 Chinese mining investors, 220 local community members, and 75 mine employees (50 locals and 25 Chinese). Purposive non-probability sampling was used to select the research subjects. The sample size was 201 respondents, calculated using a formula for sample size advanced by Krejcies and Morgan (1970, 608). It was calculated as follows:

s = $X^2NP\ (1\text{-}P) \div d^2\ (N\text{-}1) + X^2P\ (1\text{-}P)$

s= required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N= the population size

P= the population proportion (assumed to be 0.5 since this would provide the maximum sample)

D= the degree of accuracy expressed as a proportion (0.05)

Therefore

S= $3.841(420x\ 0.5)\ x\ (1\ -0.5) \div (0.05)^2\ x\ (420\text{-}1) + 3.841\ x0.5\ (1 - 0.5)$

=**201** respondents

Following pilot testing and setting of sample size, there was distribution of the questionnaire which mostly targeted Hwange local community members as the ones most impacted by Chinese mining activities. Table 2 presents a summary of the returned questionnaires from the survey. The researchers sought diverse information from all local members, thus endeavouring to considerably reduce the element of bias. The study sample size was 201 participants from which 200 completed and returned the questionnaire, making a response rate of 99.5% in Hwange. Thus, the response rate was satisfactory to make conclusions of the study as a response rate of 50% and above is regarded as excellent (Selvaraja 2020, 1).

Table 2: Response rate of the distributed questionnaires

Category	Questionnaires Distributed	Returned Questionnaires	Unusable Questionnaires	Response Rate Percent
Chief	2	2	0	100
Headman	5	5	0	100
Wildlife conservative workers	5	5	0	100
Ministry of mines employees	5	5	0	100
Councillors	2	2	0	100
Local education head	5	5	0	100
Local mining investors	24	24	0	100
Chinese mining investors	12	12	0	100
Mine employees (24 locals &12 Chinese)	36	35	1	97.2
Hwange local community members	105	105	0	100
Total	**201**	**200**	**1**	**99.5**

Source: Own data (2023)

7. Research findings and extrapolations

In this section, the article presents and digests research findings. The findings are the result of composite questions which were broken into smaller questions to address specific issues in the research. Three of the several questions posed are listed below and engaged in somewhat greater detail in the ensuing paragraphs. By and large the questions point the discussion to sustainability in foreign (and perhaps also local) mining investment.

- What are the areas of conflict faced by locals because of Chinese mining investments in Hwange?
- Is Chinese mining investment addressing social and environmental concerns raised by Hwange locals?
- Are Chinese mining operations addressing environmental risk concerns in Hwange?

The respondents answered the questionnaire using the "five-point Likert scales" which had five Likert response options: strongly disagree, disagree, neutral, agree, and strongly agree. The statements or questions posed to participants had a scale indicating the level of agreement or disagreement of the respondents. The levels and their ordinal values are: 1=Strongly Agree (SA), 2= Agree (A), 3=Neutral (N), 4= Disagree (D), 5=Strongly Disagree (SD). The indication of whether there is correlation between statement and responses of respondents, level of agreeing or disagreeing is decided by the mean (M). Statements mean interval ranging from 1.0-1.8 indicates (SA), 1.9-2.6 (A), 2.7-3.4 (N), 3.5-4.2 (D), and 4.3-5 (SD).

7.1 Conflicts arising from Chinese mining investments

According to Table 3, the community people who have been adversely affected by Chinese mining investment in the Hwange district are generally despondent. Of the 200 responders, 84% pointed to Chinese companies' contaminating water sources and aquifers that communities utilise for cultivation, drinking water, and cleaning. It was insinuated that this was a source of conflict. Fifty-five per cent (SA and A) of respondents said that Chinese mining investments led to the eviction of local residents to make room for the new projects. In a similar vein, according to 61% of the respondents, communities affected by proposed Chinese mining operations infrequently receive sufficient prior informed consent. The usage of large equipment in Chinese mining projects, according to 82.5% of the 200 respondents, destroys the environment and infrastructure.

Table 3: Conflicts arising from Chinese mining investment

Conflicts	SA	A	N	D	SD	Total	Mean
Chinese-owned mining operations often pollute waters and aquifers used by local communities for drinking, cleaning, and irrigation	100	68	8	6	18	200	**1,9**
%	**50**	**34**	**4**	**3**	**9**	**100**	
Forced dislocation to make way for new projects	50	60	66	10	14	200	**2,4**
%	**25**	**30**	**33**	**5**	**7**	**100**	
Communities impacted by proposed Chinese mining projects rarely receive adequate prior informed consent.	56	50	30	40	24	200	**2,6**
%	**28**	**25**	**15**	**20**	**12**	**100**	
Chinese mining investments undermine livelihoods and income relied on by communities for years	60	28	60	40	12	200	**2,6**
%	**30**	**14**	**30**	**20**	**6**	**100**	
Chinese mining projects cause environment and infra-structure destruction due to use of heavy machines	105	60	11	8	16	200	**1,9**
%	**52,5**	**30**	**5,5**	**4**	**8**	**100**	
Use of violence on community members when they protest against Chinese miners	20	30	60	50	40	200	**3,3**
%	**10**	**15**	**30**	**25**	**20**	**100**	

Source: Own data (2023)

7.2 Locals' perspective on Chinese mining companies' engagements with the community

The respondents, as shown in Table 4, were generally against the Hwange Chinese mining corporations' business strategy. Their mining operations do not seem to be helping the local communities where their enterprises are situated. Of the 200 responders, 46.5% were not in agreement that Chinese investment was generating jobs for locals. Only 33.5% thought that Chinese investment would lead to job prospects. In a similar vein, 75% of respondents believed that Chinese investment in the mining industry did not empower regional populations. When asked if Chinese investors were fostering trust between the mining industry and communities, 63% of respondents voiced pessimism. On the issue of whether Chinese investment addressed intergenerational concerns, 70% replied in the negative. The perception of Chinese mining, according to 55% of respondents, was not improving.

Table 4: Local perspective on Chinese mining companies' engagement with the community

Statements	SA	A	N	D	SD	Total	Mean
Chinese are creating local employment opportunities	40	27	40	13	80	200	**3,4**
%	**20**	**13,5**	**20**	**6.5**	**40**	**100**	
Chinese are empowering local communities	30	14	6	50	100	200	**3,9**
%	**15**	**7**	**3**	**25**	**50**	**100**	
Chinese are fostering trust between mining industry and local communities	22	31	21	40	86	200	**3,7**
%	**11**	**15,5**	**10,5**	**20**	**43**	**100**	
Chinese are addressing concerns about dangerous, destructive and dirty mining practices	22	40	5	60	73	200	**3,6**
%	**11**	**20**	**2,5**	**30**	**36,5**	**100**	
Chinese mining image is improving	35	24	31	50	60	200	**3,4**
%	**17,5**	**12**	**15,5**	**25**	**30**	**100**	
Chinese investment is addressing inter-generational concerns	20	36	4	41	99	200	**3,8**
%	**10**	**18**	**2**	**20,5**	**49,5**	**100**	

Source: Own data (2023)

7.3 Local environmental concerns on Chinese mining investments

The respondents were questioned about whether they believed Chinese mining operations took environmental concerns into account when conducting their activities (see Table 5). Eighty-eight per cent of the respondents, or SA and A combined, disagreed with the claim that Chinese corporations are regenerating the environment. Similar to this, 88% said there were no plans for garbage treatment and disposal. In addition, 85.5% of the respondents disagreed that Hwange was addressing neighbourhood environment problems. A combined (SA and A) or 85% of respondents rejected the idea that Chinese businesses are doing more to improve the health of their employees. Eighty-five per cent of the respondents disputed the idea that Chinese and local groups were collaborating on environmental restoration issues. According to 83% of the interviewees, environmental concerns were not a factor in Chinese corporations' decision-making.

Table 5: Local environmental concerns on Chinese mining investments

Statements	SA	A	N	D	SD	Total	Mean
Chinese are following environmental impact assessment	18	6	10	76	90	200	**4,1**
%	**9**	**3**	**5**	**38**	**45**	**100**	
Community environmental concerns are being addressed (Pollution prevention- air, land and water)	24	0	5	76	95	200	**4,1**
	12	**0**	**2,5**	**38**	**47,5**	**100**	
There is waste treatment and disposal plan	10	6	8	76	100	200	**4,3**
%	**5**	**3**	**4**	**38**	**50**	**100**	
Chinese mining companies are improving workers health and safety	15	9	6	75	95	200	**4,1**
%	**7,5**	**4,5**	**3**	**37,5**	**47,5**	**100**	
Chinese mining companies are introducing technology innovation towards eco-efficiency	50	30	45	35	40	200	**2,9**
%	**25**	**15**	**22,5**	**17,5**	**20**	**100**	
Chinese mining companies are restoring the environment	8	12	4	76	100	200	**4,2**
%	**4**	**6**	**2**	**38**	**50**	**100**	
Chinese and the local communities are working together on the environment restoration	0	10	20	70	100	200	**4,3**
%	**0**	**5**	**10**	**35**	**50**	**100**	

Source: Own data (2023)

8. What does the research results tell us?

The research findings seemingly depict a story of mining investment projects characterized by imbalance between people, profits, and the planet. Yet Triple-Bottom-Line theory (TBL) reminds us that profit, corporate social responsibility, and environmental issues cannot be separated (Vaidya 2022). In this study, however, it can be said that profitability considerations were elevated over issues pertaining to the welfare of the people, their place in the ecosystem, and concern for environmental degradation emanating from dangerous mining practices. Even the nature and sources of conflict appear to paint a picture of mining ventures conveniently sidestepping concerns of communities under whose jurisdiction Chinese businesses are extracting natural resources.

Pollution of pristine environments, water and soil contamination, forced dislocation of locals to make way for mining investments, and destruction of livelihoods are some of the negatives associated with mining investment in Hwange that are not aligned to the

3Ps of the TBL. Drawing from the responses of despondent respondents in the survey and the shortcomings of the current mining investment practices, the article came up with the PESE investment model or the People, Environmental, Social, and Economy investment model in full. The PESE model integrates some of the elements from TBL to come up with a new model that may be used to balance elements of environmental protection, profitability, and communities around which mining activities are taking place.

In developing the PESE model, the researchers make a deliberate attempt to plug perceived gaps in the mining practices currently taking place in Zimbabwe involving foreign mining investors. The idea is not to apportion all blame to investors of Chinese origin. Rather, some of the objectives are: (1) to encourage mining policy review; (2) to encourage green mining; (4) to improve community acceptance of foreign mining investment; and (4) to facilitate a healthy balance between the well-being of communities, profitability, and sustainability.

9. The PESE Investment Model

The PESE investment model which is short-cut for People, Environment, Social, and Economy is associated with sustainable mining (see Figure 4). It is an investment model that may assist foreign investors reduce tensions with indigenous people or local communities. It is a framework balancing people, environmental, social, and economic considerations in mining projects. Each of these four dimensions of mining does not exist in isolation and they form the basis of sustainable development in mining projects. Prospecting (exploration), extraction (production), and decommissioning (ending mining) are the three main phases of PESE investment model for mining investment.

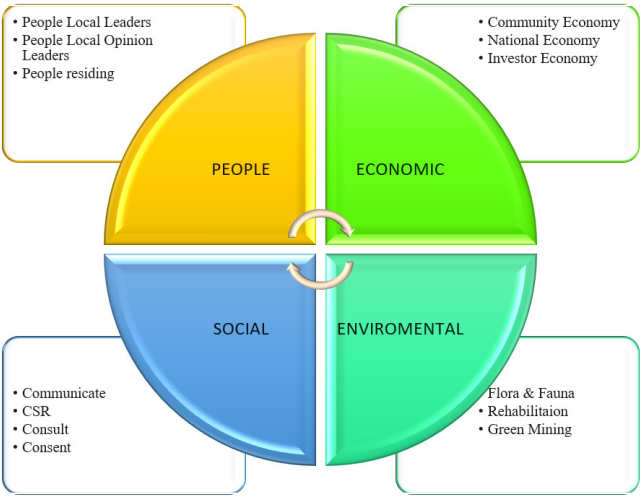
Prospecting and exploration are precursors to actual mining and seek to determine as accurately as possible the size and value of a mineral deposit. In the extraction stage, the work of opening the explored mineral deposit for exploitation is performed. The extraction stage is characterised by the actual recovery of minerals from the earth in quantity. The extraction/production stage is preceded by the construction of access roads, site preparation, and clearing. The decommissioning stage is about ending mining activities, possibly after exhausting extraction of minerals from the ground.

Minimisation of environmental risks is a key consideration of the proposed PESE mining investment model. The quality of surface and groundwater supplies, whether they will remain fit for human consumption, and adequate to support native aquatic life and terrestrial wildlife is a key focus of the model. Other issues of focus include the

erosion of soils and mine wastes into surface waters[4] and airborne emissions occurring during each phase of the mining project. All three stages of the mining investment model are prone to generate hazardous air pollutants such as heavy metals, carbon monoxide, sulphur dioxide, and nitrogen oxides.

Figure 4: The PESE Investment model

PLANNING-MINING	IMPLEMENTATION-EX-TRACTION	DECOMMISSIONING -CLOSING



Source: Researchers' recommended conceptual framework, 2023

9.1 The "People" in the PESE model

It is crucial that mining investment by Chinese or any other foreign entrepreneurs begin with the realisation that to receive greater community acceptance they may have to commence by connecting with people in whose areas they are mining or operating. This may entail donating money to local causes, addressing social justice issues, offering generous health care benefits, facilitating strategic partnerships with non-profit making organisations, and enriching decision-making processes through cultivating a culture of collaboration with community leaders. It is important that the focus on people is not lost during the planning, prospecting, implementation, and decommissioning stages of the mining investment project. By being proactive on issues to do with people, mining companies not only increase their acceptability, image, and brand in the community, they also lay a strong foundation for increasing production and maximising profits.

9.2 The "Economy" in the PESE model

By investing in rural communities the majority of which are characterised by deprivation, poverty, obsolete infrastructure, marginalisation, and exclusion, mining entrepreneurs contribute to the building of community economies. Indirectly, they facilitate for communities to participate in inclusive and resilient rural economies and integrate into the national economy. Rural areas may benefit from enterprises connected to Chinese mining interests. This way, it may be possible to use foreign mining investments in rural economies to promote inclusive and sustainable development. Communities may be able to lessen poverty and maybe improve the flow of money in rural areas as a result of these improvements. The PESE model envisages that small-to-medium sized rural enterprises' tendency to participate in the national economy may also experience a significant improvement.

9.3 The "Social" in the PESE model

Any successful mining activities in areas under the jurisdiction of indigenous communities may need to start by building earnest bridges that connect investors to communities regardless of national government authorisation for the projects. The PESE model advises that investors engage local communities in processes of consultation beginning with exploration to extraction and decommissioning phases of

mining projects. Consultation may focus on issues such as sensitivity to local cultures, the environment, ancestral graves, sacred places, traditional beliefs and customs, and possibly conflict resolution. All of the above facilitate for greater acceptance of foreign mining investments and assume that channels of communicating with community leaders are always kept wide open and that community consent is sought throughout project management.

9.4 The "Environment" in the PESE model

The PESE mining investment model makes environmental management sensitivity one of its declared goals throughout a mining project's three phases of exploration, production, and decommissioning. A company may boost its public acceptance by working toward sustainability with practices such as reducing its carbon footprint, recycling company waste, buying recycled products to reduce the amount of waste that goes to landfill, incorporating recycled materials into its products, reducing air and water pollution, and using renewable energy sources. It may also adopt "green mining" which is the use of technologies and mining practices that are intended to minimise any potential environmental effects that may arise after the extraction and processing of metals and minerals within a mine. The objectives are to (1) repair any damage caused by mining processes; and (2) to create a landscape that is safe for fauna, flora, and humans.

9.5 The "Decision-making" in the PESE model

Sustainable development of mining projects for local communities not only requires the balance of people, economic, social, and environmental considerations, but that decision-making processes of mining investors tap into community preferences. This is the question of how community's inclinations affect a mine owner's decisions. This may require that the mine's planning is reviewed and adjusted based on the analysis of the local community. Decision-making throughout the three stages of mining will continue to draw and be affected by community preferences. This way, mining investors and host communities may considerably reduce conflict over various aspects of the natural resource extraction.

10. What does all of the above tell us about the PESE model in brief?

From the foregoing, it can be said that the key features of PESE include (1) public participation and the opportunities local communities have to influence their surroundings, as well as communities' acceptance of projects (social sustainability) before and during operations; (2) the framework and functionality of environmental protection (environmental sustainability); (3) the protection of local cultural rights in mining projects (social and cultural sustainability); and (4) competitiveness of the mining industry in light of environmental guidelines and their enforcement (economic sustainability). Organisations that incorporate these business strategies into their functions are likely to enjoy greater community acceptance, increase their financial performances, and improve the impact they have on communities and the environment.

11. Concluding remarks

The article assessed local acceptance of Chinese mining investment in Hwange which is mostly a rural district in the Northern Matabeleland Province of Zimbabwe. It sought the views of 201 people on the acceptability of Chinese mining investment by local people. In doing so, stringent measures were taken to ensure that it did not align with either the "win-win" or "win-lose (neocolonialist)" narratives characterising Sino-Africa/Zimbabwe discourses. It increasingly sought to break away from the current dichotomy to offer more rigorous and nuanced analyses grounded in empirical research.

Based on the research findings, it seems to be the case that community acceptance of Chinese mining experience is currently experiencing difficulties. At the center of it all are accusations made against Chinese mining investors. With their fixation with profitability and extraction of natural resources at any cost, they are blamed by communities for fomenting, among others, environmental degradation, pollution of surface and underground water bodies, disfiguring of the landscape, forced evacuations of vulnerable community members, destruction of local livelihoods, and heavy-handedness in conflict resolution.

When assessed against the 3Ps of the TBL, it seems that the priorities of mining investors in the area are profoundly skewed towards profitability at the expense of the people and the fragile environment. This is an issue that senior Chinese government officials are beginning to accept as a major problem. In 2013, for example, Hu Tao who previously worked as a senior environmental economist with China's Ministry of

Environmental Protection (MEP) was asked the question: *What are the biggest challenges that China faces in addressing the environmental and social effects of its overseas investments?* Here's what he had to say:

In my view, there are 3 major challenges:

- Poor governance systems in host countries, for example in some Least Developed Countries in Africa. Weak governance systems fail to protect communities and the environment from potential harm.
- Some Chinese companies, especially some small- and medium-sized companies, who do not heed social and environmental responsibility within China, are now taking those negative practices abroad.
- Lack of coherence between international investment/trade treaties and environmental agreements. From an international legal perspective, this is a grey area (Tao quoted in Leung 2013, 1).

Against this background, the article came up with an Africa/Zimbabwe-centric model it called PESE in short. The model taps from the responses of the research participants, perceived short-comings of the profit-skewed model currently used by foreign investors in Hwange district, and integrates components of the TBL to come up with a model it recommends for use by Zimbabwe's foreign mining companies. Most importantly, it provides a model for Chinese and other foreign mining investors to review their practices so that community acceptance of their mining operations may possibly improve, thereby reducing unnecessary conflict and suspicion with communities. Given that Chinese investment is increasing in Zimbabwe, it may be worthwhile to conduct similar research in another industry and facilitate for comparative analysis.

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