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Calling for Justice in the Goldfields of Tanzania

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Abstract: Tanzania is the third largest gold exporter in Africa, thanks in part to the liberalization of the mining sector which started in the early 1990s. Neoliberal mining reforms promised a win-win situation in which government, investors and local host communities would benefit through export earnings, profits, local employment, and corporate social responsibility initiatives (e.g., the building of schools and clinics). While the rising price of gold and foreign investments in mining activities have delivered on some of these promises, many residents in mining regions have not benefited socioeconomically. Worse still, their communities have unjustly borne the brunt of the environmental, social, and public-health costs associated with large-scale mining operations. This paper examines these injustices through research in Geita and Kahama, two of the most active gold mining areas of Tanzania. Drawing on Kuehn's [1] taxonomy of environmental injustice, we detail the negative impacts of mining activities in these communities and describe how residents have developed strategies of resistance as means to obtain reparations. We then explore the political, financial, organizational, and social limitations on these resistance strategies and argue that the social movements associated with mining lack the political space necessary to affect significant changes to structure, quality, and impact of the industry in western Tanzania.

Keywords: environmental justice; rural development; political ecology; gold mining; Tanzania

1. Introduction

“Today I believe I speak for the community around this mine, when I say we are all winners and we all have equal reason to rejoice.” President of Tanzania, Mr. Benjamin W. Mkapa, speaking to communities proximate to North Mara Gold Mine during the inaugural ceremony of the mine, 12 September 2002.

Gold has rapidly become one of Tanzania’s most important natural resources and a major driver of foreign direct investment and export earnings. From 1999 to 2009 gold production and exports increased dramatically from 4890 kg to 39,112 kg per annum. Gold currently accounts for 96.5% of all mineral exports, and contributes US \$ 1.08 billion to the country’s GDP [2]. Over the same period, Tanzania’s GDP per capita increased from about US \$ 300 in 1999 to US \$ 509 in 2009 [3], a rise which some have linked to the expansion of gold mining. Beyond the macroeconomic benefits, gold mining’s promoters have argued that it creates net-positive social benefits for communities through employment, infrastructure improvements, and the corporate social responsibility (CSR) programs that mining companies undertake to enhance the quality of local social services [4–7]. When viewed from this perspective, gold extraction is a win-win scenario for Tanzania as the wealth generated through mineral exports effectively trickles down to the impoverished residents of Tanzania’s gold mining regions.

Despite these optimistic claims, evidence is emerging that gold mining activities in Tanzania are producing detrimental effects on local communities and their environments [8–13]. Rather than distributing some of their profits into local communities, mining corporations are overwhelmingly concerned with off-shoring these to shareholders. Moreover, the (central) Tanzanian government has done little to channel the resource royalties and rents they receive from mining companies into improved services and development projects in mining regions [4,6]. In the face of this injustice, local communities, in collaboration with some politicians and civil society organizations, have organized social movements that aim to change the practices prevailing in Tanzania’s mineral sector. The goal of these movements is to get companies to pay attention to local needs and concerns through forms of resistance and protest that can be well organized or unplanned, explosive, and/or violent responses to pollution and other impacts from gold mining activities. Taken together, these activities strive to discipline the state and mining companies such that they are unable to externalize costs to the environment and/or livelihood strategies of local community members.

This paper examines the environmental injustices stemming from large-scale gold mining activities in Tanzania and assesses the prospects for affected communities to more effectively mobilize social movements in response to them. Focusing on the Lake Victoria goldfields (LVGs), an area host to more than 80% of the large scale mining activities and approximately 95% of national gold production, we examine the environmental injustices caused by gold mining through the lens of Kuehn’s [1] four-dimensional taxonomy and describe the procedural, corrective, distributive, and social forms of injustice prevalent in the region. We then go on to evaluate and analyze how people are reacting to or resisting these injustices, and whether there is hope for communities to dramatically transform the gold mining sector in ways that are more socially and environmentally beneficial or benign. The goal is to assess the challenges facing social movements aimed at mining reforms in Tanzania, and to understand the political factors that limit the efficacy of these movements vis-à-vis powerful state, corporate, and international donor interests. In doing so, we identify key factors that need to be addressed by local

communities and social movements if they hope to effectively challenge the state and mining companies, and argue that resistance strategies might be more effective if greater political space was available for social movements and if their actions were more finely-tuned to specific dimensions of injustice (e.g., distributive, social, *etc.*).

The paper is organized as follows. First, in Section 2, we locate the four-dimensional taxonomy of environmental justice (procedural, corrective, distributive and social justice) within the broader framework of the political economy of large scale mining development in Tanzania. Section 3 then briefly describes the case study locations and the methodology used in our study. Section 4 then reviews the history of gold mining in Tanzania and details the ways in which it contributes to different types of environmental justice issues in the LVGs. Section 5 describes how local communities are protesting against these injustices, followed by an explanation in Section 6 of why these resistance strategies, and the social movements organized against gold mining, are insufficient or less-than-effective at the present time. The paper concludes in Section 7 with a brief discussion of the study's broader implications from conceptual and applied perspectives.

2. Conceptualizing Environmental Injustices and Strategies of Resistance

The environmental impacts of gold mining are significant at all stages of a mine's development, and have been extensively documented in a wide range of contexts [14–18]. Mineral extraction and processing disturbs land, water and air as a result of construction, excavation, dumping of waste rock, disposal of tailings and water runoff from mining and processing sites [15,19,20]. Common to all extractive industries is the pollution and landscape modification that includes pits, waste piles, built structures, sand bars and turbid rivers [15,19,20].

Broadly speaking, environmental justice is about “fairness” to marginalized groups (e.g., based on color, locality, economic status, education levels, *etc.*) regarding the distribution of environmental benefits and burdens [21–27]. An environmental justice lens offers a useful framework for understanding how the development of gold mining in Tanzania has produced multiple types of injustice, thereby mobilizing political protest and resistance in areas impacted by mining. It brings attention to the ways in which the exploitation of land is directly associated with the exploitation of people, often of color or minorities, who are marginalized socioeconomically, overburdened by environmental hazards, and unable to participate in the decision-making processes that locate and enable large-scale extractive activities to begin in the first place [1,21,22,26]. To operationalize the concept of environmental justice we draw on Robert Kuehn's [1] taxonomy, which identifies four types of injustice that local communities may experience as a result of the environmental and social externalities of industrial operations. This taxonomy expands upon earlier typologies by Bullard and others, and includes the categories of procedural, corrective, distributive and social forms of injustice [1,22,28].

Procedural environmental justice (PEJ), also known as political justice or procedural equity, calls for fairness, inclusiveness, representation, parity, and communication with regard to ways in which decisions that impact communities are made [1,21,29]. PEJ looks not only at participation in a process, but also at whether a process is designed to produce fair outcomes for all parties. Corrective environmental justice (CEJ) refers to the compensation of victims through the provision of full reparations for damages and health interventions as needed [1,30]. Distributive environmental justice (DEJ) refers

to the fairness of the distribution of benefits and environmental risks borne by the marginalized people [21,29,31]. Finally, social environmental justice (SOJ) refers to “social equity” through a consideration of the social structures and agents that cause or enable environmental problems to occur. In doing so, a key concern of SOJ is issues of injustice between various social groups and strata such as those based on age, gender, race, and economic status [21,32].

This taxonomy may be used to address the challenges brought forward by extractive industries, by identifying different forms of injustice across multiple scales within complex and shifting networks of local, national and global interconnections of various stakeholders [33]. These injustices can then be linked to the respective forms of protest and resistance that they generate through an analysis of why such resistance is successful or not in the context of Tanzania.

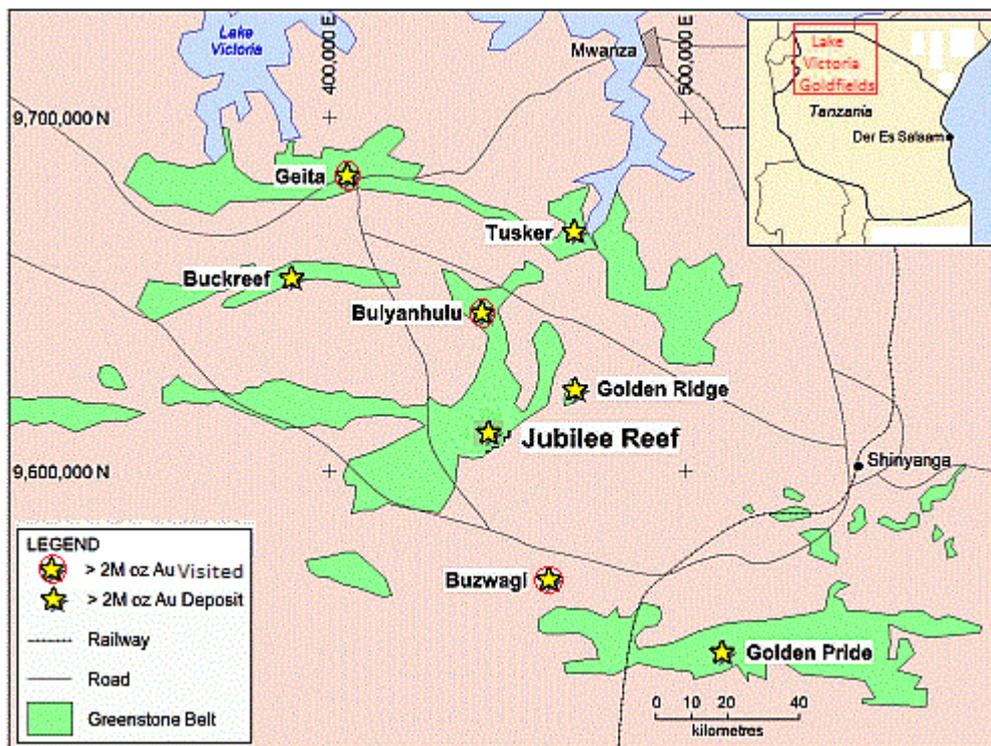
3. Study Areas and Methods

This paper is based on archival and field research that was conducted in five villages surrounding the Geita gold mine (GGM) in Geita District, and the Bulyanhulu and Buzwagi gold mines in Kahama District (see Figure 1 below) during 2007 and 2010. Geita and Bulyanhulu are the two largest gold producing mines in Tanzania, while Buzwagi is the fourth largest producer. These mines are located within the Lake Victoria Goldfields (LVG) or greenstone belt, a reference to greenstone-hosted gold deposits, an area that accounts for approximately 95% of Tanzania’s gold production. A significant portion of Tanzania’s foreign investment (FDI) is directed toward mining activities and in 2003 the three main LVG regions (Mwanza, Shinyanga, and Mara) hosted nearly 40% of the country’s FDI stock [6,34]. The field study was conducted in the Mwanza and Shinyanga regions where the residents of five villages (two in Mwanza, three in Shinyanga) were interviewed. These villages were selected because of their proximity to three large-scale mining operations, Geita Gold Mine (GGM), Bulyanhulu mine, and the Buzwagi gold mine (See Figure 1).

The Geita gold mine (GGM) is located in the Mwanza region about six miles west of Geita town. The mine is owned and operated by South African-based AngloGold Ashanti and it opened officially in 1999. Nyakabale and Nyamalembo Villages are the closest residential areas to the mine, and are thus the most vulnerable to its activities. Nyakabale is located about 2 km west of GGM, and Nyamalembo is approximately 500 m east of GGM. Bulyanhulu mine, owned by Barrick Gold Corporation is located about 55 km south of Lake Victoria in the Kahama District of Shinyanga Region. The mine began in 1996 when the government forced the eviction of artisanal miners from the area, an action that purportedly buried 52 people alive in the process [35]. Bugarama village is located close to the Bulyanhulu mine and it hosts the housing quarters of many mine employees. As such, the village provides a good case to study the social interactions between mining employees and local residents. Buzwagi gold mine, also owned by Barrick, is located in Shinyanga region, 6 km west of Kahama town. The mine was officially opened in 2007, again under controversy as the contract was signed despite a presidential order halting any new gold mining contracts. Our Buzwagi sample is drawn from the village of Mwendakulima, a community in close proximity to the mining operations and one that has been seriously affected by the land resettlement programs that have accompanied large-scale mining investments. Taken together, these four villages—Nyakabale, Nyamalembo, Bugarama, and Mwendakulima—offer excellent locations for assessing the environmental justice implications of gold

mining in Tanzania as the residents of each place have experienced significant (negative) impacts from mining operations and responded through acts of protest and resistance.

Figure 1. Map showing mines we visited in Lake Victoria Goldfields in Tanzania.



Methodologically, the paper uses data obtained from archival work and field studies conducted in the villages between June and August 2007 and May to September of 2010. The field studies were done through a combination of interviews with heads of households, and key informants and focus groups at the District, Ward and Village levels, as well as within the health and education sectors. In the four villages a total of 30 households were interviewed, representing a range of income, age, and gender categories. Focus group interviews were also conducted with village executive committees and with village sub-division leaders (*viongozi wa vitongoji*). Twenty seven key informant interviews were conducted, including interviews with health officials, NGOs representatives, district executive directors and district commissioners working in these areas. Executive officers and councilors were interviewed at the ward level. At the village level the village chairperson, village executive officers, chairpersons of neighborhood (*Vitongojis*) and local groups (*Mtaas*), and head teachers were also interviewed. In all, more than 25 people were consulted in each village of the five villages, for a total of nearly 150 people, approximately 40% women. In compiling and analyzing the data, the research team sought to identify key incidences of environmental injustices along the dimensions laid out in Kuehn's [1] taxonomy and to develop narratives regarding strategies of protest, response, and resistance to these negative impacts. In this section we detail the procedural, corrective, distributive, and social environmental injustices that have plagued the study communities. In so doing, we regard each of the four dimensions as equally important to a complete analysis of environmental justice in the context of gold mining in Tanzania.

4. Environmental Injustices in the Lake Victoria Goldfields

We begin our discussion with a focus on the procedural injustices that are associated with the development of Tanzania's mineral policy over the past thirty years. The World Bank and International Monetary Fund have strongly influenced the development of Tanzania's mining industry, beginning in the 1980s with the implementation of Structural Adjustment Programs (SAPs). Various scholars have written about SAPs and the manner in which the role of the state was substantially undercut, particularly with regard to its ability to regulate markets and the private sector [36–40]. With the decreasing role of the state, multinational corporations have become more powerful in Tanzania and this has led to more severe forms of environmental degradation by multinational corporations who invest in extractive industries. Moreover, disinvestment in the state has not improved the Tanzanian government's ability to effectively monitor, regulate, and sanction extractive industry activities. The neo-liberalization of Tanzania's economy, particularly its minerals sector, occurred with little public transparency or debate, and has resulted in the dismantling of many of the procedural channels through which local communities and the state's environmental agencies might challenge and regulate foreign-investment driven mining. The history of these policy interventions also demonstrates that local people were procedurally excluded from decision making processes that determined how local lands were to be used, sold, managed, and/or leased by/to foreign investors. As such, the injustices associated with SAPS are manifest within local (traditional) governing authorities who have little recourse in terms of their ability to respond to the negative externalities of gold mining.

In September 1990, a year after the World Bank produced its famous 1989 document "*from crisis to sustainable growth*" [41], the Bank used its International Development Association (IDA) credit for Tanzania to hire Trans-border Investment Ltd., a British Investment firm based in London, to review the mining sector in Tanzania. Trans-border in turn hired Tanzanian private lawyers for assistance, namely the firm of MRN&M, and a key outcome of this policy review was the Mining Act of 1998, a law regarded by foreign investors as the best of its kind [4,38,42]. The Act allows investors 100% foreign ownership, provides guarantees against nationalization and expropriation, and offers unrestricted repatriation of profits and capital. The revised mining code offers a low royalty rate of 3%, as well as a variety of incentives such as waived import duties and tax exemptions. Unlike the previous (1979) Mining Act, which required applicants to present a plan for local procurement of goods and services, the 1998 Mining Act was silent about local procurement. Although this procurement requirement was recently reinstated with the implement of a new Mining Act in 2010, the "local" as defined by the act refers to anywhere within the United Republic of Tanzania. All told, the rules and concessionary terms built into the 1998 and 2010 mining policies created investment and procurement procedures that not only favor outside companies over communities but which *require* the government to take away local people's landed property rights and grant them to the mining company once a concession is approved at the national scale.

Another procedural mechanism that reduces public input and reduces local oversight over mining activities stems from the ways in which mining projects are financed and insured by the World Bank. The Bank provided the Tanzanian government US \$ 226 million in loans in order to create an environment attractive to mining companies, simultaneously offered loans to foreign mining companies, and contributed US \$ 172 million in political risk insurance through its Multilateral

Investment Guarantee Agency (MIGA) in support of Barrick Gold's investments in the country [43]. Once a gold mining investor such as Barrick takes MIGA insurance, the Bank is liable to pay the foreign investor for the cost of the investment if the host government imposes restrictions on transfer of capital or profits, or if it seizes or nationalizes the operations or property of the investor. If the Bank pays the investor, it then passes on this payment plus other charges to the host country, adding to its bilateral or multilateral debt [44]. The MIGA political risk insurance is thus used to deter the host government's interference with insured private investments and it can, procedurally, preempt state intervention in response to problems with a gold-mining venture.

Secrecy regarding the mining contracts is another procedural means for denying affected people the knowledge/power to effectively contest gold mining [45]. Granting of mineral exploration rights in Tanzania is done in high secrecy, often outside the country, and with no participation from affected communities, even though these are the people who may be forced to accept relocation and resettlement as a result of the contract. This procedural injustice is also evident in claims by Lissu [35] that artisanal miners at Bulyanhulu were removed from their sites prior to the development of a national mineral policy in order to accommodate the anticipated needs of large-scale gold mining operations. And the July 2007 signing of the Buzwagi mining contract in London, before the affected communities received proper compensation for their lands, further demonstrates the injustice at work here. Remarkably, an opposition Member of Parliament was suspended for six months after he raised concerns on why the government had to sign this contract in London amid the presidential orders to halt signing all new mining contracts [46].

4.1. Corrective Environmental Injustices: Compensation, Resettlement and Mining Closure Plans

Compensation and resettlement are two activities that mining corporations undertake together with government agents to facilitate what is called a "fair" compensation and resettlement package for affected local people. The compensation process is twofold: first in order to be compensated, village leadership is responsible to list for listing all items for which each resident to will be compensated. The list will then be validated by government field evaluators (*mdhamini wa serikali*) who document everything in Kiswahili. Valuations are then taken to the Ministry of Land and Urban Development for final allocation of the actual resettlement package. In several of our study villages, we found that people complained about the value assessed to their property by the government, arguing that it was not equal to even local market value, that there exists a lack of consistency between valuations within communities, and that there is a lack of transparency in the process, especially in cases where resource losses were not properly compensated. Women, in particular, complained that resources such as grazing land, water sources, and forests for firewood were not considered in compensation valuation.

We witnessed compensation payments for people during the summer of 2007. The procedure was very confusing as people were given documents written in English, not Kiswahili, and pushed into signing and leaving before they were even given their compensation check. Moreover, people were not compensated for their water sources and were not provided with alternative clean water sources (except in Bugarama). In response to this treatment, some claimants refused to take their monetary compensation, others would not sign for the payment until the form was translated into Swahili (see Figure 2 for an example of a compensation form), and some refused to vacate their property unless the

final paid amount reflected what they felt was the true value of their property. In response to such refusals to vacate, the state would later send in a special police force to remove resisters by force. These individuals then went to court to fight for their lands, with the aid of a local legal NGO, but as of April 2011, their case remained unresolved and the victims were forced to live in tents near an old court house in Geita (see Figure 2).

Figure 2. This figure shows a compensation form in English, and evicted victims still live in tents. (Left) is a compensation form written in English that people were forced to sign; (Right) is a picture of evicted victims who still live in tents in Geita as they do not have anywhere to go.

Land Form 23
GP Dsm 184331/5-69/50m

8	9	10	11	12
Condition/maturity	Quantity/Area	Rate	Agreed Compensation	Thumb marks of Occupier
100%	138	11,000	1,518,000	
100%	128	720	149,760	
20%	02	1,000	4,000	
100%	02	500	1,000	
100%	51	500	25,500	
10%	128	500	64,000	
		5,000	214,000	
		5%	2,962,755.50	

Signature of District Commissioner



Some of the 86 victims of GGM who still live in tents in Geita. Picture taken in 2008 by RHRC

Declaration in English of the form for people to sign or put their thumb print

I hereby certify that I have explained to (each of) the person(s) mentioned above in the presence of the customary land Authority/Chairman of the village development committee that he had one of the following two courses open to him namely, (a) to continue to exercise such rights of occupation and use for himself and his family's as he may possess, or (b) to surrender such rights and to remove to another area, receiving compensation for disturbance I further certify that (all) the above mentioned person(s) have elected to surrender their/his/or her rights and to remove to another area and to accept the amount of compensation set out opposite each of their/his or her name(s). They have/he or she has been informed that their/his/or her election and the amount of compensation to be paid as set out in the foregoing schedule is subject to the approval of the Minister responsible for land, that if approved, the compensation will be paid forthwith but that they/he/or she will be required to move until theof19.....should they/he or she wish to remain until that date

At Nyamalembo village, about seven households remain within areas that are demarcated or zoned for mining activities. These people have refused to leave unless they are compensated fairly for the assets they owned. Because of their close vicinity to the active mine, they complained of frequent floods during the rainy season, air pollution, and noise from blasting activities. People living in these areas are denied social services from the government since they reside in the mining territory and in one case an elderly couple had to lie on their ancestor's grave to prevent the mining company (AngloGold Ashanti) from exhuming the remains of their ancestors without a proper (*i.e.*, culturally appropriate) transferring procedure. The elderly man told us that he was once visited by the Minister of Energy and Minerals who told him that even he (the Minister) did not have the power to force the mining company to do anything; the best he could do is to plead with them to help these seven families. People feel that the compensation was not fairly conducted, that what was paid does not reflect the true values of their assets, and that, in spite of this inadequate compensation, they are still forced to live in a situation where adequate forms of corrective justice are absent.

4.2. Distributional Environmental Injustices

Distributive environmental justice refers to a fair distribution of benefits and environmental risks borne by the marginalized people [21,29,31]. It deals with the right to equal treatment, or to the same distribution of goods and opportunities that anyone else has been given in response to displacement, pollution, and other negative impacts that accompany mining activities. Evidence emerging through media reports and our personal observations revealed that mining activities are having detrimental effects on people, livestock and the environment. For example, in July 2007 17 cows died after drinking from a mining tailings pond near the GGM. It was not the first time this happened and AngloGold Ashanti's response was that these cows trespassed in areas belonging to the mining company (there was no fence). While doing field research we met the cows' owner, a local private engineering contractor, and he told us he was scared to tell the truth in public for fear of being threatened. He told us that his cows died after drinking from a pond polluted by cyanide leaked from the GGM. During the Nyamalembo focus group interview, the village chairman told us of how his 18 cows died after drinking from a mine tails pond. In his case, the company agreed to compensate him but at the time of our interview date they had yet to do so.

While the two mines, GGM and Bulyanhulu, have a reliable water supply pumped from Lake Victoria, the neighboring villages depend on water sources they have been using since before mining began. People claim some of their water sources have been polluted and others confiscated because they are located within a mining exploration area. People in our focus group at Nyakabale contended that the mining company took key water sources away but with a promise of providing a cleaner supply of water. The mining company's response is that they provided domestic points (DP) to villages along their pipeline from Lake Victoria but several villagers complained of the unreliability of the water from these DPs; arguing that there is no water storage tank within their village, and that they get water only at the time when mining is pumping, mostly at night. At Bugarama, employee houses are provided with an in-house piped water supply while the rest of the community are provided only with two (2) water kiosks where they purchase water at a rate of 1 Tshs per liter. Nyamalembo village is not provided with any alternative water sources and its residents are left to supply themselves from what is left of traditional water sources. Water for animals, an essential domestic use for many, is provided in none of the locations surveyed. When we asked the project manager at Barrick's Buzwagi mine why they do not have a plan to provide water for animals, he told us that there is an insufficient number of domestic animals in the surrounding villages to justify such an expense [47] (personal interview, 1 August 2007). His comment was strongly opposed by members of the village executive council at Mwendakulima the next day [48] (focus group interview, 2 August 2007). The village chairman angrily retorted that:

“If they knew we didn't have domestic animals, then why did they agree to provide us with ponds for animals?”

Sicknesses due to water and air pollution, flooding, lack of access to health care have caused frequent violent conflicts between mining companies and surrounding host communities. Villagers believe they are getting all of the pollution while miners are living in a safe environment in comparison. Dust and other impacts due to blasting and increased traffic are other environmental risks

that people complained about. The headmistress at Nyamalembo Primary School complained that they have to ask students to stay outside of the class-rooms every time they hear blasting for fear of building collapse [49] (personal interview, 20 July 2007). She also complained about the noises that prevent students hearing what the teachers are saying. In one of our focus groups at Nyamalembo we noticed that the members of the village executive council looked “dusty”. One elderly member of the village executive council lamented:

“Look at us we all look dusty, no matter where you go, or what water you use for laundry or where you keep your clothes, they will all be dusty.”

Environmental pollution and landscape transformations have also been unevenly distributed to the villages adjacent to mining operations while the individuals living in mining company facilities have felt few direct impacts from these changes. At Nyamalembo for instance, people complained of frequent flooding of their farm land and their houses during the rainy season to the point that they can no longer produce enough food for their family or even raise animals. We observed that many households in the area had no chickens, an abnormal situation given that it is common to see chickens wandering around homes in these rural communities. This struggle for food security was exemplified in the comments by a woman in Nyamalembo:

“Because we cannot produce anything from our farms, and because we have to survive, we are forced to ask our children not to go to school and instead they have to find ‘house-girl’ jobs in the houses of people employed in the mines to help provide food to the family.”

Such food shortages have forced people to turn into scavengers, as some are eating food leftovers thrown from the mining cafeteria and dump site, and they raise important questions about the long-term nutrition and health of the people living in the mining areas. All told, it is clear that wealth generated by gold exports is not being effectively redistributed and that mining communities are receiving a disproportionate amount of the negative environmental and social externalities that have accompanied the use of open-pit mines and cyanide-leaching extraction techniques. Moreover, and despite promises from the mining companies and the state, food security, water-supply systems, and other aspects of livelihood strategies are not improving as most mining-area residents are more vulnerable than before the operations began.

4.3. Social Environmental Justice

Social environmental justice addresses the issues of social equity in making sure that members of every class have enough resources and power to live productive and meaningful lives. Mining in the LVG has created social stratification, whereby mining employees can afford a better life while the cost of living in surrounding villages has increased. This has divided many communities along class lines, particularly with regard to those who can afford and those who cannot afford to pay high prices for food. For instance at Geita we noted two markets: the modern, clean and expensive one has been nicknamed GGM because only mining employees can afford the high prices in that market. Low income people have to travel about four kilometers to Nyankumbu market where the prices are lower than the Geita urban market.

People at Bugarama spoke of how their community is now divided into two, where mining employees live in modern houses with a piped domestic water supply and electricity while villagers remain without electricity or improved water supplies. Worse still, people complained about waste water from employee quarters that are diverted into areas where non-mining residents live, farm or graze their animals. Villagers also complained about the difficulties of gaining employment in mining companies. This is because most of them do not have a secondary-school (Form four) education and because of the corruption and nepotism associated with getting even low-skilled laborer positions. One respondent in Nyamalembo said a company employee asked him to pay 300,000 Tanzanian shillings (Tshs) to be employed as security guard, an amount well-beyond his means. Many village residents believe that most mining employs are “foreigners” in that they come from other ethnic groups and regions of Tanzania. As one resident observed, “*wamejaa wachagga tu huko ndani*,” meaning that people of the Chagga tribe (from the Arusha/Moshi area of Tanzania) are the only ones who get employment in the mining.

Unfortunately, it is in the sex trade where one finds some of strongest economic linkages between the mining industry and the livelihoods of local people. This is a common trend throughout Africa (e.g., see Pegg [43]) and in the LVG it appears that prostitution has become one of few employment opportunities for women in the area. As Bene and Merten [50] observe in their study of transactional sex in Africa’s fisheries, the socio-institutional and economic environment of the LVG region, one where power resides principally in male heads-of-household and where economic opportunities are highly constrained, makes woman highly vulnerable to the exploitation and violence that accompanies prostitution. Incidences of rape, often reported to be perpetrated by police officers and security guards employed by the mining companies, are all too common as are early pregnancies, primary school drop-out by girls, and very high prevalence of HIV-AIDS and other sexually transmitted diseases in communities around new goldmines, especially among food and recreational facility workers (*i.e.*, “Mama Lishe” and bar maids) [51–53].

With respect to social services such as education, respondents complained about poor schooling environments due to dust, noise, and blasting that affect academic performance. The head teacher at Nyamalembo, the closest school to the mining (within about 0.5 km) (see Figure 3), complained about how Ashanti-Gold Africa (AGA) refused to cooperate on matters concerning the poor study environment caused by mining activities. This problem was exacerbated by the crowding (*i.e.*, class size) issue that was created when the mining-related resettlement of another community closed another primary school (Mtakuja) and brought these children to the Nyamalembo school. As part of resettlement plan, the company was supposed to transfer furniture and equipment from Mtakuja to Nyamalembo but this appears to have not occurred. Moreover, AGA was also required to replace buildings demolished at Mtakuja by constructing new buildings at Nyamalembo which would accommodate the additional students and staff. At the time of our field research, none of this construction had been started.

To summarize, our field research shows that despite the promises for company-sponsored CSR programs and the improvements to state services that are meant to accompany large-scale mining initiatives, most villagers in the LVG region have received little or no improvements to their livelihoods, food security, water provisioning systems, institutional conditions, and/or their socio-economic standing in relation to mining company workers and executives. Instead, they have experienced a wide range of procedural, corrective, distributive, and socio-economic injustices that have created a sense of

powerless and frustration about the mining industry and its ability to improve their lives. Faced with these circumstances, it is not surprising that there has been an increase in protests and other forms of resistance against the mining companies. We detail these acts and strategies in the section that follows.

Figure 3. This figure shows how close the school is to the mines. Left picture shows tailings piles as seen from Nyamalembo primary school. Right picture shows that school land, garden, and toilets are inside mining beacons demarcating the Geita mine Special Mining Licence concession.



5. Responses to Environmental Injustices in the LVGs

Protest and resistance to large scale gold mining around the world is generally explained as an expression of people's concerns regarding the negative impacts of mining activities on their livelihoods [14,15,54,55]. Environmental justice efforts help to bring residents together for protest and resistance in response to the direct and (immediate) impacts on communities' environmental resources and the absence of proportionate compensation for these impacts. In response to these categories of injustice, local communities in the LVGs have adopted various strategies of resistance and protest including: civil disobedience, violence and vandalism, coalition formation between village governments and with NGOs, and engagement in leadership and political activism.

Disobedience is one form of protest people use in these communities in response to corrective, distributive and social injustices. Although people are not allowed to graze, fetch water, gather firewood or make charcoal in the lands now under mining exploration licenses, people "sneak" in when mining security personnel are not watching (*i.e.*, lunch time, shift exchange, *etc.*). Such actions are akin to what Scott [56] calls "weapons of the weak," or subtle forms of resistance deployed by those most marginalized in a socioeconomic system. For example, in Nyamalembo, seven (7) households are still within the mining demarcated areas. These people have refused to leave unless they are compensated for their assets. In another case, villagers in Nyakabale, who used to travel six miles to get to Geita, had to travel 14 miles because the mining company blocked their shortest route. People complained to government officials and mining companies about the added distance, and about other mine-related issues (e.g., the rape of women, property seizures), but were initially ignored. Frustration built in the community until June 2007 when they protested against the mining companies by prohibiting any company representatives from crossing into village lands. The mining company responded by providing the villagers with transport (bus) to cross the restricted lands to reach Geita town.

People resort to violence and vandalism when peaceful means of resistance and protest fail, and when the problem in question constitutes an immediate distributive and social injustice [55]. For example, people at Nungwe, a village at the origin of the water pipe leading to GGM from Lake Victoria, vandalized water pumps and pipes delivering water after AngloGold Ashanti failed to fulfill their demand to repair the village road that it had destroyed during the construction of a water intake system. The company responded after the vandalism and repaired the road in accordance with the village's requirements.

Through coalitions with visitors, researchers and NGOs, local people seek representation at the global and national levels as a means to respond to procedural and corrective injustices. In the LVGs, NGOs such as Lawyers for Environmental Action Team (LEAT) have played a particularly significant role in helping mining communities to air their concerns to the government and international financial institutions such as the World Bank. At Bulyanhulu, LEAT documented a claim regarding the 52 artisanal miners who were reportedly buried alive for refusing to vacate their mines, submitting this evidence to the World Bank Compliance Advisor/Ombudsman (CAO) which refuted the claim [35,44]. LEAT also, through funding from religious organizations in Tanzania, investigated the impacts of large scale mining on local environments and economies in the LVG [45]. These and other reports were primary reasons why the Norwegian sovereign wealth fund divested its shares in Barrick Gold, citing, in particular, the mine's contributions to environmental damage in the region. LEAT and other local NGOs such as the Legal and Human Rights Center (LHRC) have also helped by representing people in response to corrective injustices. However, suits by affected communities against government entities or mining companies are often ignored and difficult to win due to various reasons such as prosecutorial discretion defenses, lack of human resources (e.g., volunteer lawyers), complicated procedures, financial constraints, or judicial negligence towards claims. For example, court injunction orders filed by LEAT to block the development of one of these mines (Bulyanhulu) were ignored by the high court and the eviction of people from Mtakuja occurred despite an LHRC-sponsored injunction.

Lastly, it was also observed that communities try to work through the political system by using village representatives to lobby at various levels of government in response to injustices. These strategies are highly limited, however, as the village is the lowest echelon of government in Tanzania and, despite being one of the most democratic forms of government in Tanzania, remains easily corruptible. For example, villagers at Mtakuja formed a committee of elders to send their concerns to the retired first president indicating their resistance to vacate their ancestor's land. Soon after they returned, the then District Commissioner for Geita issued an order for all people in Mtakuja to vacate the village within 24 h or face dire consequences. In another case, in Nyakabale, community members expelled a village executive secretary, accusing him of taking a bribe from the mining company. In both situations, the impacts of these lobbying and political strategies were ineffective as, in the first case, people were forced to evacuate their homes while in the second case it is clear that these actions had little influence on the actions of mining corporations and central government. In summary, while these political strategies are nascent and beset by difficulties, they are also real and legitimate steps toward improving the access of local people to decisions affecting their daily lives.

6. Discussion: The Limitations on Gold-Mining Resistance Strategies in the LVGs

In the case of the LVGs, challenges abound to making local people, communities, and social movements more empowered and effective in controlling, and benefiting from, the investments made in Tanzania's gold mining industry. A crucial obstacle to their power is the lack of sufficient political space given to community organizations, NGOs and local governments to organize a coordinated strategy to challenge the state and mining corporations. By political space we mean formally and informally organized (alternative) arenas for public discussions, debates, protests, presentations, and demonstrations that are granted legitimacy by mining companies and the Tanzanian state. Political space can enable the stakeholders in affected areas to participate in decision-making processes associated with mining-industry activities and provide a means through which they can respond in more meaningfully and impactful ways when injustices occur. Our study shows that the current political space in Tanzania is insufficient, disabling the community-based social movements that might best challenge the environmental injustices caused by large scale gold mining in the LVG. In more specific terms, we identify six issues that limit local political space today and prevent communities from shifting the balance of power away from the state and corporate scale.

Firstly, political space determines (and depends on) the quality of the political players attracted from outside the affected community and their ability to work on behalf of the people rather than their self-interests or those of their parties. For example, it is common for people who were once powerfully aligned against the interests of corporate mining and the Tanzanian (national) state to be co-opted through financial rewards from companies or by hostile/repressive actions by the state. Moreover, the lack of a viable, national-scale alternative to the *Chama cha Mapinduzi* (CCM) party means that local politicians have a highly circumscribed ability to develop policies and laws able to protect the rights of local communities affected by mining activities, given the absence of the national party's concern with greater regulation and control over the sector. All told, there is a need for effective and honest leaders who are able to not only create space for their own interests but, more generally, for social movements striving to have greater access to, and influence over state policies towards the mining industry. Without sufficient and alternative political spaces for such actors to maneuver in, it is unlikely that even the savviest politician can achieve much progressive change in the short term.

Secondly, local communities do not have the human and financial resources necessary to work with the legal system or even to network with each other. Our research found that the average education of surveyed residents is at a primary-school level. It requires legal knowledge to prepare and file a court injunction orders and it is thus difficult to find people from affected communities who can adequately understand the legal system and/or provide others with legal services. Moreover, this lack of knowledge of the law prevents rural people from understanding the legal options available to them. Given the high rates of poverty in these areas, financial constraints also make it difficult for people to afford the high cost of legal services or to pay for appeals in the court system. As a result, affected communities depend mostly on volunteer environmental lawyers and NGOs such as LEAT and Legal and Human Rights Center (LHRC) to help them in legal matters. These individuals and organizations do a tremendous job with their limited resources but they are only able to address a few issues/cases at a time, thus leaving the majority of residents without any recourse in response to injustices.

Thirdly, other kinds of civil society organizations, particularly environmental and human rights NGOs providing legal representation to affected communities, are woefully inadequate at the present time. The few volunteer NGOs that do exist, like LEAT and LHRC, are generally located in big cities like Dar es Salaam, making their political influence on mining-affected communities sporadic and reactive, not strategic and proactive. NGOs tend to fly-in and fly-out of these communities wherever their budget and time-frames suit them, sometimes without solving the problems they came for or even without leaving a written trail of their accomplishments. Moreover, when NGOs do get involved in injustices or conflicts associated with mining activities, these often lead to unproductive conflicts with the government that work against their socio-economic and environmental objectives. Such circumstances have caused some NGOs to avoid issues that would put them into direct confrontation with the government, a position that weakens their long-term ability to help those adversely affected by mining activities. Finally, not all NGOs are deeply concerned with the plight of marginalized communities, acting instead as entrepreneurial entities striving to access government and donor funds to their own benefit.

As a fourth point, and relatedly, the reliance of local NGOs on external funding sources weakens their commitment to oppositional social movements in these communities. Most of these funds come from government, mining companies or international NGOs and alternative sources of funding are largely non-existent due to the poverty existing in affected communities and the lack of resources available in Tanzania more generally. The financial dependence of local NGOs forces them to tread carefully when conflicts arise, particularly if these put them at odds with the goals and strategies of their funders. It also causes them to be seen as agents of governments, mining companies or multilateral institutions within these communities, rather than as partners with them in the fight for greater justice. For instance, former President Mkapa's wife's NGO "*Equal Opportunity for All Trust Funds* (EOTF)" is reported to have received money from AngloGold Ashanti [57] and she holds an advisory board position in the Tanzania Minerals Corporation directorate. In sum, financial dependence undermines the ability of NGOs to speak out against policies of funders which they see as harmful to the interests of the poor.

Fifthly, corporate social responsibility (CSR) and accountability measures are currently unable to create the political space necessary to force greater concerns for environmental justice in Tanzanian communities as they may do in similar circumstances in the US, Australia and Canada. Corporate social responsibility and accountability measures strive to support mining communities through projects focused on infrastructure and social service provision. Initiatives like the Extractive Industries Transparency Initiative (EITI) and Publish What You Pay (PWYP) Coalition have drawn worldwide attention to the need for increased transparency and accountability in the management of extractive industries. In Tanzania, these initiatives are too new to have a significant immediate impact, and questions have arisen regarding the consistency between corporate and state accounts of these investments. What is clear is that CSR initiatives are highly limited in their current form and that they can only be more meaningful for, and empowering of, local communities if they are made more transparent and if they more effectively involve communities in their design and development. Improving CSR initiatives will require less secrecy on the corporate side, less corruption and improved forms of accountability on the part of the state, and greater involvement from community leaders and local NGOs in the development and delivery of appropriate initiatives [13].

The sixth and final issue relates to the legacies of Tanzania's post-colonial history and its impacts on rural people's perceptions of their abilities to act in response to injustices related to land and water rights. Specifically, we observed that the trauma caused by the compulsory relocation policy of *villagization*, conducted between 1973 and 1976, continues to affect many communities relationship with the government and their willingness to develop more productive and trusting ties in order to solve social and environmental problems. Villagization was a largely coercive project through which the government of Julius Nyerere was able to resettle about 79% of the country by 1976 [58,59]. The program involved the threat and use of force, violence, regulations, economic sanctions in order to relocate people to designated villages that were part of the centralization plan [60–62]. The traumatic use of excessive force to relocate people taught many to be wary wherever the government is involved in relocation programs, such as those associated with minerals concessions and other government-led relocation programs (e.g., wildlife conservation or the establishment of state owned farms and ranches) [63–65]. The wider point is that the people living in affected communities are very wary of treading into political spaces where the state has a significant voice for fear that they may lose everything in the process. There is a deep lack of trust at work here, one which will limit the prospects for state-civil society partnerships for years to come.

7. Conclusions and Broader Implications

The optimism that gold mining FDI would meet both macro and micro goals of economic development in Tanzania (*i.e.*, provide a win-win situation) has proven difficult to realize in practice. Like many countries that have adopted liberalization and privatization strategies for mining-industry development, Tanzanians have seen progress at the macro level in terms of GDP (and formal employment in the mining) but relatively little development within the rural communities most impacted by these investments and activities. In fact, the national-scale positives that are associated with mineral exports must be significantly tempered by the injustices associated with the expansion of resource extraction activities in rural areas of the country. As demonstrated above, these procedural, corrective, distributional, and social injustices reveal the limitations of a neoliberal strategy for mineral extraction in Tanzania's gold mining industry. Moreover, this multi-dimensional approach offers a productive lens through which to understand the limitations on extractive-industry development in absence of sufficient political space which might ensure that investments translate more positively into local development trajectories.

We also observed that people's resistance and opposition are uncoordinated spontaneous reactions towards mining companies and the government. Such reactions, though they have gained some response from the mining companies and government, have failed to guarantee a significant and sustainable solution to the injustices experienced by these communities. This is because the injustices they are fighting evolve in different forms—procedural, corrective, distributive and social—and occur at different levels, *i.e.*, local, regional, national and global. Affected peoples need political space, financial and legal backing to fight (assistance from state and civil-society organizations), and corporate concern beyond somewhat superficial social responsibility initiatives.

A strong local social movement is important for local communities to fight injustice and benefit from investments made in their vicinities. There is a need for people to promote strong, caring and

committed leadership from within their movements who can help link their communities with others experiencing similar problems, and with local and international NGOs responsible for human rights and corporate accountability. Improved political space at the local level, and new spaces linking the local to the national and global, is essential if communities are to fight these multi-dimensional injustices in ways that raise awareness beyond the LVG region, and which lead to institutional reforms that will result in a greater overview of the minerals sector and its socioeconomic and environmental implications. The need for innovations with regard to political space presents a significant challenge to NGOs and other stakeholders working to achieve environmental justice in the mining sector as it broadens the problem beyond questions of distributive environmental justice and into more abstract and generic questions about governance, political participation, and institutional design. It is through dramatic reforms in these areas where we believe the promise of social movements in Tanzania's minerals sector can best be realized.

In closing, our field research in the LVG revealed that all communities affected by large scale gold mining share a broad concern about the pollution, dispossession, and the marginalization of their livelihood assets. Our hope is that in the wake of these injustices, and through the channeling of the frustrations of affected communities, that linkages between villages will develop in order to strengthen protests against very powerful mining companies and an unresponsive government. We also hope that with an enlarged political space for grievance resolution emerges, produced by networked mining community residents in conjunction with international activists and responsible government representatives. Through such actions, the prospect of violence might be diminished as much greater balance is struck between the economic and profit-oriented motives of mining companies and the Tanzanian state, and the need to ensure that human and environmental rights, and improved livelihoods, are guaranteed to those living in the shadow of the LVG mines.

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