

*Title: Mine workers experiences with externalized costs of mining in Kankoyo
Township, Mufulira-Zambia*

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Abstract

This paper focuses on the working class community of Kankoyo in Mufulira Zambia. The paper discusses the ways in which this mining community experience and respond to the pervasive environmental degradation caused by mining operations. The paper shows that the mine workers living in Kankoyo have for a long time suffered from air, water, soil and all sorts of pollution due to mining operations in the area. But the provision of social services such as refuse collection and clean up obscured the real environmental degradation that has taken place over time. In addition, the provision of free education, health, housing etc. diverted people's attention from the ongoing environmental degradation. The withdrawal of these social services following privatisation has only helped to make visible the long term and ongoing environmental degradation. Privatisation also increased the vulnerability of these working class communities to environmental suffering. Yet, the mine workers are trapped between participating in activism against the company that provides them with employment yet pollutes their environment. Consequently, the community is forced to accept the negative environmental impacts on their lives and the environment in preference for economic benefits. The core conclusion is that workers understand environmental threats but: (a) they have little awareness of the long-term effects and (b) they tend to minimise them. For these workers their economic security i.e. employment, is primary and they prioritise the immediate over the longer term, thus (c) they have not responded to this issue in an organised way.

Introduction

Inspired by struggles against extractive industries in Latin America (Bebbington & Bury, 2013; Boron, 2015; Li, 2015, 2016; Veltmeyer & Petras, 2014), this study explores the experiences of the working class communities living near Mopani Copper mines in Kankoyo township in Mufulira. The focus is on how people perceive pollution (i.e. what draws their attention, the metaphors they use and the typical stories they tell and more generally how pollution impacts their daily life), in their work place and in the community. Previously under Zambia Consolidated Copper Mines (ZCCM) the mine is now managed by Mopani. This company is majority owned by Glencore (a Swiss based company listed on the London Stock Exchange), a Canadian mining company First Quantum and by the Zambian government, which holds a 10% stake. The general aim of the project is to understand the environmental conditions in which the people who produce copper ore that makes up cables and wires worldwide live. The paper is based on research conducted in Kankoyo Township in Mufulira Zambia in 2015 and 2016. This research utilizes three data collection techniques: in depth semi-structured interviews, focus groups and participant observations.

This report argues that the provision of social services (free education, health, recreational activities, refuse collection etc.) obscured the long-term environmental and health risks caused by mining operations. In this way it blinded the affected communities from a fuller understanding of the long term environmental degradation that has taken place from inception of mining in Zambia. The withdrawal of these social welfare programs following privatisation has only helped to reveal what lay behind these programs. Privatisation is seen to have worsened the vulnerability of working class communities to environmental suffering. Ultimately, this points to the failure of corporate policy on housing for mine workers near the mine.

In Kankoyo Township in Mufulira, where this study was conducted, more than 3,000 housing units living near the mine plus the main town suffer from emissions of sulphur dioxide causing excessive air, water and soil pollution. The injection of sulphuric acid solution into the ground to dissolve the copper ore directly in the deposit results in pollution of the underground water. Yet this is the main source of domestic water supply in Mufulira. In addition incidences of spillage of acid into the rivers on which

people depend for drinking water supply have been reported (Balance, 2010). Soil and land pollution results from the emissions of Sulphur dioxide. This inhibits vegetation growth, except for trees such as avocado and mango that are resistant. The pipes that evacuate mining waste (toxic tailings) leave the mine, cross several Townships, are totally unprotected. Thus increasing the likelihood of pollution due to leakages (Balance, 2010). As a result of underground blasting, some people have been forced to leave their homes as they have collapsed.

But, to my knowledge, this has not yet been taken explicitly as a subject of investigation and reflection by researchers on Zambia. There is a fairly sizeable literature detailing the relationship between mining and environment (Balance, 2010; Chipatu, 2011; Fraser, 2010; Kangwa, Lekunze, & Sweden, 2008; Nakana, 2013; Ndulo, 1986). But none of these specifically addresses the experiences, understanding and responses of mine workers to the pervasive environmental degradation caused by mining operations. This study fills in this gap. The paper begins with the experiences with pollution at work place and in the community in terms of air, water, soils and blasting on housing. The paper then discusses the point at which pollution emerged as an environmental problem for the local communities to become concerned before concluding.

Experiences with pollution: the work place

According to the mineworkers, the work environment underground is heavily polluted. There is poor ventilation due to dust mainly from blasting and chemicals used in the process of production. In addition, the environment underground is very dark and employees rely on the head lamps to talk to each other. The fact that the place is also hot has forced the miners to carry water bottles. But because of the heat, one miner explained that “even when you go with an ice block of water, within two minutes the ice block turns into hot water” (Focusgroup 2, Kankoyo, 2015). The wet conditions means that they get soaked immediately they reach their work place and continue up to the time they knock off. This has led some of the mine workers to liken their work place to conditions worsen than those found in prisons. One of the workers lamented that “... just think of this dark place where you can’t even see your friend. Yet the place is at the

same time dusty and noisy. On top of that there is no toilet underground so what kind of place is this? (Interview 17, Kankoyo, 2015).

The miners have come up with a kind of dressing that is seen by them to be suitable for the environment. This is not the kind of attire recommended or even provided by the company. One machine operator explained, that “the pant I put on when I am underground is not the one I put on when I am on surface. This is because within two days of buying one, the elastic is weak. The water that is underground is full of chemicals that we can’t even understand” (Focusgroup 2, Kankoyo, 2015). The attire for underground work is thus different from the one they put on when they report for work which the company provides. The problem however, is that the relatives to these workers find it difficult to identify them when they get involved in mine accidents. This is due to the fact that the attire they put on underground make them unidentifiable.

In addition, the work environment underground has shaped the ways in which mine workers relate to each other in the work place. The workers explained that “we look and behave like mad men, tempers are very high and insults are the modes of communication... sometimes we fight with each other especially on targets...normality only returns when we get to the surface” (Focusgroup 2, Kankoyo, 2015). Their work experience is also characterised by fear of accidents mainly due to rock falls. The miners explained that the pillars that they erect in the tunnels easily fall, making life underground very dangerous. The respondents explained that a number of miners have died due to rock falls. In addition, because of the noise and darkness many miners have been crashed by the loaders because the drivers cannot see properly (Interview 12, Kankoyo, 2015).

Further, the environmental conditions underground are worsened by absence of conveniences such as toilets and clean drinking water. According to the respondents, “when you are underground and you feel like passing urine (ukuposa amenshi) you simply do it in the overall or work suit and nobody will know because the environment is wet” (Focusgroup 2, Kankoyo, 2015). The absence of clean drinking water also means that miners get exposed to dehydration. This has a negative health impact on the circulatory and urinary systems of the body of the workers. This exposure to a risky environment is complicated by the long hours of work spent underground. This was particularly a major complaint for the contract workers. For them their salary depends

on meeting the set production targets. More generally, the health and safety at work is described in the following section.

Health and safety in the work place

The respondents (both categories of workers) argued that while Mopani has been putting up campaign messages for safety and they even say ‘if it is not safe don’t do it’ in practice that does not work. The respondents explained that what normally happens is that a safety officer may come and tell your shift boss that this area is not safe and nobody should work here until it is made safe. But that order will not be followed. The shift boss will just wait for the safety officer to leave. Then he will come and tell you about your targets. If you refuse he will tell you to find somewhere else to report and not in his department” (Focusgroup3, Kankoyo, 2015). This has created fear in the miners given the huge unemployment, poverty and scarcity of jobs. Miners are therefore left with no option but to work in environments that are not safe. Unfortunately, when an accident happens and a miner dies the company relies on the safety officers’ report who said the area was not safe. This implies that in many instances the families of the deceased miners have lost out on compensation as the deceased is accused of negligence on duty (Focusgroup 2, Kankoyo, 2015).

Despite this reality of life underground, many workers still remain very committed to their jobs. Those outside the workforce admire those in employment. If the workers in Mopani are being exploited, the unemployed wish to be exploited so that they can bring food on the table. As one of the contract employee commented, “ni sebana wikute” which means that never mind being embarrassed if only you can get a meal at the end of the day (Interview 3, Kankoyo, 2015). According to Green Justice, the interest for the company is not to improve the conditions for the workers underground but to achieve increased production. They have put up safety signs and campaigns but they are not following them. They claim to follow them “but once the safety officers leave, miners are told to continue working to achieve their targets... So the safety campaigns are just a lip service because in practice it does not work...they are just a way of creating traps to get rid of some workers” (Nkata, 2015). These experiences make their mine workers work routine unpleasant and extremely difficult. The experiences in their homes further amplify their exposure to pollution.

Experiences in their homes and Community

There are four main ways in which mine workers experience externalised costs of mining in Kankoyo. This takes the form of air, water and soil pollution. In addition to this is the constant distraction due to underground blasting which has also led to some houses having cracks and even breaking or falling.

Air pollution

All the respondents in the study complained that in the morning there is a lot of dust from the mine dust that has been heaped in the area. In addition, “the moment you come into this Township you even feel the bitter taste and dryness in your mouth and you feel like choking” (Focusgroup 2, Kankoyo, 2015). The general feeling was that Kankoyo was contaminated. Most respondents argued that “you don’t need to do laboratory examinations to understand that this place is polluted” (Focusgroup 2, Kankoyo, 2015). This is based on their understanding of the mining process. The respondents argued that “the separation of copper involves the use of acid. The acid as you know is very toxic and we are able to smell it in the air” (Focusgroup 2, Kankoyo, 2015).

According to the residents heavy pollution is mostly experienced at night when most people are sleeping. They speculated that this was meant to prevent any protests from the people. While in some cases, “there is no smoke but you just experience a choking smell (Interview 5, Kankoyo, 2015). The majority of the workers complained that their experience with pollution can be likened to animals that have been exposed to a pollutant but do not know what to do. This is because in most cases people are forced to stay indoors as the pollution makes it difficult for them even to see properly (Interview 2, Kankoyo, 2015). The experiences have a significant negative physical impact especially on the respiratory system. One respondent complained that “In the chest you feel as if they have put chilli and so you start coughing, sneezing and sometimes even vomiting. For children it is worse. They just start crying and regardless of what you do the child will just continue crying” (Interview 4, Kankoyo, 2015). Those who fail to cope with this pollution end up fainting. This affects mainly the elderly and those with diseases such as BP (hypertension) and sugar (Diabetes mellitus) (Interview 8, Kankoyo, 2015).

As a result of experiencing pollution all year round some respondents were of the view that they developed a certain degree of tolerance towards the emissions. They argued that a new comer (like this researcher) wouldn't tolerate the emissions that residents have now become used to (Interview 8, Kankoyo, 2015). Further, the sulphur emissions have not only impacted on the people but also on domestic animals living in the area. It was argued that "when the sulphur is released you can even see the dogs crying and you would even feel pity for these animals. Some animals just die by the way side helplessly" (Focusgroup 2, Kankoyo, 2015). However, disasters have also happened as the following account shows.

Environmental disaster: the 2014 Acid plant gas leak

The daily environmental experiences for the people of Kankoyo were interrupted in 2014 when there was a leakage from the acid plant that had just been built. The emissions started at around 04 hours and went up to 09 hours in the morning (Focusgroup 1, Kankoyo, 2015). On the day before the accident, the company distributed letters informing the residents about the above normal emissions that were to be released the following day. The letter advised people to relocate to other nearby places during this period. But the residents explained that letter was misleading because it was not signed by anyone. As a result most people ignored it. But they were surprised by the presence of company vehicles in the area a day before the incident. The company brought medical equipment such as oxygen cylinders, IV fluids and other drugs (Interview 1, Kankoyo, 2015).

People who had relatives in nearby places followed the advice and relocated to some distant places. For those who remained, the story was catastrophic and especially for the small ones. The problems faced included coughing, vomiting and diarrhoea (Focusgroup 1, Kankoyo, 2015). One man died in the process. The deceased man was one of those people who found their way of life by selling things in the streets i.e. by moving from one house to the other. Unfortunately, he was also Asthmatic and when this pollution was released the man was overwhelmed and just fall down, by the time they reached the clinic, he had already died" (Interview 1, Kankoyo, 2015).

But the respondents explained that the company and state officials claimed he had died from the disease and not from the emissions. In addition, during Christmas in 2014, the District commissioner for Mufulira who was also Asthmatic died while addressing a meeting. She had gone for prayers when excessive emissions of sulphur dioxide led to her death. A representative of an environmental organisation explained that while the cause of death was clear to all of us, the company denied responsibility (Nkata, 2015). At the time of the study the case was still in court and the company was still defending the position that the cause of death was due to a natural cause.

Water pollution

During the ZCCM era water, electricity and other social services were provided freely in the mine townships. During this period there has been no record of complaints against the mine for pollution despite the long term pollution that has taken place. However, following privatisation, water pollution and access has emerged as a major problem facing the working class community in Kankoyo. This study found that people trace their environmental problems to the privatisation era. One of the respondents explained that the problem with pollution and water in particular is a new thing that came with privatisation. He argued that “during ZCCM we never used to have this kind of water pollution we have now” (Focusgroup 2, Kankoyo, 2015). The respondents argued that the company took great care of the safety of the people and hence safeguarded them from pollution they now face.

Most respondents explained that water pollution was mainly caused by company negligence. The company was accused of releasing chemicals in the small stream that residents depend on for water and food. It was argued that “one time fish died because of the acid that spilled in the river. Therefore, “the people who ate the fish from this stream suffered from, nausea, vomiting diarrhoea and other abdominal problems” (Focusgroup 2, Kankoyo, 2015). Based on these experiences, the residents were convinced that the water from that stream was highly contaminated and that the mine was responsible (Interview 10, Kankoyo, 2015). Yet the company always denies responsibility they argued. The respondents also complained that at one time when the water was contaminated by acid spillage the company did not inform them. As a result

people consumed contaminated water. It took several days before people knew what had caused their diarrhoea and abdominal pains. It was only after numerous complaints that “the company distributed a packet of milk to each of the residents in Kankoyo as a safe guard” (Interview 4, Kankoyo, 2015). In this regard, water pollution is a daily experience for the residents of Kankoyo. However, the problem is compounded by the fact that they now have to pay for water through the water meters after privatisation.

Access to clean water following Privatisation

Most respondents argued that privatisation has worsened their ability to access clean water (Focusgroup 1, Kankoyo, 2015). Because of failing to meet the costs of water most of the residents have resorted to illegal means of accessing water. This means measures such as breaking water pipes as can be seen in the picture below. Because it is illegal, it is also difficult to secure this source of water from dust and dirt from the environment.

Figure 1 Illegal Water source in Kankoyo



Source: James Musonda, 2015

The residents said that failure to pay for water has forced them to resort to this behaviour. The other problem is that the new private water utility requires all households to pay the bills even by households that never had water for a long time. One resident complained that “for a long time we never had water in this section

(section C) but bills kept accumulating. These bills have grown to around ZMW 7000 (US\$ 700) for some of us. As a widow I cannot afford to pay that money even if I was asked to pay 1 kwacha per month ” (Focusgroup 1, Kankoyo, 2015). Another widow that has lived in Kankoyo for over thirty years explained her problem by saying that:

“My husband worked for the mine and died from Tuberculosis (TB). What we were given by the mine could not sustain me with my six children...when we failed to pay the water bills the utility company came to disconnect the water and uprooted the water meters. The only way for us was to find any source of water we could access” (Interview 13, Kankoyo, 2015).

The residents continue to consume the polluted water despite the full knowledge of the dangers this has on their lives.

“We know it is not safe but what can we do my brother? We do not have any other source of water. We just wait for the dirt in the water to settle down before we can use it for drinking and cooking. It usually has a bitter taste because of the mine dust which contaminates it every day. In most cases we boil it before consuming it” (Focusgroup 1, Kankoyo, 2015).

These experiences have shaped the claims that people make on the company and government. However, the prominence of economic interests in shaping peoples’ views has meant that claims are mainly expressed in compensatory terms. People now demand free water and electricity rather than a stop to the pollution as a panacea to their problems. A respondent explained that we know that if the smoke disappears then mining cannot continue. This would mean loss of jobs and other opportunities from the mine. Based on this, “we would not mind much suffering pollution if we are allowed attendance at the mine hospital because our health problems are caused by the mine” (Interview 4, Kankoyo, 2015).

In addition, the residents felt that provision of free water, public sanitation, and refuse collection could help in alleviating their suffering. This, it was argued, would help in reducing the impact of mining and giving back benefits to the people. But with the new owners it’s each one for oneself” (Focusgroup 1, Kankoyo, 2015). Apart from air and

water problems the residents of Kankoyo complained of cracked houses, corroding roofing sheets, washed paint and broken houses due to mining activities.

Housing: experiences

The state of housing is a major problem facing the people of Kankoyo as almost all the houses have one or two problems caused by underground blasting. The following are some of the pictures.

2 Broken houses due to blasting



3 Broken houses due to blasting



Source: James Musonda, 2015

About nine houses had fallen during the time of this study and a few are shown in the pictures below.

4 Collapsed houses due to blasting



Source: James Musonda, 2015

Those who were lucky lived in the above shown houses. But for the nine whose houses had fallen they spent their nights in the tents that were provided by the Catholic Church

5Temporal homes for broken houses



Source: James Musonda 2015

Apart from the cracks and falling of the houses the corroding or wearing out of roofing sheets is another problem. This is seen through such testimonies, “as you can see I just changed the roofing sheets last year but they are destroyed and we have to buy new ones this year again” (Interview 8, Kankoyo, 2015). In addition, paint is often washed off by the acid rain especially during the rainy season (Interview 1, Kankoyo, 2015). These experiences are complicated by soil contamination from chemicals from mining activities. One resident explained that “in this area you cannot even make a garden because nothing grows. The mine has destroyed the soil” (Interview 7, Kankoyo, 2015). Most people depend on vegetables but they have to be bought from far flung areas. This makes vegetables very expensive for the majority who cannot afford (Interview 2, Kankoyo, 2015). In this way poverty is worsened. This has created a negative perception of the company among the residents, especially the unemployed. One community member lamented that “when I see this mine I get very annoyed because it is responsible for most of the problems in this area ” (Focusgroup 1, Kankoyo, 2015). Company responses to these problems have however proved inadequate.

Mopani Actions

According to Mopani, the Smelter Upgrade project in Mufulira is one of the biggest environmental projects ever undertaken in the country. The company argues that before privatisation sulphur dioxide had been released into the atmosphere unchecked since the 1930s when the Mufulira Smelter was first constructed. The company claims that the smelter upgrade results in about 97 percent capture of the sulphur dioxide from the smelter. The whole project which cost around \$450 million dollars is seen as a major contribution to the welfare of the people of Kankoyo. This state of the art construction was made doubly difficult as Mopani had a strategic goal to continue to grow copper production and workforce levels, whilst constructing a new smelter complex at the same time. This has been hugely successful, and “today the company looks back on the increased labour complement and production with a sense of fulfilment” (Mopani, 2013, unpaginated).

Despite the mining company’s efforts to mitigate the impacts of pollution particularly during the disaster (e.g. through provision of health services) there is a general discontent. Majority of the residents felt that the company was not a good neighbour and that they were not well treated by the mine. The respondents argued that after “the installation of this plant sulphur dioxide emissions have worsened. In fact what I can say is that it is like the 97 percent they claim the plant captures is what the mine releases into the air (Focusgroup 1, Kankoyo, 2015). This led to a number of questions as these testimonies show: “If the emissions have reduced, how is it that they will bring in nurses and doctors and ambulances...when the emissions are being released? If you faint they take you to the clinic and give you milk and they put up a drip. They will send memos to inform us that excess emissions will happen on such and such a day. They think we are animals” (Focusgroup 2, Kankoyo, 2015).

The respondents argued that contrary to Mopani’s claim of reducing emissions, the acid plant is a bomb waiting to explode. They argued that just in the previous year there was a breakdown at the acid plant and the pollution was so bad that a lot of people were affected. People were fainting, vomiting, coughing, sneezing, sore eyes and skin irritation. It was so bad that the people of the area protested by rioting. Yet they talk about reductions?” (Interview 9, Kankoyo, 2015). Others question how, the company continues to boast about reduced emissions when the roofs continue to be destroyed,

soils, water and air contaminated (Focusgroup 1, Kankoyo, 2015). However, what was surprising to this researcher was the ways in which community members respond to the company that pollutes their environment.

Community Responses

There have been protests against the company mainly organised by the youths in area. The protests have mainly been in response to severe emissions like the 2014 acid leak. In between, there is little mobilisation against the company. Despite the complaints, the community has not responded to their environmental experience in an organised way. This is due to lack of unity of purpose against pollution. The community is divided between those who work and the unemployed. One of the community members explained that those who work for the company were not willing to fight their own company for fear of the losing the jobs. One of the respondents explained that “you can participate in the protests, but what happens when the company sees you? You get fired, and when you get fired, no salary, the children suffers” (Interview 14, Kankoyo, 2015). Another added, that, “I wouldn’t want to lose my job...if the pollution is too much for me but I am able to get a salary I will simply shift to another place” (Focusgroup 2, Kankoyo, 2015). Another respondent explained that “nowadays we are not sure whether tomorrow you will have a job...right now we are told that because of the global price problems with copper a lot of people will lose jobs...so we just live by the day” (Interview 13, Kankoyo, 2015).

This has led to divisions in society which weakens the community’s collective capacity to mobilise against pollution. The unemployed argued that, “those of us who do not work but want to fight the company are seen to be jealous against those who work” (Focusgroup 1, Kankoyo, 2015). The workers however argued that even if they wanted to participate in environmental activism they were faced by a lot challenges that prevented them. According to the workers both (Mopani and contract) the fact they worked very long hours meant that they often arrived home late and were too tired to engage in other activities (Focusgroup 2, Kankoyo, 2015; Focusgroup3, Kankoyo, 2015). Other workers explained that they worked awkward shifts that would not allow them to meet with the other members of the community (Focusgroup3, Kankoyo, 2015).

In addition, working in different work places made it impossible for them to mobilise. Further, factors such as noisy work place environments and the demand from their bosses to dedicate all their time to production prevented any opportunity for mobilisation. Other factors preventing mobilisation cited were privatisation trade agreements. It was felt that, “even if we were to take Mopani to court they will just produce the trade agreement and the court will support them... so there is nothing we can do about this problem. The government sold us” (Interview 19, Kankoyo, 2015). Privatisation is also blamed for increasing the vulnerability of the workers to environmental suffering. The respondents argued that in the time of ZCCM if they had a problem the mine fixed almost all of their problems. But now “we cannot even bring the issue of pollution to the shift boss, mine captain or general manager. If you are not careful they can even fire you. In order to keep your job the best is to keep quiet about the issues at home” (Interview 4, Kankoyo, 2015). Despite the failure to mobilise against pollution there was growing awareness of the environmental problems.

Privatisation: Emergence of the environmental problem

The privatisation of the mines in the late 1990s and early 2000s led to the withdrawal of social services including refuse collection and cleaning up of the townships (Fraser & Lungu, 2007). To the residents of Kankoyo this meant new costs previously not incurred and absence of a coordinated environmental clean ups. Therefore, because of the cost of maintaining water and sewer lines, most of the waste including human excreta found itself in the yards. “We are exposed to a lot of diseases in this area and the mine is doing nothing to help mitigate the impact. Instead it is making it worse (Interview 13, Kankoyo, 2015). The experience with a polluted environment is thus complicated by domestic waste.

In addition this state of affairs has made the environmental problems more visible. This has led many residents to think that they have been neglected by the mines after privatisation. Majority of the respondents submitted that, during the government of Kaunda the environment was clean and they were proud to live in the mine area. At the moment, “it is a shame to live in the mines because we are exposed to too much

pollution. My father from the village does not even want to visit me...he complains about the pollution each time he comes to visit” (Interview 2, Kankoyo, 2015).

This paper notes that environmental costs of mining only became problematic in recent years following the privatisation of the mines. At the beginning of mining operations in the 1930s, new modern garden cities had sprung up across the Copperbelt complete with the modern amenities one would expect of the developed world. Cinemas, tennis courts and golf courses were built in the heart of the African interior (Ferguson, 1999; Frederiksen, 2010). After independence the government embarked on country wide and ambitious projects of developing hospitals, schools, universities and provision of subsidies to state owned manufacturing companies (Cunningham, 1981; Ferguson, 1999; Ollawa, 1979). ZCCM that was formed in 1982 (Larmer, 2007) supplied amenities such as education to miners’ children, subsidised housing and food, electricity, water, transport and burial costs for the dead. The mine provided community services such as road maintenance, refuse collection, providing cafeterias, bars and social clubs, youth development schemes etc. (Fraser & Lungu, 2007, p. 8). During this period no protests or complaints were recorded.

However, following privatisation in the late 1990s and early 2000s all these were done away with (Fraser and Lungu). Consequently cabbage piled up in the compounds, dust became uncontrolled, and people were now required to pay for water and electricity. The environmental damages caused by mining activities became a “problem” in Zambia that people became aware of and political authorities concerned. Therefore, the withdrawal of the social services after privatisation uncovered the veil around mining and the environment. This paper therefore argues that the provision of social services by ZCCM contributed to hide the environmental damages caused by its mining operations. For example, refuse collection and watering of the mine Townships dealt with what Bridge (2004) identify as physical pollution (dust and aerosols) into water, or onto land etc.). Yet it obscured the chemical pollution that has taken place. This can be seen through the lack of vegetation growth in Kankoyo Township.

The residents of Kankoyo explained that during the ZCCM period life was a lot easier because the company took care of the refuse and the dust. Thus social service provision acted as blinders to the real understanding of the environmental degradation and health impacts. This paper however, notes that while this may not have been an intended consequence on the part of the mining companies, its effects show the failure of that corporate policy.

Secondly, the new mining companies have also increased the awareness by the residents of the environmental costs of mining. In order to be seen to be environmentally friendly, they made environmental impact studies and developed corporate environmental responsibility programs (Lungu & Mulenga, 2005; Negi, 2014). This paper argues that these actions by mining companies paradoxically contributed to arouse interest on the environmental consequences of their activities. As a result they attracted the attention of journalists and activists (see the international campaign against Vedanta, the global witness reports, and so on) who started to focus on this issue. In this way foreign actors and local organizations also contributed to the emergence of an “environmental consciousness” among the local population. Yet despite this knowledge, the dependency on the mine for employment and tax for government has left most people dependent on the mine.

Conclusion and Discussion

Given the increase in environmental protests in Latin America, it was expected (by this researcher) that Kankoyo residents would explode in violent protests. However, this was not the case and sharply contradicts the Latin American experience as the following literature demonstrates. Vasquez (2014) shows the ways in which the people in Peruvian Amazon protested against legislative changes that facilitated the sale of lands inhabited by indigenous peoples in order to enable the extraction of oil, gas and timber. The new investments were threatening the livelihoods and territories of the indigenous people. The conflict was a form of expression by the indigenous peoples that ‘they are being once again excluded from the benefits of economic development enjoyed by the rest of society’, (p. 3). Conflicts also became a means for the indigenous

organizations to assert their broader claims for a strong role in the political life of the nation and for the recognition of their cultural distinctiveness' (p. 50).

Similarly, Li (2015) describes the ways in which local residents in one of the Peruvian township were able to express their protests against water pollution and land transformation due to mining activities. Despite the fact that that these concerns were quickly countered by the company through different means, the people were able to express their views forcefully. This led them to reach some agreement aimed at addressing the problems faced with water (Li, 2016). These findings enrich Bebbington & Bury's (2013) earlier findings in which local people in Andes protested against the granting of new concessions to investors. However, contrary to these findings , this study shows that generally, people of Kankoyo do not ask mining companies to reduce pollution per say. But they ask compensation for it through jobs and the provision of social services. This was surprising given that, in Latin America, where the situation is not so different from Zambia, mining companies have been confronted with strong environmental movements. But what explains the failure by the residents of Kankoyo to resist the pollution which is very visible?

This paper argues that the historical relationship of social provision has created a situation in which pollution has become acceptable for as long as the polluting company provides employment and social services. Secondly, as Fraser & Lungu (2007), Turok, (1979), Cunningham (1981) and other researchers have argued the provision of social services created dependency on the mine for economic and social survival of the communities around the mines and the country generally. This belief is cemented by the government pronouncements which gives the view that the mines need to be protected in order to safe guard the interests of all (Bates, 1971; Burawoy, 1972; Larmer, 2005). Therefore, despite the pollution that mining causes, to the environment and health of the local people, it remains a 'necessary evil'. Consequently, while privatisation has worsened people's experiences and made more visible environmental degradation, pollution needs to be accepted in order to preserve the few mining jobs and government revenue.

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