Poverty in mining communities in Zimbabwe:

A case study of the Great Dyke

December 2013

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About PRFT

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A Zimbabwe free from poverty

Mission

To inform and influence policy towards poverty reduction and sustainable human development through research, advocacy and public dialogue.

Goal

Our goal is to influence the formulation and implementation of pro-poor policies through carrying out research on poverty related issues, engaging with policy makers, promoting broad-based consultative dialogues and processes, as well as advocating for sustainable human development in Zimbabwe.

For more information about our work, feel free to contact us and visit our website on details below:

Poverty Reduction Forum Trust
59 Mendel Road, Avondale. Harare
Tel: 263 (4) 307472/3
Email: info@prftzim.org
Website: www.prftzim.org

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List of abbreviations and acronyms used

CSR	Corporate Social Responsibility
EMA	Environmental Management Agency
FGD	Focus Group Discussion
GMB	Grain Marketing Board
GNU	Government of National Unity
HIV and AIDS	Human immunodeficiency virus infection and acquired immune-deficiency syndrome
MP	Member of Parliament
NGO	Non-Governmental Agency
PRFT	Poverty Reduction Forum Trust
RDC	Rural District Council
SPSS	Statistical Package for Social Scientists
STD	Sexually Transmitted Disease
UNDP	United Nations Development Program
ZEDTC	Zimbabwe Electricity and Transmission Company

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Executive Summary

This report presents the finding of a research survey commissioned by the Poverty Reduction Forum Trust (PRFT) of Zimbabwe. The research sought to undertake a critical analysis of the rural poverty situation in the mining communities of Zimbabwe using the Great dyke as a case study, and generate specific and practical policy recommendations and strategies that can be adopted for poverty reduction in these communities.

Mining has historically been associated with positive economic benefits especially with the opening of employment opportunities for both resident and migrant workers. This phenomenon is nothing new in Zimbabwe which has historically exploited the vast mineral resources. While mining can anchor economic development as widely assumed, it may also have serious and far reaching negative impacts on the environment and human health. These research findings show that positively mining activities by Unki, Mimosa, Zimplats and SAN He mining companies has created local employment to up to 10% for the local communities. The mining companies have contributed to some degree in rehabilitating roads, health and education infrastructure. According to the survey results of the research 50% of the communities feel mining has contributed to schools improvement, 38% feel health has been improved, 9% feel water issues have been improved whilst only 6% feel the roads have been improved. These benefits are unevenly shared amongst the communities and the general perceptions of the communities are that this has not necessarily improved the community livelihoods. There are more negative impacts than positive contributions.

Several negative impacts have resulted for surrounding communities and the environment as a result of mining activities. The extraction of minerals chiefly platinum (Zvishavane, Mhondoro Ngezi and Shurugwi) and Chrome in Guruve have physically damaged the environment and natural resources affecting water resources, forests and wildlife on which local communities depend on. The research revealed that water resources have been to a large extent been polluted by the poor management of waste disposal tailing dams. With an average of 77% of communities depending on boreholes which are frequently breaking down,

the communities are forced to use open wells and river water sources which are affected by pollution. Forest and land degradation are prevalent where mining companies are not putting in place proper environmental management systems. Notably SAN He Chrome mining in Guruve and the small scale and mostly illegal chrome miners in Shurugwi and Zvishavane have caused more damages than what communities are benefiting. Ranking the negative impacts shows that 53% of communities are affected by noise pollution, 59% by water pollution, 61% by air pollution, 69% by land degradation and loss of grazing land. Additionally 72% are affected by destruction of forests and 69% by increasing diseases. The main factors which communities are really concerned about are false promises by mining companies affecting 86% and failure to create jobs affecting 88% of the communities.

The study therefore makes policy recommendations based on the perceptions of the communities on how mining can improve their livelihoods. Local employment absorption ranks high at 72% whilst 63% feel repair of roads should have more focus on community roads to allow other livelihood outcomes to be accomplished like marketing. Construction and improvement of schools, though it has been acknowledged by the communities still needs to be accelerated with 55% of the communities anchoring their concerns together with irrigation schemes development at 48%, supporting development projects 33% and provision of local transport at 30%.

The study further revealed that gender inequality is prevalent in mining as it is still male dominated. Women have continued to get unequal job opportunities with reported widespread discrimination and sexual demands by the employers. Women tend to be heavily affected by the negative effects of mining whilst also expected to meet household work.

1. Background information

The poverty situation in Zimbabwe has its roots in the cumulative effects of the protracted economic decline that the country has experienced prior to the formation of the Government of National Unit (GNU) in 2009. Zimbabwe has experienced a collapse in its socio-economic environment which has been accompanied by inefficient public service delivery systems, and further compounded by the debilitating impacts of the deadly HIV and AIDS pandemic. Macroeconomic stability brought about by the inclusive Government which saw average growth rates of between 4 to 6 %, between 2009 and 2012 did not translate into poverty reduction as the livelihoods of people have continued to deteriorate. Although poverty in Zimbabwe has become an emerging reality in urban areas, poverty is still predominantly a rural phenomenon. While the socio economic dimensions of poverty are many, there is a subset of characteristics that are more pronounced in the rural areas particularly in mining communities and requires further analysis.

Mining plays a significant role in the socio-economic development of the country. However, mining activities has unprecedented impacts that need to be carefully unmasked and understood. The underprivileged rural population in these communities is often vulnerable to a variety of risk factors that are either directly or indirectly linked to mining activities. These factors have the capacity to influence the livelihoods in the mining communities in Zimbabwe. Regrettably, no substantive studies have been undertaken to unearth the impact of mining activities to the surrounding communities. More so, the unprecedented economic meltdown that saw inflation hitting a trillion percent by 2009 distorted previous poverty data baselines. As a result, a comprehensive and accurate picture of poverty in various contexts has not been available to increase public awareness of the poverty situation and enable effective pro poor policy formulation and implementation.

1.1 Technical description

1.1.1 Objectives of the study

The main objective of the study is to undertake a critical analysis of the rural poverty situation in the mining communities of Zimbabwe using the Great dyke as a case study, and generate specific and practical policy recommendations and strategies that can be adopted for poverty reduction in these communities.

Scope of the assignment

The study focused on unmasking the key drivers of poverty in Mining communities (Great dyke) and identifying practical policy recommendations and strategies that PRFT should take forward in its work on policy advocacy.

Specific objectives:

- To outline the role and contribution of mining to the socio-economic development of communities in the Great Dyke.
- To gather information about the key drivers of poverty in the Great dyke before (at least 5 years before) and after the country adopted the multi-currency regime.
- To provide an analysis of the gender dimension of poverty in the Great dyke (how is poverty affecting the various socio-economic groups – men, women, children in the mining communities)
- To outline the copying strategies in response to livelihoods challenges faced by people living in the mining communities.
- To proffer specific policy recommendations for poverty reduction.

2. Methods and approaches

2.1 Description of the study areas

The research study was conducted in four mining sites primarily targeting the respective four major mining companies as summarised in the table below.

Table 1: Research study sites

Name of mine	Mineral	Geographic area
1. Unki Mine (Pvt) Ltd	Platinum	Shurugwi District
2. Mimosa Mining Company	Platinum	Zvishavane District
3. Zimplats Mining Company	Platinum	Mhondoro Ngezi District
4. SAN He Mining company	Chrome	Guruve District

The study areas lie along the Great Dyke of Zimbabwe. The choice of the study area was based on the fact the Great Dyke represents one of the greatest stretches of mineral endowment but where poverty is acute. The range is host to vast ore deposits, including gold, silver, chromium, platinum, nickel and asbestos. The Great Dyke is a linear geological feature that trends nearly north-south through the centre of Zimbabwe passing just to the west of Harare. It consists of a band of short, narrow ridges and hills spanning for approximately 550 kilometres. The hills become taller as the range goes north, and reach up to 460 metres above the Mvurwi Range. The Dyke varies between 3 and 12 kilometers in width. Due to its placement and the fact that it is rich in ore, it is currently being actively mined to support the economy of Zimbabwe, which is severely affected by poverty.

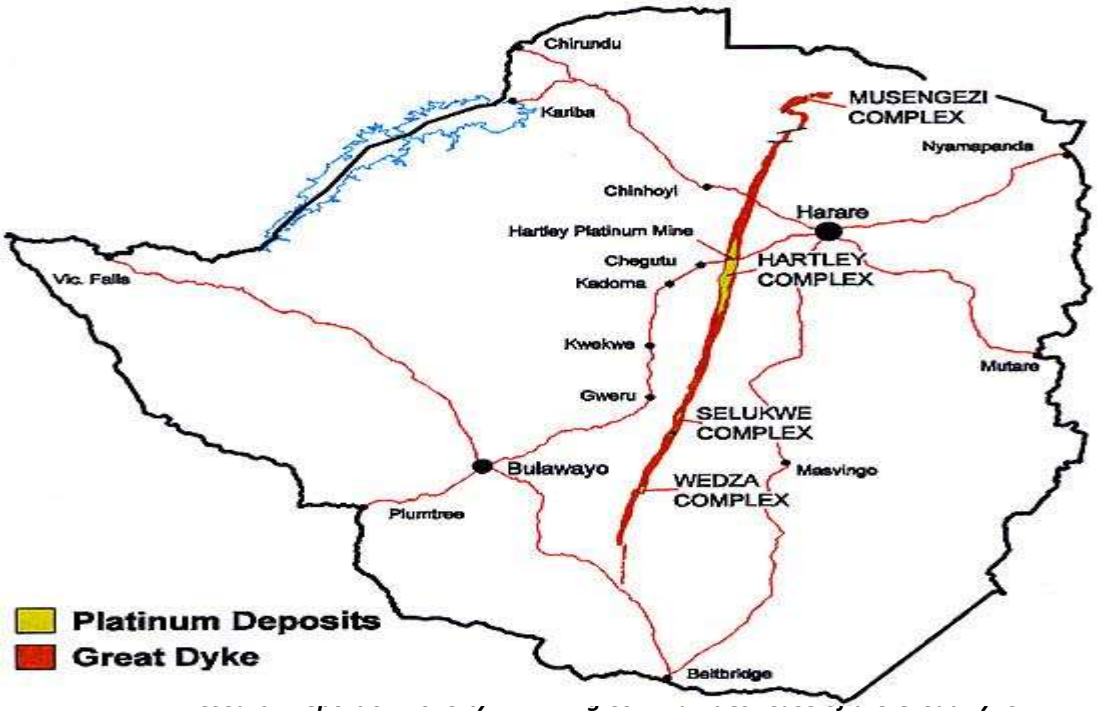

Figure 1: Map of the Great Dyke

2.2 Research design

According to Bryman (2008) a research design provides a framework for the collection and analysis of data. It establishes the structure that connects the research questions to the gathering of empirical data and ultimately to the conclusions drawn (Yin, 2003). This research study made all attempts to make use of a cross sectional approach which involved collection of data at a single point in time. The design approach used different groups of people in the respective four sites that have different socio-economic, ethnic, educational, cultural and political status. It's the author's technical belief that this type of design is the most appropriate for descriptive purposes to determine relationships between variables which are then complimented by quantitative data. The study made comparison of the same variables for different groups at the four sites namely Shurugwi, Zvishavane, Mhondoro Ngezi and Guruve. Within the these groups the design allowed the collection of data for the wards where the mining operations are as it is believed geographically this is the area where impacts and benefits are felt more.

2.3 Integrative Research Approach

The research used a mixed study approach which integrates both qualitative and quantitative studies, so the research was concerned at determining the why or how and the what, where, or when of the research topic. The study is more livelihoods oriented into the impact of large scale mining on poverty reduction. As such it could not be undertaken using quantitative methods alone as they do not sufficiently explain the diverse socio-economic, cultural and institutional issues nor can they sufficiently explain the diverse livelihood strategies deployed by various communities from the four sites. The quantitative approach was employed to generate data in quantitative form and the qualitative approach was employed to generate subjective assessment of opinions and behaviour. It was mainly used to explain some of the observed phenomena that could not be explained quantitatively. It explored attitudes, behaviour and experiences through methods like key informant interviews and focus group discussions. It proved useful in getting in depth analysis from the communities and even

included a gender perspective. The need to use a mixed approach was due to the study's focus on people's livelihoods and poverty status as it relates to the effect of large scale mining operations.

2.4 Methods of data collection

Following on the integrative approach that was used in this research this section details the methods of data collection and analysis that was used to assess poverty in mining communities along the Great Dyke. Different methods were used to collect both primary and secondary data in-order to ensure validity and reliability, suitability and adequacy of data. It was assumed that there was no single technique that is superior to the other. This approach allowed the researcher to get information on the different mines' roles and contributions to adjacent communities, effects, challenges and coping strategies

2.4.1 Observation

Observation was used in this study to get information on what was really happening and experienced by the people in the study areas. It is a technique that involved systematic selection, watching and recording by taking photographs and characteristics of physical artefacts or phenomena. In the field, direct observations were made on issues pertaining to socio-economic and environmental effects of large scale mining in the areas understudy. Such issues included social and physical development services, land degradation, type of shelter, water pollution, sources of water, sanitary facilities and waste management. To some extend the author used observation on social behaviours like presence of prostitutes at designated points within the study sites waiting for clients from the mine. The method assisted in supplementing information needed as it allowed the sharing of life experiences of the groups being observed. The researcher was also able to get an opportunity to experience directly what community members were experiencing, feeling and hence be able to record the natural behaviour of the people and verify the truth of the statements made by informants in the context of a schedule. This was useful as it assisted to add depth to the understanding of people, society and the landscape. It also helped the researcher to add rich sources of data as well as explanations which further helped on final data analysis.

2.4.2 Focus Group discussions

This method involved having groups of carefully selected membership at particular sites who were subjected to pre-guided questions. Four sets of groups were constituted at each site composed of men only, women only, mixed men and women and the fourth for youth alone. This pattern was maintained throughout the process in the four sites. This was done to ensure equal representation and gender balance. Each focus group was composed of a range of 5-10 members for the purpose of effective discussion. This division was seen as convenient in allowing everyone to take part in the discussions. This was useful as it enabled the researcher to understand the real situations happening within the communities surrounding mining operations. The researcher was also able to generate data through the interaction between informants and see how people responded to each other's views rather than just the responses themselves. It also helped to gain insights into how local people see and express their general livelihood situation, their general attitudes, values and norms in relation to natural resource utilization in the mining sector, what kind of ideas and suggestions they would have for possible remedies. In totality, this method provided useful information on the local context for each village and study area as a whole.

2.4.3 Structured household surveys

The structured household survey (questionnaire) is a tool that was used to collect both qualitative and quantitative data. The household survey provided the most important method of obtaining demographic, social and economic information for individuals and households in the study areas. The basis for this tool is that many decisions are made at household level and as such household surveys are required to identify livelihoods strategies and examine the prevalence, causes and effects of poverty in its many forms. The data from the household survey were used to compliment data from qualitative methods obtained from FGD and key informant interviews. In every selected village, 20 structured interviews were conducted with key informants. The lists of interview informants (Households) were obtained from the ward councillor. It was conducted in form of face to face interview to gather information from selected households. Some of the information collected was on sources of income, land use

rights, access and ownership of land, dominant economic activities, impacts of mining, asset loss, coping strategies to mention but some.

2.4.4 Key informant interviews

Key informant interviews were done during the research data collection. These were people who provided in depth insights into important aspects of the research such as extent of effects of mining, problems of the communities, coping strategies and levels of interaction between the mines and communities.

2.4.5 Documentary review

The assumptions behind the use of this method were to complement on the first hand information obtained through interview, questions and observations. It was used to collect secondary data in which reports and other relevant information from various documents such as books, journals and official reports available. This was done by visiting both published and unpublished documents from electronic sources in the internet and libraries. The method was very useful especially in determining the validity and reliability through complying with what other methods of data collection have revealed.

2.5 Data processing and analysis

2.5.1 Qualitative data analysis

Qualitative data were handled using thematic techniques and organized using key themes that emerged from the discussions held with respondents and other stakeholders. Such data were then analysed using content and structural functional analysis. In this way, the recorded dialogues with respondents were broken down into the smallest meaningful units of information, values and attitudes of respondents. Structural functional analysis was used to explain the way social facts related to each other within a social system and the manner they relate to the physical environment. Data from focus group discussions were summarized by picking the main issues and conclusions reached by the group members. Generally,

qualitative data provided clear and systematic responses by respondents on key issues of research interest such as loss of assets, nature of the employment opportunities offered by the mining companies, diseases associated with air and water pollution, prostitutions, local governance like community participation and the environmental effects.

2.5.2 Quantitative data analysis

Both descriptive and inferential statistics were performed for quantitative data. The analysis was done using Statistical Package for Social Sciences (SPSS) software. Frequency distribution tables were generated to summarize the data.

2.5.3 Gender analysis

The research was carried out with a gender lens assessing poverty reducing impacts of mining taking into account the differential differences on benefits and effects among men, women and children. A gender perspective was integrated into all quantitative and qualitative methods. That included the collection of sex disaggregated data seeking to provide information on the differences between men and women in various livelihood aspects as well as the qualitative exploration of why these disparities exist.

2.6 Ethical considerations

In this study, ethical issues were accorded high priority in a sense that the required information was obtained on the consent of respondents. The researcher informed the subjects about their expected roles in the study and its benefits. After finishing the study, the researcher assured to provide participants and the stakeholders with complete details about the study outcomes.

3. Research Findings and Discussions

The research found out that the benefits of mining developments vary from area to area. In some areas it has created new communities and brought wealth to those already in existence

but in some circumstances it has caused considerable environmental, social, cultural, physical and economic disruption to the communities around mining operations. The findings of this research are presented according to the objectives of the study and shows that varying phenomena from creation of jobs to the construction or rehabilitation of infrastructure like roads, schools, water and clinics in some remote areas. It also shows that these benefits are unevenly shared and other communities are actually getting into more poverty. For some communities negative impacts far outweigh expectations and investment to the communities. When analysing the gains and losses that the communities have from mining activities the research was mindful of the three basic categories on the communities. One, are the occupational communities which are the households or families who derive all or most of their income from mining. The second are the residential communities which are the households who live within the geographical areas affected by mining. They may live in close proximity or some kilometres away such as along a polluted river by mine tailings. These communities further fall into two categories, those in existence before the mine was built and those that have developed as a result of mining activities. The third category is the indigenous communities who are families with ancient and cultural attachment to the land where mining occurs or has an impact. These categories are not mutually exclusive but this paper was based on the residential communities but didn't get into the sub-category of whether they were in existence before mine operations or not. The results presented here reflect to a larger extent findings of the residential communities which in this case are the immediate wards where the mines are located.

The paper also made the analysis of the roles and contribution of the mines looking at the stage the mining operations are at which is a key determinant to the effects/benefits to the communities. The stages are summarised in the table below:

Table 2: Mine operations stages

Stage	Description	Unki	Mimosa	Zimplats	SAN He
1. Exploration	Low economic impact but critical as the first encounter with communities. Sets relationship between mine and communities				
2. Construction	Stage that brings boom in jobs but can cause physical and social upheaval with the construction of infrastructure and migration of workers into the area				

3. Production	Stage of bringing incomes and additional infrastructure but also negative and unintended results	X	X	X	
4. Closure	Depends largely on degree of forward planning and available means to sustain benefits such as institutional and financial resources				X

Note that for SAN He, the mine has stopped working and this cannot necessarily be called the closure stage but for the purposes of this paper it is classified in such.

3.1 Roles and contributions of mining to adjacent communities

The interaction of mining operations and the surrounding communities have changed in Zimbabwe with continued calls for mining companies to put in place and implement practical community driven Corporate Social Responsibility (CSR) initiatives. These therefore define the expected roles and contributions of mining companies to the livelihoods and physical environments of the communities. The mines that provide the case studies for this report are big mines and have complicated technical operations that require specialised skills. This means there has been some decrease in employment for the locals and most of the communities surveyed and living nearby are gaining less in terms of jobs and resultant downstream business. Irrespective of this these mining companies have contributed positively to the livelihood of the communities as reflected in figure 2.

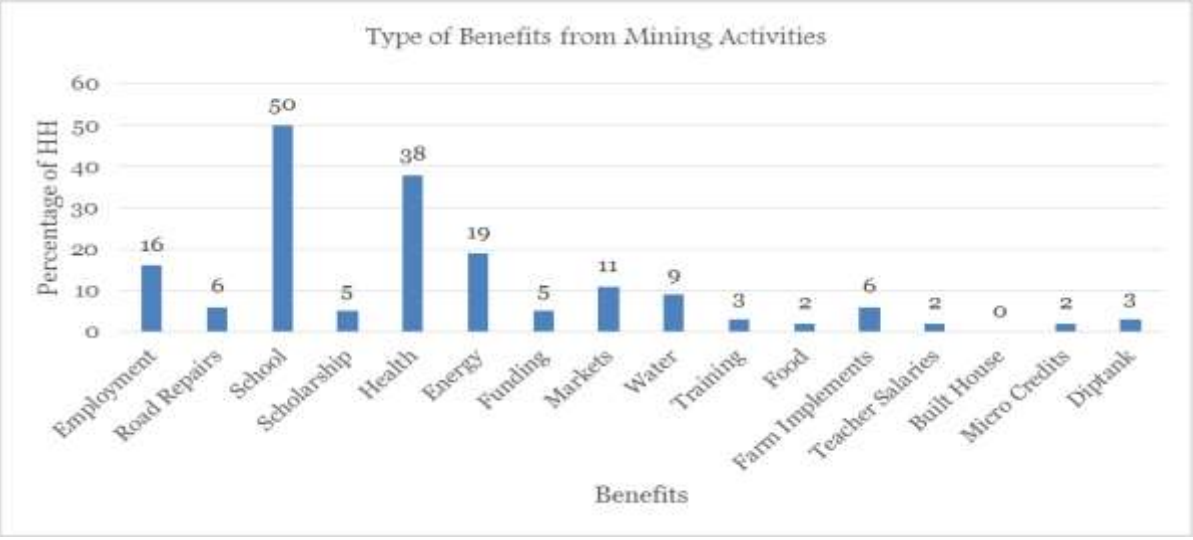

Figure 2: Type of benefits from mining activities

Zimplats in Mhondoro Ngezi has developed or improved infrastructure like roads, schools and clinics. Specifically the company contributed to Wanganui Secondary and Tuff Primary by installing electricity supply as well as improving teachers' remunerations by giving the staff additional incentives. Zimplasts has also facilitated to lure chain store OK supermarkets and four commercial banks (Stanbic, ZB, CABS and Bank ABC) in the area. The company has also made some contributions in the rehabilitation of Turf Clinic which saves the communities of the ward covering a total of 30 villages.

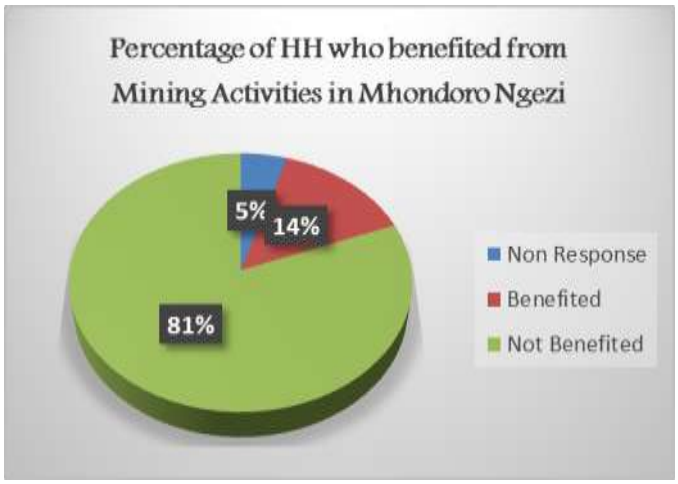

Figure 3: Percentage of benefiting HH from Mhondoro Ngezi

In Shurugwi, Unki Mine has made some positive contribution towards improving the welfare and livelihoods of communities in ward 19 and the surrounding wards within the catchment of the mine. Notable contributions are the renovation of Chironde clinic and primary school which were all painted, construction of the mother's waiting shelter and a traditional kitchen at Chironde clinic. The mine initially provided an ambulance to the community for use by the Chironde clinic but the ambulance has since been assigned to Shurugwi District hospital and now no longer benefiting ward 19 communities consistently. The mine also provided once off food handouts to an unclear number of households in 2000 but this has since stopped. A number of toilets were built but were largely unfinished. In villages 17 several households whose houses were affected got some form of compensation through the construction of new houses. Directly affected is ward 19 which has


Figure 4: Mothers Waiting room constructed by Unki

several cooperatives and in some notable households e.g. within the Mukwikwi Co-operatives the affected households never benefited from the compensation.

Mimosa Mining Company has made some positive infrastructure and services contribution to communities in wards 5 and 19 in Zvishavane. The mine operations are located in ward 5 covering about 12 villages. The mine has supported the rehabilitation, repairs, construction and or renovations to education, health and water infrastructural services. Schools assisted include Mukwidzi where two classrooms were built and Mpumelelo Secondary Schools, Mutshingwe, Dadaya, Oreti, Ngome and Hwedza primary schools. It also made contributions to Zvegona clinic and provided electric power supply; water tank and pump to Mhondongori clinic. A total of 4 (four) boreholes were drilled in ward 5 and one at Mukwidzi school. 2 boreholes were drilled in ward 19 for the supply of potable water. An additional borehole was also drilled for the irrigation scheme situated in the ward. The mine repaired a windmill at Mukwidzi secondary. The mine has also created employment for the local communities though the communities feel the level of employment is too low at approximately 5%.

Figure 5: Percentage of HH benefiting from mining in Zvishavane

In Shurugwi and Zvishavane formal and largely informal chrome mining activities are prevalent. Though these have mostly caused more negative impacts to the environment and community livelihoods they have also contributed positively. The chrome miners in Zvishavane have contributed to the payments of school fees for 13 pupils for the whole year by Mahwindu. They have also sponsored sports for a value of USD$100-00.

In Guruve, SAN He mining is a Chinese based company with a chrome processing and extraction plant situated in Tendenenge farm in ward 1 of Guruve District. The notable contribution that the mine has done for the communities are the assistance provided for transporting the sick especially those stung by snakes to the nearest Kemusasa clinic which is

about 10km away. The mine has also contributed towards the construction of an E.C.D toilet and supply of books and stationery to the E.C.D pupils. They have also helped some farmers with water tanks especially during the time of planting tobacco and in 2008 they donated a bag of mealie meal to the local Tenengende farm residents. The mine has also been employing some community members though the communities feel the rate is less than 5%.

The nature of benefits that the mining companies in this paper are bringing to the surrounding communities highlight the points that the areas where the mine operations are taking place, are areas where the respective Rural District Councils lacks the resource capacity to provide essential social and infrastructural services. Furthermore the local authorities seem not to have the power to act on behalf of the local communities in pursuing their interests with the mining companies. This scenario has therefore put the mining companies to wield lots of power and resultantly not coming on to assist the communities' priority needs. On the other hand in all the areas reviewed the communities raised the issues that the mining companies are "dining with traditional leaders" which compromises the traditional leaders position to cope with the vast mining operations and even invasion by outside workers at the expense of locals[1]. It is also clear that the mines in these areas are using complicated and modern technologies and thereby employing highly skilled work forces. Resultantly the mines are not generating significant numbers of local jobs as reflected by communities in all the sites quoting job absorption rates of between 3-10% only. Consequently there are not many multiplier effects resulting in mushrooming on businesses in the respective wards.

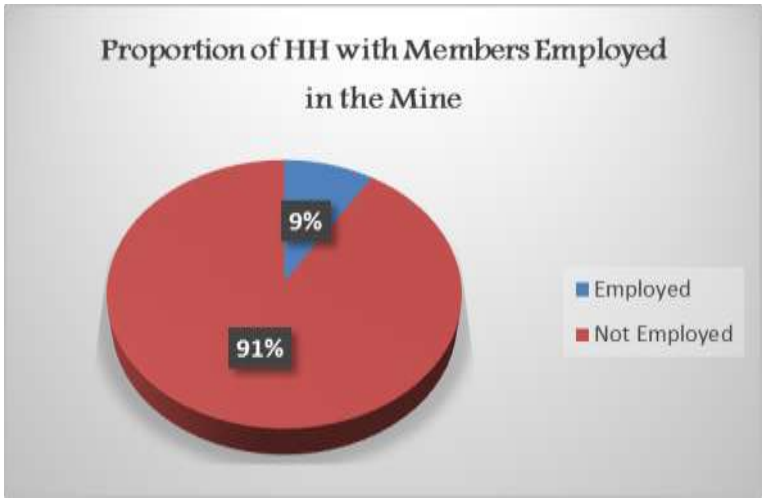

Figure 6: Proportion of HH with member employed in mine

[1] Most of the workers employed by mining companies are recruited from outside the mining communities and this is referred as invasion

3.2 Impacts of mining to residential communities

The impacts of mining to the communities living adjacent to the mines are analysed from an economic, social, institutional, infrastructural, cultural and environmental perspectives. This section looks more on the negative aspects as the foregoing section has laid down some of the positive impacts. As demonstrated by the figure from Zvishavane for example 96% of the respondents have had their livelihood affected by mining in some way or the other. This is the general picture that is found in all the four sites

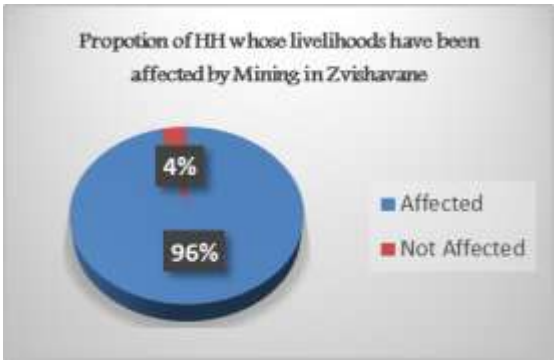

Figure 7: Percentage of HH affected by mining in Zvishavane

The figure 8 demonstrates the general effects that are faced by the communities in the Great Dyke which are further expounded in the sub-sections that follow.

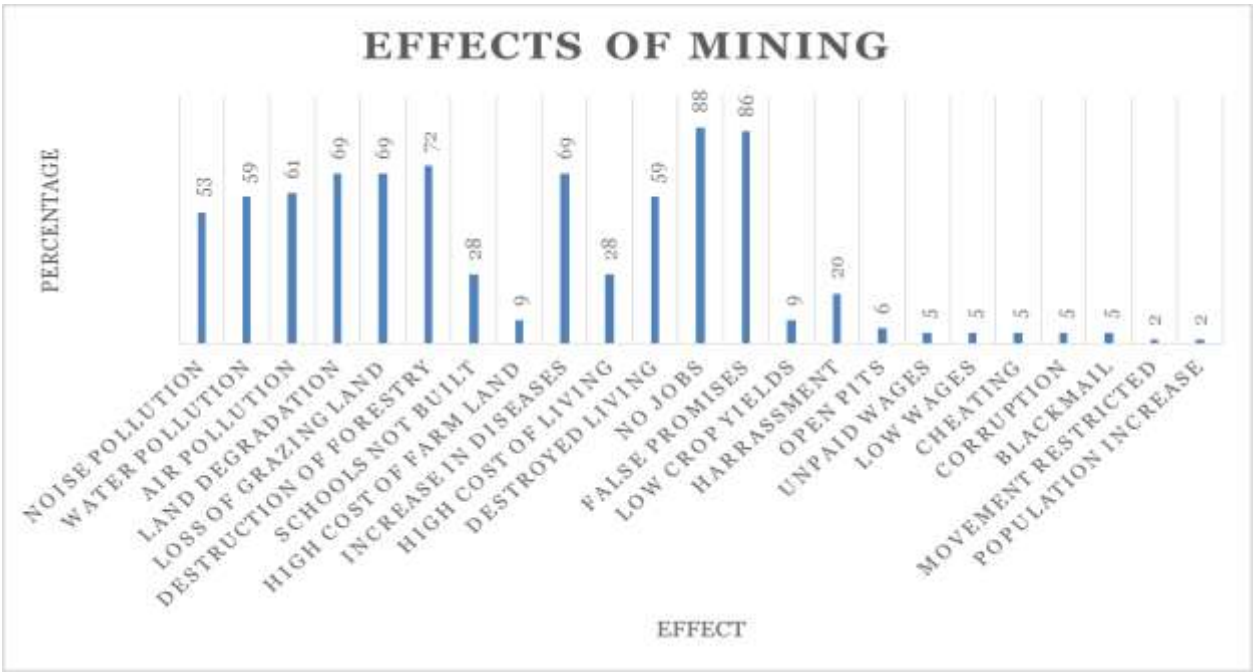

Figure 8: Effects of mining

3.2.1 Economic perspectives

One of the basic gains of mining operations in any area are the compensations and financial flows of revenue from the mining company that in essence is a catalyst for change and poverty reduction. These economic aspects have been expounded in the foregoing section and under this section emphasis is on the economic losses or potential economic losses that the mining has brought to the residential communities in Shurugwi, Zvishavane, Mhondoro Ngezi and Guruve.

The creation of employment is one of the key expectations of the local communities by the mining companies. Different companies have different employment regulations. The employment system at Zimplats is general not clear and transparent as the residents are only employed by the contractors only and not Zimplats mine itself. This means the mining activities are absorbing between 3-5% of the local labour force from the whole 30 adjacent villages. The mining company uses a Dover[2] interview system to assess the physical and mental awareness and strength of an individual in preparation for enrolment in positions in the mine. The age limit is 33 years and after failing one test one has to wait for 6 months to have another chance. There is general complaint that the system is segregatory and subject to corruption. Therefore the system does not promote local employment to the youths in the area and is even worse to women. In Zvishavane the mining company repairs roads which directly link to their plant but other feeder roads which they also use remain in bad state. The mine is said to be absorbing just about 10% of the labour force from the area.

In Shurugwi the employment system at the mine is reported skewed towards recruiting non-community members. The most quoted case is that most workers at the mine come from Bindura where the HR Manager comes from. For the few who are employed by Unki they are reported to be earning poor remunerations. Apart from this when Unki initially recruited workers, they asked the Traditional Leaders to identify potential workers and in the process there are purportedly having recruited their own relatives and in some cases got bribed. The employment systems are reportedly giving unequal opportunities for woman. Women have mainly been disadvantaged because of purported sexual demands before they are absorbed

[2] An employment system used at Zimplats to recruit employees using mental and physical alertness

into the sector. Unki mines' skills capacity building program does not include building the capacity of locals. Continuously this means the locals would never acquire the required experience and the mine has to rely on external expertise. This is typically an input into the poverty continuum.

3.2.2 Social perspectives

The research found out that most of the social impacts are direct consequences of poverty and therefore the differences with economic impacts are narrow. Displacement of settled communities has not been a significant aspect in all the four sites but in Shurugwi there has been loss of assets due to displacement by the Unki mine. Construction of the road, processing plant and waste disposal units – the tailing dams affected some households who have lost their houses, grazing land and fields. In an effort to compensate the affected households the mine embarked on building houses and sanitary facilities for selected households. The toilets have largely remained unfinished and only a few houses were built in village 17. The grazing areas and agricultural fields were never compensated for. There was no proper compensation and in case where it was paid…. *"the amounts paid were equivalent to the price of a goat"*[3]. In the four sites communities have largely remained near the mine where they are bearing the brunt of pollution and contamination to the water, air and general environment (these are discussed under environmental perspectives)

The social impacts associated with migration of people to the mining areas to get wealth opportunities are prevalent in Mhondoro Ngezi, Shurugwi and Zvishavane. The social impacts of mining development are associated with related increases in alcohol consumption, an increase in prostitution and widely breakdown in law and order. In Mhondoro Ngezi Zimplats mine has attracted lots of workers and the local economy has improved that those in the entertainment sector are conducting music shows where dancing groups are hired to perform in night spots. This has brought in the dimension of increased prostitution as most of the dancers perform their acts in almost semi-naked appearances. At Makwavarara lodge at the Turf Growth Point ladies commonly referred as "Ma Gokwe"[4] come and temporarily stay

[3] Words of a disgruntled resident from Shurugwi
[4] Local name given to the ladies based on the fact that the first ladies to invade the area came from Gokwe area

during key salary pay dates for mine workers. In Shurugwi there is a specific area called Kumatombo where prostitution is rife which started during the introduction of Unki mine and is still active. These acts have destroyed marriages amongst the mine compounds and in the surrounding villages. In Zvishavane and Shurugwi such migration has mostly been associated with small scale gold and chrome miners. The small scale gold and chrome mining activities are male dominated and attracts female prostitutes leading to increased rates of sexually transmitted diseases. From a social point such migration has largely led to the buildup of large masses of people with weak links into societies and has disrupted the social control, leadership and lifestyles of the communities. On the other hand these new migrants are a security risk and are slowly diluting the benefits provided to the residential communities[5].

In Shurugwi the income and environment brought about by workers who come at the mine has resulted in some social problems where women are leaving husbands for the better off mine workers and vice versa. Almost 20% of married men migrated to urban areas leaving wives & children.

It is the anticipation of both the local communities and the local and state authorities that with the advent of mine development companies will improve health facilities for both their employees and local communities. In the case of the four mines under review this has not necessarily translated in the overall improvements in community health because the health facilities with state of art medical resources have not been made available to the larger community. For example Zimplats has its own Trauma clinic but it does not allow patients from the community to be treated there. It has therefore built a separate clinic for the community although they expect Zimplats workers to be treated there too. The staff working for the community clinic is not paid by the Zimplats and the clinic is not as resourced as the Trauma clinic. In Shurugwi, Unki built the Mothers Shelter and Kitchen at Chironde clinic and donated an ambulance. The ambulance that was reportedly bought for the community is now serving the area from Shurugwi, an arrangement which has brought inconsistent services to the local community.

Though the communities expressed linkages of increased prevalence of diseases such as HIV and AIDS to the influx of foreigners and increased disposable incomes this causal effect is

[5] In Shurugwi there were four ladies who have come to stay at Kumatombo who actually attended the FDGs

not as direct. In Shurugwi there has been reported increase in STD's and HIV and AIDs infection at the area around Chironde area. This is mainly because sexual activities have increased with reported prostitution as workers earn some mining incomes. The same sentiments were expressed in Zvishavane that apart from diseases associated with inadequate sanitary facilities the communities feel the HIV and AIDS infection rates have increased due to increased number of people coming in the area in search of the mineral wealth from chrome mining and those with improved disposable incomes working for Mimosa. By their nature small scale mining activities which are largely unregulated the miners have no adequate and safe sanitary facilities which expose themselves and the neighboring communities to diseases. These are the cases from Shurugwi and Zvishavane where small scale chrome and gold miners have also increased.

Similar to health services, access to educational services and facilities are requisites to the improvements in the educational skills base for the school going children in mine residential communities. The contributions of mining companies to the education sector were highlighted in the previous sections (*Roles and contribution of mining to adjacent residential communities*). Contrary to the expectations of the communities, the local and state authorities, the education sector has been affected negatively by mining. For example in Shurugwi education has been affected as there is some increase in school dropouts with children especially the girl child being involved in early marriages due to increases in incomes from formalized and informalised mining activities.

Communication between residential communities, the local authority/state and the mining company also plays an important role in advancing the intentions for poverty reduction in the local communities. Absence or peripheral attention of such communication has adverse impacts to the communities and can create tension between the two. For example Zimplats Mining Company in Mhondoro Ngezi initially promised to assist communities within a radius of 30km from the plant but they have since concentrated on activities around the Turf growth point which is the hub of their operations. The communities feel the mine still has the obligation to fulfil this promise but this is not happening and it is not clear what the exact position is. In Shurugwi the relationship between the mine and the community is also affected because of lack of communication. Even if the mine has noble intentions for its involvement there are no clear lines of communication with the community. The mine never shared its

Corporate Social Responsibility objectives with the community and the two parties have naturally become suspicious of each other as expectations have largely been unmet. In Guruve, SAN-He mining has stopped mining operations and the communities do not know the reasons. The company does not have any houses for its workers. Since the area is situated within farming compound the workers have to scramble to get accommodation there or some form of housing away from the compound. Now that they are not working they are unsure of their future and the loss of employment for the few local workers has driven them into more poverty.

3.2.3 Institutional perspective

The institutional set up in any community should allow proper communication and decision making over use, management and benefit of key resources for the local communities. Based on the institutional mapping carried out it is evident that there are no clear institutional systems that allow this communication to take place. The example of Shurugwi sums the overall picture from the four sites. In ward 19 of Shurugwi there is minimal to no transparency and accountability in the manner Unki mining contacts business related to communities. The case of an E.I.A that was carried out did reflect that the process did not involve the local community members and in the words of one community member "the down trodden people –every Jack & Jill". As a result of such lack of consultation the developments that went on resulted in loss of dip tanks which have never been replaced and loss of houses specifically in Mukwikwi co-operative. There is also some concern on accountability of the resource's value and final market destination.

Under the Government's empowerment drive a number of community share ownership schemes were launched. Generally the communities expressed dissatisfaction with the purported benefits from these schemes. In Shurugwi the area where Unki mine is located falls under the Shurugwi Tongogara Community Share Ownership Scheme which was commissioned in November 2011 after Unki Mine complied with government's indigenisation regulations and availed US$10 million to the share ownership scheme. The scheme covers Chiefs Nhema, Ndanga and Bonga. Under the scheme the communities identified "five start-up projects" to be funded using the money. These included building of a

mortuary, classroom blocks, gardens, drilling boreholes and constructing a dam. The communities met expressed sad reflections on the domestication of the scheme referring to it as a scheme used elsewhere away from the mine and its immediate impacts and non to the community where the mine is situated. The scheme has benefited the communities in ward 14 (Chirume Dam for irrigation), ward 8 (school block at Bonga School), ward 18 (Musasa School) and ward 10 Zvamawande Mortuary. Critically is the fact that the scheme has benefited wards which are not bearing the immediate effect of the mining activities like ward 19.

In Mhondoro Ngezi, Zimplats mine falls under The Chegutu Mhondoro Ngezi Zvimba Community Share Ownership Trust. The communities expressed reservations on what the scheme has done for them and expressed the initiative as *"we have just read it from the papers"*[6]. Guruve district falls under the Mashonaland Central Community Share Ownership Trust which at the launch received $1m from Paza Buster (Pvt) Ltd. The community members met during the field work expressed ignorance on what the scheme has benefited them at the moment. In Zvishavane despite the reported projects by the Zvishavane Community Share Ownership Trust the communities met expressed that they have not yet realised any benefits from the scheme irrespective that they live adjacent to the mine. It has been reported that the scheme built Dayataya Clinic in Zvegona under Chief Mafala and 13 double classrooms in the district among a host of other projects.

3.2.4 Infrastructural perspective

In all the four sites there are significant infrastructural developments like roads, water supplies, sanitation systems and electricity. These developments are largely serving mining operations and their staff and remain of little relevance to the residential communities and even disturb the way the communities live (see under environmental perspectives). This applies to Unki Mine in Shurugwi, Mimosa in Zvishavane and Zimplats in Mhondoro Ngezi. In Shurugwi Unki Mining Company constructed a 17km tarmac road from the Shurugwi – Zvishavane Unki turn off to the Mine. Though the road is primarily serving the mine and partly the communities, the same communities feel the road does not provide a pavement for

[6] Words of a dissatisfied resident from Mhondoro Ngezi

pedestrians and cyclist and therefore poses dangers to lives of people especially school children using the road. There has not been much commitment from the mine to engage in improving school infrastructure in the area apart for work done in painting Chironde primary school.

In Mhondoro Ngezi, generally the infrastructure that Zimplats have developed is targeted to benefit their employees and operations. These include an array of physical developments like houses, playing grounds, entertainment centres and roads. Though the mine has assisted in the building of some classroom blocks for Wanganui Primary School some of the classrooms have so far been damaged (cracks) as a result of dynamites from the mine. SAN He Chrome mine in Guruve have not constructed any roads or infrastructure apart from their own houses and the processing plant. The problem in Guruve gets aggravated because the chrome mining company does not even improve the roads conditions. One of the community best roads which connect Mabubu to Tendenenge Art site has been destroyed by the trucks carrying chrome ore. This has affected the link between the farmers and the artist

3.2.5 Cultural perspectives

The synopsis of bad cultural practices that are prevalent in the mining areas reviewed are based summed up by one focus group presentation in Shurugwi that said *"Most benefits from Unki mine promote chiefs. These are enjoying the fruits from the mine. Ward 19 used to benefit before the empowerment of chiefs by the New Constitution, thereafter the reverse is happening. No disclosure of problems from the community is to be published. There is no accountability to what the mine produces and on its expenditure*"[7]. In all the mining communities visited its apparently becoming clearer that the mining activities are slowly changing the balance of power within the residential and indigenous communities. Mining companies have been accused by the communities of negotiating with individuals who do not have the trust of their communities or are using divide and rule through working and appeasing traditional leaders. Mining activities have also caused disruption to local cultures. The case of Shurugwi where during the road construction some graveyards were affected to accommodate the road demonstrates this point.

[7] Quote from a FDG in Shurugwi

3.2.6 Environmental Perspectives

The focus group discussions with community groups, key informant interviews and observations done on the four mining sites clearly show that mining activities have far reaching environmental impacts that's affects livelihoods and health of communities. The effects are felt in the adjacent communities and those residing some distances from the mine. The research however concentrated on the impacts to communities close to the mine. The environmental problems that are most significance here are water, noise, air pollution, waste management and land degradation.

In Shurugwi mine operations at Unki mine have resulted in the contamination of river water and possible underground water reserves. The chemicals from the mine flow into Mutevekwi River that forms the source of water for domestic use to the community. The communities have dug open wells along the river since most of the boreholes are down.

Figure 9: An open well in Shurugwi

An example is in Makwikwi Cooperative which comprises 3 villages with an average of one borehole per 100 households. Sewage from the mine is also spilling into the river. This has resulted in the death of livestock and chemical effect to fish and children. For all the livestock that have died as a result of such poisonous water, the owners have not been adequately compensated. The case of Mr. Matanda in 2012 demonstrates this. He lost 6 herds of cattle and was only compensated for 3.

In Mhondoro Ngezi the sewage from the tailing dam flows into Ngwazani, Mungezi and Munya rivers and ultimately into the main Ngezi River. These rivers are the primary sources

Figure 10: Turf Sewerage disposal site in Mhondoro Ngezi

Figure 11: Polluted water downstream Turf ponds in Mhondoro Ngezi

of water for the people and their livestock. All the 5 villages from Wanganui (1, 2, 3, 4, and 5) use water from Ngezi River where the mine ponds ultimately drain into. There have been reported deaths of livestock which are drinking the polluted water. The tailings dam in Mlota affects 5 villages with dust from the dam. The tailings dam is situated right on the catchments area of all villages. Livestock is at risk since the area has small area for grazing. This has affected two schemes Mlota and Turf. The construction of the dam meant taking away land for agriculture and grazing and has created land shortage for the two land uses.

In Guruve there are serious problems of air and water pollution. The air pollution emanates from the dust that is associated with the movements of construction lorries which ferry chrome gravel from some hills which are 2-4km from the plant. The trucks use ungraded gravel roads which passes through the farm compound. When it is raining, the trucks splash mud which is split on houses along the gravel roads. Additional dust comes from the processing plant where in addition the mud flows into some pre-sited ponds which further spills into the main Matetano dam. The dam has now been silted and the water quality affected by the chemicals used during the processing works. The trucks also pose serious noise pollution to the households which are close to the roads used by the trucks

Mimosa mining operations and plants in Zvishavane are located in Mhondongori ward 5 and the effects of the mine covers villages 1, 2A, 2B, 3, 4,7A, 7C, 8, irrigation village 1, and Mapirimira villages 1 to 4. The effects also reach ward 19. The major negative impacts suffered by the communities in these two wards are contamination of water in the nearby river up to village 8. Dust is blown from the slam dam and affects the communities around.

Figure 12: Land degradation threatening water pipe in Guruve

The Chinese based chrome SAN He mining company in Guruve started mining chrome in 2007 but has temporarily stopped mining activities. By the time the company stopped the mining activities there had caused some negative impacts to the communities and their natural environment.

The pits and holes from where the chrome ore

is extracted are not covered/ backfilled and this has resulted in death of livestock like the case of Kambamwe area where cattle have been trapped and died. Specific cases are the livestock belonging to Mr Chiwara that have died as a result of the pits. The pits also pose danger to children. Remarkable cases of land losses have occurred with a resident Mr Gombarago losing up to 2ha of land and potential loss of his piped water.

Figure 13: Degraded and unbackfilled land in Guruve

In Shurugwi mine operations have also created gullies around the community. These gullies are not backfilled and have resulted in massive land degradation as a result of erosion and siltation of water bodies. On the other hand the mine produces dust when the trucks ferry gravel to the mine and this is what the people are breathing subjecting them to unknown health risks. This dust is not suppressed and the fine particles being inhaled by people may contain deleterious substances such as metal.

In Zvishavane apart from the effects associated with platinum mining at Mimosa the communities also bear the effects of small scale chrome mining around the area. The small scale miners have developed a tendency of passing on mining permits to wealthy second parties. In this case the Chinese nationals and other local Zimbabwean have benefited from using permits of original holders in some partnership arrangements. These small scale chrome miners open pits which are not backfilled and this has led to death and injury of human beings and livestock. Two people have died in Todlea village and village 1 of Mapirimira. One person fell into an open pit and the other was dumped into an open pit after having been murdered somewhere else.

The chrome miners in Zvishavane clear trees and together with the open pits which subjects soils to erosion this has resulted in massive land degradation and siltation of water bodies. The miners use explosives which have negative impact to nearby houses resulting in development of cracks and ultimately falling of the houses. Furthermore the explosive detectors cause veld fires which destroy the natural vegetation and pause some threats to

animals and human beings. The same problems have been experienced in Shurugwi which has experienced an upsurge in the opening of small scale gold and chrome mines. The registration status of these mines is not clear but the environmental and social impacts are negative.

Waste management is one of the key drivers of negative environmental effects of mining activities in all the four sites. In Mhondoro Ngezi, Zimplats was allocated a dump site by the RDC. The dump site is situated along one of the rivers and poorly protected from livestock and human beings especially children. The effects are that livestock and children get access to scavenge into the disposal site. This poses health hazards for animals as they are eating plastic and all sorts of polluted waste. Children enter into the site to search for any reusable materials and food for dogs. The site is an eye sore and is dangerous for children who are vulnerable to injury from broken glasses, metal materials and diseases. In addition all light materials are blown from the site by wind and pollutes adjacent areas.

Figure 15: Livestock and children scavenging in a waste dump site in Mhondoro Ngezi

Figure 14: Livestock roaming in the Turf ponds site in Mhondoro Ngezi

The unprotected tailing ponds attract crocodiles to migrate from Ngezi River upstream into Ngwazani River from where they go into the mine ponds. This exposes communities especially school children and livestock to attacks. Ngwazani River separates villages 4, 5, 6, 7 and 8 from villages 1, 2 and 3 (where Turf Primary and Secondary Schools are situated). Apart from potential dangers of crocodile attacks school children are faced with dangers of chemical polluted floods during the rainy season because there is no bridge at Ngwazani River. Close to 2000 pupils are affected by this.

3.3 Characteristics of poverty in the Great Dyke

3.3.1 Local definitions of poverty

The research recognises that poverty refers to lack of basic necessities of life and opportunities for human development. It is multi-dimensional and manifests itself in various forms (World Bank, 2000). This makes it hard to come up with a single definition, which comprehensively captures all the aspects of poverty even though it is widely viewed as lack of sufficient income to meet the basic human needs. Some groups in the population often face vicious circles of low income: illiteracy, premature death, early marriage, large family size, malnutrition, illness and injury, all of which lock them into unacceptably low standards of living.

Poverty is associated with the undermining of a range of key human attributes, including health. The poor are exposed to greater personal and environmental health risks, are less well nourished, have less information and are less able to access health care; they thus have a higher risk of illness and disability. Conversely, illness can reduce household savings, lower learning ability, reduce productivity, and lead to a diminished quality of life, thereby perpetuating or even increasing poverty. Poverty definition therefore varies from society to society. The research analysed the local definitions of poverty in the communities visited and the reasons why the poor got into poverty.

The major well-being poverty definitions from the four sites were based mainly on livestock ownership, type of dwelling and household assets. Additional definitions included people's ability to live comfortably, have regular meals and the ability to own a home or land as well as capacity to put land under crop. Health was an important criterion for older men and women across all communities and accesses to education a definition given by all groups. The tables below summaries this:

Shurugwi

Table 3: Shurugwi Definition of poverty

Rich-5%	Medium- 35%	Very poor- 60%

Owns + 16 heads of cattle	Owns 5 heads of cattle and below	No cattle
Owns mines and shops	Does not own commercial businesses	Subsistence farming on less than an acre (No inputs)
Owns and has input capacity to cultivate productively more than 5 hectares of land		Poor diets- no dietary variety
Access to health facilities		Poor housing- pole and dagga under thatch
		Poor to no access to health facilities

Zvishavane

Table 4: Zvishavane Definition of Poverty

Rich	Medium	Very poor
Owns a mine as a major source of income	Owns a house with a few livestock (less that 10)	Has no capacity to educate own children
Owns a house	Does not beg	Owns a poor home without a toilet
Owns up to 75 heads of cattle	Children are send to local schools and fees paid in full	Relies on manual labour
Has agricultural inputs to cultivate large piece of land		Owns a small field but has no capacity to produce anything
Sends children to reputable schools		

Guruve

Table 5: Guruve Definition of Poverty

Rich-5%	Medium-40%	Very poor-55%
Owns more than 20 heads of cattle	15 heads of cattle and below, 10 goats	Relies of manual labour
Owns a tractor and cars	Owns a grinding meal	Family has poor dressing
Owns farming equipment which	Produces enough food to feed own	School going children under the

allows production of enough food with excess sold	family	government BEAM program
Employs other people on own farm	Owns a motorbike	No decent accommodation- pole and dagga huts under grass thatch
Has decent house under asbestos roofing sheets		

The research found out that the people who are rich got into such category because the household heads were once employed by big companies or worked in high government positions. Additionally these people have access to financial credit which they use to expand their businesses or farm productivity. Inheritance of wealth is another way many people have continued to get wealthier. Mining communities are associated with illegal panning and in Shurugwi the FGD estimated that up to 60% of the rich are not educated but got richer either because they seized the opportunities of advancing illegal mining and in extreme cases through robbery of high value minerals like gold. The poverty continuum also shows that the poor in mining communities got into this category mainly because they "inherited poverty", lack basic knowledge, laziness and effects of poor health.

3.3.2 Key drivers of poverty

Analysis of the key drivers of poverty in the Great Dyke is made based on three periods. One is the period stretching from the 1980s to the early 1990s, the second period is the time from the early 1990 to the period the Government of National Unity started in 2009 and the third period is from 2009 up to 2013. The information here was gathered through the FDG with the community representatives from the four sites- Shurugwi, Zvishavane, Mhondoro Ngezi and Guruve.

Period 1: 1980-early 1990s

The communities expressed that the period leading to independence in the 1980s up to 1990s the levels of poverty were general low as people used to get food handouts from the donor community and government. In addition they received donor support in terms of productive inputs like fertilizers and seeds which greatly improved and stabilized agricultural production

resulting in stable incomes and food security. During that period GMB used to buy crops like maize at competitive prices which enabled farmers to produce the following season without need for external support. That period was also marked with availability of credit for farmers at market rates and without stringent conditions from financial institutions. All these conditions ensured that the majority especially rural farmers' livelihoods were stable.

Period 2: 1990s to 2008

The period beginning the mid-90s saw the disappearance of the economic conditions that prevailed in the period 1980 to 1990. The land reform that began around the late 90s meant decrease in donor funding to civil society, government and people in general. The handouts from donors and government dried out. Financial institutions only gave loans to secured clients and this meant the majority of communities in the Great Dyke could not access the loans. Agricultural productivity went down and there was general hunger as food prices went up with the devaluation of the Zimbabwean dollar. Immediate results were the loss of jobs and escalation of prostitution and illegal gold panning. The same period was marked with occurrence of human rights abuses especially in efforts by the government in trying to stop illegal gold panning. Since the Great Dyke is an area known as the hub of illegal panning activities, the discovery of diamond in Marange meant migration of panners in search of the new wealth. As a result lots of deaths and injuries were experienced and it left lots of households more vulnerable and increasingly into poverty. This period was made worse with persistent droughts during the year 2000 which meant communities had to depend more on low paying jobs with the mines and shifted into panning.

Period 3: 2009 to 2013

The period from the GNU up to 2013 saw the introduction of multi-currency which greatly stabilized livelihoods. In Shurugwi the period marked the introduction of new donor agencies notably Oxfam and Christian Care which assisted in community livelihood improvements. Other positives were that workers living conditions improved, inflation decreased, improved availability of basic goods in shops, decreased electricity load shedding, fuel availability hence there was improvement in transport and great improvements in health e.g. availability and affordability of HIV and AIDS tablets. In Zvishavane poverty during this period was mainly driven by high unemployment levels in the area together with continued poor rainfall

to advance agricultural activities. Even though commodity prices continue to be stable the period has been marked by lack of employment creations. As previously highlighted the employment creation for the communities around the mines stands between 3 and 10%.

3.4 Gender dimensions of poverty in the Great Dyke

According to UNDP (1999), women account for approximately 70% of the world's poor, lacking not only in income but also in access to resources, services and opportunities in the economy and society. Qualitative analysis made on gender dimensions of poverty in mining communities showed that mining activities are widening the gender disparity within communities. There are few job opportunities for women in all the mining sites reviewed with extreme cases in Unki where allegations of sexual favours have been labelled as a pre-condition for women to be employed. Despite the government of Zimbabwe's proactive stance on gender equality, the mines visited showed that mining is still a male dominated sector. Responding to such policy positions in the mines has been hindered because most of the mines are highly mechanized further reducing the participation of women. Where mining is less mechanized like small scale gold and chrome mining in Shurugwi and Zvishavane the participation of women is so low as the nature of working environments are unfavorable to women.

The lack of job opportunities in the mines is aggravated by absence of local markets to support other economic services and lack of credit facilities. An example from Shurugwi was demonstrated by a group of women who were once identified to sew uniforms for mine workers. The group could afford to supply a few uniforms to Unki based on the capital available and since the mine required a large number they opted to drop the poor performing women's group and outsourced. The other dimension which impoverishes women in mining communities is that by culture they are responsible for subsistence activities as farmers they are affected by the negative environmental impacts of mining. In all the areas surveyed domestic water is a problem and is the subject of serious pollution by mining activities. Women do have to look for clean water for the household. For the household that have working men and having the burden of subsistence production they also lose potential assistance to work on the degraded land.

The rate at which locals are absorbed by mining companies in the Great Dyke has been estimated between 3 and 10%[8]. This means that the rest especially men have to look for work elsewhere. This means women are left at home to play crucial roles in maintaining the household economy- supporting families, managing land. Increased incidences of marital breakups are resulting from greater stress on family life with men spending large amounts of time away. In Shurugwi the FGD estimated that cases of such nature are getting up to 20%.

3.5 Livelihood challenges of communities

The communities within the Great Dyke as represented by the four sites where the research made detailed analysis face several livelihood challenges. These will be discussed with specific reference to the sites so as to reflect site specific realities. In Mhondoro Ngezi the communities face livelihood challenges that include high levels of unemployment, lack of clean domestic water, poor roads, hunger, environmental degradation, shortage of bridges at key crossing points, lack of support for community schools, high prostitution levels, corruption and unfavorable employment systems. The water situation is critical to an extent that up to 90 households on average are using one borehole as summarized in the table.

Table 6: Summary of borehole distribution in Mhondoro Ngezi

Village	Estimated households	Number of boreholes	Coping strategy
Turf villages 4 and 5	90	1	Uses river water
Turf village 1 and 2	100	1	Uses river water
Village 6		0	They travel approximately 5km to draw water at the Growth point
Wanganui 2,3,4,5		0	Draw water from Ngezi River
Circle Gee 1 and 2		0	Draw water from Nyati River
Mlota 1 – 5		4	Uses river water

[8] Based on FGDs facilitated by the author in Shurugwi, Zvishavane, Mhondoro Ngezi and Guruve

The communities therefore rely on unprotected wells and water from the polluted open rivers as shown by the "green coloured" water pictured below. Although the majority of the communities 71.4% rely of borehole water the situation is aggravated by the breakdowns of the pumps thereby leaving the communities with the options of using wells 4.8%, rivers 9.5% and unprotected 28,6%. All these three sources are deemed to be yielding unsafe water by the communities

Table 7: Sources of water in Mhondoro Ngezi and safety status

Source of Water	Percentage of opinion of HH on safety of Water Source		
	Safe	Unsafe	Don't Use Water Source
Tape Water	0	0	100
Borehole	71.4	0	28.6
Protected Spring/Well	0	4.8	95.2
River	0	9.5	90.5
Unprotected Well	0	28.6	71.4
Open Dam	0	9.5	90.5
Water Vendors	0	0	100

Figure 16: Polluted water source in Mhondoro Ngezi

Apart from shortages of water the road networks are generally poor in the whole of ward 2 community. For example there are three rivers which at key crossing places there are no bridges. The bridge at Wanganui River was damaged by trucks which ferry river sand. The problem of sand poaching from Munyati River by construction companies and individuals is so rampant and the communities are feeling the effects as there are no royalties being paid to the communities. There is general environmental degradation resulting from small scale chrome mining which has left pits that are not backfilled and have become a risk to animals and people. Chrome mining has also resulted in encroachment into grazing land and reduction in the grazing area.

Figure 17: Damaged bridge in Mhondoro Ngezi

The communities in Shurugwi especially those living around Unki mine face some similar livelihood challenges. These include unemployment, escalation of poverty, droughts leading into shortage of food, shortages of money to educate children, poor roads and transport networks, escalation of corruption, lack of resources for activities like gardening for woman, water shortages, shortage of income to start projects targeting women and shortage of schools. The Chironde primary school that is in the area has limited blocks and therefore children are on hot seating arrangements. In terms of schools the children are travelling distances ranging up to 10km on foot as there is no transport. On the other hand the school has no facility for the handicapped who in the end share the same facilities as their able bodied counterparts. The situation gets worse during the rainy season as the shortage of bridges at key crossing points

Figure 18: Crossing point without a bridge in Shurugwi

like at Mutevekwi River where close to 50% of the pupils are trapped on the other side of the river and cannot attend lessons on particular days. This also poses serious risks to drowning as some children can take the risk of crossing flooded rivers. In another case the bridge that was constructed by Unki that links the Chironde Community and Unki is too low and during flooding is also dangerous. Generally the community faces problems associated with transport and people travel long distances up to 15km to access school and clinic. The community has one clinic but the ward is so big that some patients travel up to 15km to access medical attention. There is no transport in the area and this subjects pregnant women, the HIV and AIDS patients and the elderly to serious risks. The clinic also faces resource shortages as in most cases has no HIV and AIDS drugs. The agricultural activities and general food production are hampered by shortages of farming resources like fertilizers and seeds. The farmers cannot afford input supply to produce their own food. There are also problems that come unexpected like the damage caused to the ZEDTC transformer by lightening. This adversely affected storage of important medicines at the clinic which depend on electricity.

The water situation in Shurugwi is also very bad as 55% of the communities rely on boreholes which are constantly breaking down. 40% rely on unprotected wells and 5% on open dams

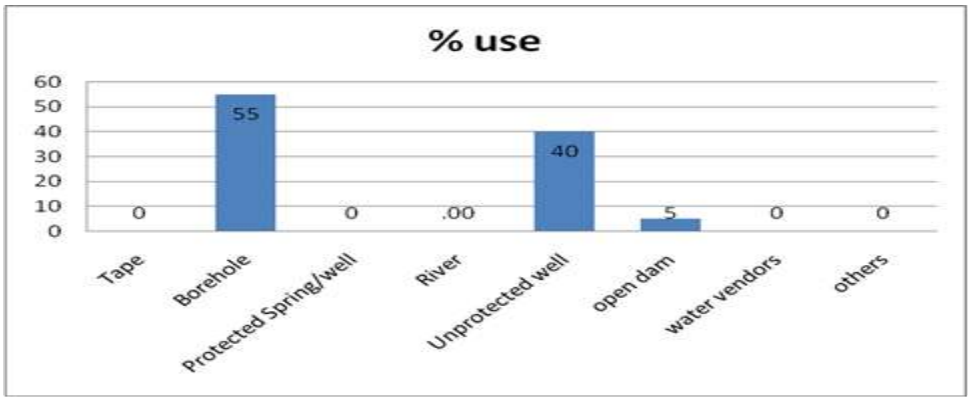

Figure 19: Percentage use of water sources

Figure 20: Open source of water in Shurugwi

Figure 21: Open water dam source in Shurugwi

3.6 Community coping strategies

In view of the diverse negative impacts of mining activities in Shurugwi, Zvishavane, Mhondoro Ngezi and Guruve on the livelihoods of the communities under the study, the general livelihoods coping strategies vary but reflect the picture shown in figure 23.

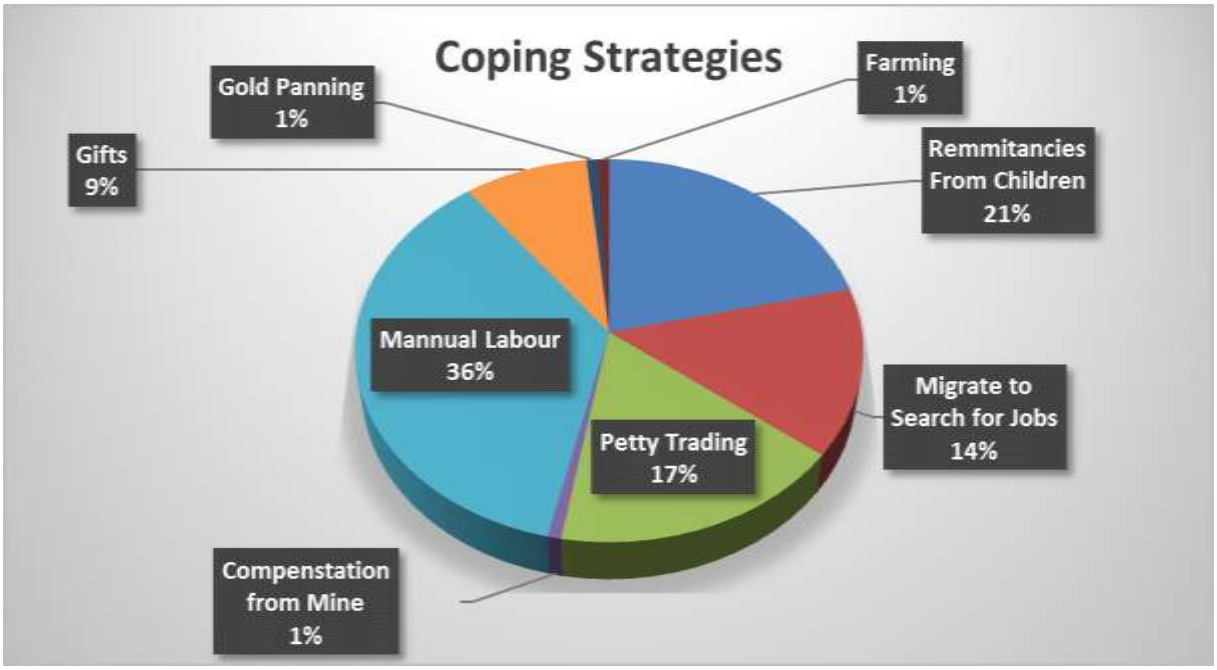

Figure 22: Coping strategies for mining communities in the Great Dyke

In mining areas the dominant livelihood coping strategy is manual labour accounting for 36% followed by remittances 21%and petty trading at 17%. The patterns are not necessarily uniform but vary from area to area. In Shurugwi for example communities survive adverse

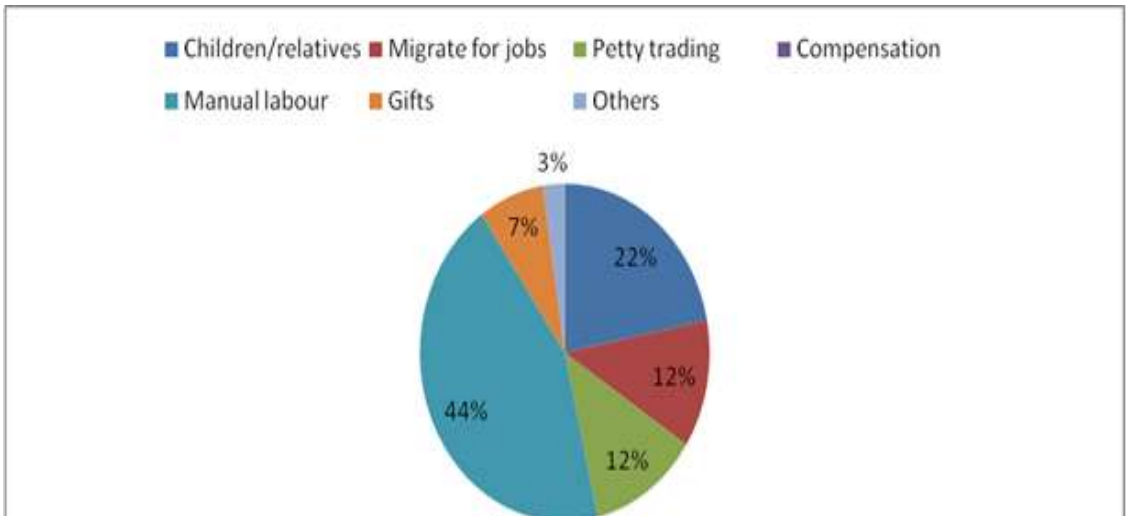

Figure 23: Sources of income

effects of mining to sustain their livelihoods by engaging in gold panning[9], selling sand, selling firewood, farming, poultry, piggery, formal employment and casual employment

The communities in Guruve have limited coping strategies. The main livelihoods strategies are tobacco farming (65%), casual labour (10%), sculpture (10%), some people are employed by SAN He Mining Company (5%), few people are also surviving on project for example poultry and some are maize farmers at almost (10%).

Figure 24: Coping strategies in Mhondoro Ngezi

In Mhondoro Ngezi communities the most common coping strategy is provision of manual labour which accounts for 90% followed lowly by migration

; that most of it is illegal and no one wants to be known doing it

to urban area at 9.5%, petty trading and remittances at 4,8%.

In Zvishavane a greater percentage of the communities rely on remittances 77%, petty trading 73%, migration to get jobs 50% and 41% are into manual jobs.

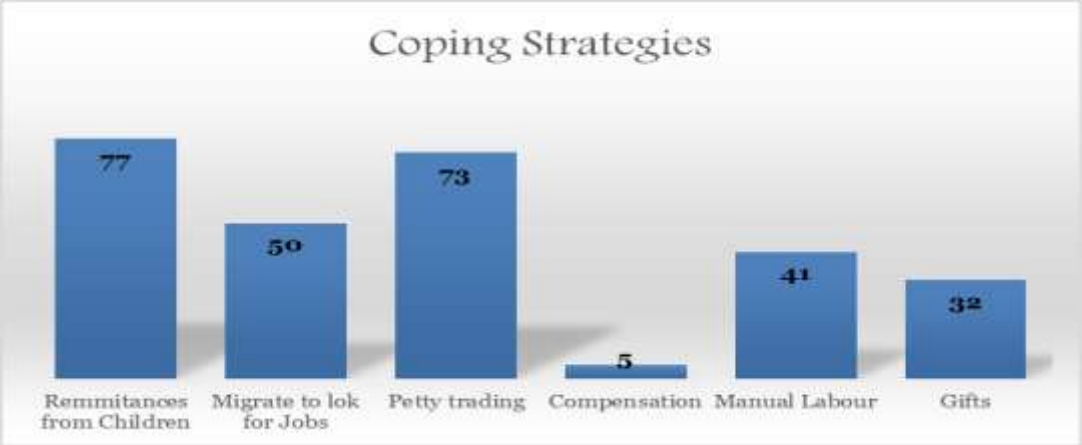

Figure 25: Coping strategies in Zvishavane

4. Conclusions and Recommendations

4.1 Conclusions

The following conclusions are based on the findings of the research. Its apparently clear that though the communities expressed that some benefits are accruing as a result of mining activities the contributions of the mining companies to the livelihoods of the adjacent communities are not so obvious. It is so difficult to really quantify the benefits precisely. The research could neither get the positions of the companies as to what exactly they have done towards improving the livelihoods of the communities. The CSR objectives and the commitments as outlined by the community share schemes to the communities could not be clearly be reflected in the manner the adjacent communities are living. It is the conclusion of this report that for the communities visited, the mining companies have not shared clear, measurable and time bound set of goals for improving social services facilities and environmental issues emanating from mining activities that should lead to improved livelihoods and reduction in poverty trends. Since communities expressed minimum contributions they complained more on the adverse effects they are experiencing as a result of mining. These seem to outweigh the benefits they are getting and include environmental degradation, water and air pollution, loss of pastures and other assets, social changes among others. These problems affected much more the livelihoods of communities who are staying close to the mining operations. This therefore suggests that much more needs to be done as part of the mining companies' CSR. This should be accompanied with effective community participation. In order to address all these problems a number of policy recommendation are suggested.

4.2 Recommendations

Based on the research study, though mining operations have more negative impacts to the environment and the livelihoods of the communities, lessons drawn show that it can contribute to poverty reduction in a variety of ways. Most linkages work directly by generating income and creating opportunities. The following recommendations are made in an effort to place mining as one core sector that can play a role in poverty reduction in communities adjacent to mines and mining operations within the Great Dyke.

Recommendations made here are informed by findings of what the communities generally view as their priorities as reflected by the graph below.

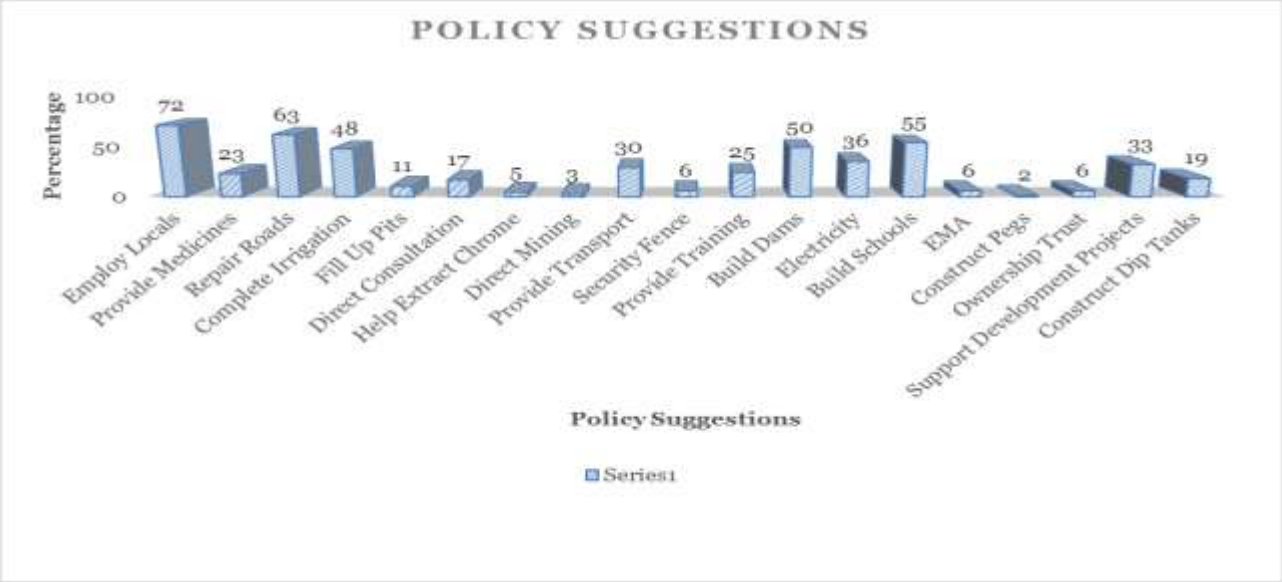

Figure 26: Community suggested policy recommendations

The priority need expressed by almost all communities was the employment creation benefiting locals. The communities highlighted the need for the mining companies to absorb more than the current estimated 10% employment into the formal sector as well as supporting development projects. All the communities identified the need for infrastructural improvement and rehabilitation. These included roads, irrigation schemes, clinics, dams, schools and dip tanks. The education and health sectors were seen by all the communities as worth investing on. The communities mentioned the importance of upgrading both primary and secondary schools including improved buildings, stationery and furniture. For health, communities are concerned with the challenges of long travelling distances and unavailability of critical medicines.

Recommendations to local communities

- Communities should have representatives who interact with government, local authorities and mining companies in some professional ways based on adequate information recognising that mining is a business.

- Local communities' awareness should be raised on laws pertaining to mining, general environment management and empowerment as well as basic technicalities on how the mining sector operates as a business. This is intended to reduce conflicts of expectations.
- Communities should be proactive and non-confrontational when dealing with issues related to their interaction and relationship with mining companies. This should be based on adequate information on issues like the CSR objectives of each company

Recommendations to mining companies- large and small scale

- *Improve land use planning and zoning*: When mining companies are granted their mining concessions, they have the full knowledge of the size of the area and the time they will be mining. This should allow them to provide communities with the demarcation boundaries and enable the discussions and modalities of compensation if there are any potential losses. The geoscience and mapping data will benefit the poor by helping identify and address issues related to competing land uses which in turn helps avert negative impacts on productive agricultural production and food security. Again this process should be overseen by the RDCs and the traditional leaders.
- *Provision of transport*: In view of the increased distances from communities to nearest towns and the increased transport costs following change of access routes by mines, bus transportation services should be provided in the communities. This could be operated privately, but supported and subsidized by the mining company
- Mining companies should provide revolving financial loans and business development training support to local entrepreneurs to support supply of products that the mines require. This can also involve tailoring specific projects that supports gender groups like women, the elderly and orphans. This will allow livelihood diversification which is crucial in the livelihoods of rural households.
- *Corporate training*: Establish skills training centre that builds the capacity of locals. Continuously this means the locals would acquire the required experience and the mine would not rely on external expertise
- *Enhance youth skills*: The mines should support local schools and identify capable students who can be given scholarships to study in areas related to mining so that they can in future take up the top role positions

- *Regulation of small scale miners and their operations*. Small scale miners should have single mining permits and the permits should not be used by a second party. Their operations should be within the confines of the environmental management requirements as defined under EMA
- *Provide financial assistance*: Mining communities are affected in one way or the other and to improve their livelihoods their financial base must be improved. This can be done in the form of financial loans or assistance to allow the farmers or small scale miners to mechanise so that they improve productivity. Therefore the company can provide group soft loans or micro-credits at suitable interest rates without much emphasis on security. The basic concept therefore is to create opportunities for local communities to generate incomes for downstream businesses.

Recommendations to local authorities

- *Monitor and regulate child labour*- chrome mining has a negative effect on school going children as they dump schooling to work as cheap labour for the chrome miners

- *Conflict management*- there are growing disputes between farmers and chrome miners- chrome miners have the interpretation that the Mines and Mineral Act supersedes all activities including farming

- *Reduction and management of pollution*- dust from mining operation settles on trees, chemical pollution of underground and surface water from tailing dams, noise pollution from trucks and explosives should be regulated by local by laws

- EMA and RDCs should streamline their regulatory functions to allow close and transparent oversight mechanisms on mining companies within their districts. This will include enforcing each mining company to have environmental management plans that aims to reduce land degradation. This will also include community awareness of common health hazards associated with mining e.g. polluted water.

- *Provide commensurable compensations*: In case of loss of assets e.g. grazing land, agricultural fields or livestock mining companies should pay for that loss at agreed market rates, in time before the loss and in full to avoid the affected to suffer continued

losses. The valuation methods must be regularised and overseen by government arms and RDC.

Recommendations to NGOs

- NGOs should continue to build the capacity of local communities to articulate local perspectives and to determine the full range of development options available to communities as a result of mining activities
- Develop community participatory based guidelines that recognise that compensation for loss of assets by communities or household should be based on loss of livelihoods and should take care of gender differences in ownership of assets

Recommendations to national policy makers

- *Corruption*- MPs to investigate and monitor corruption associated with Mine management and traditional leaders

- Ensure that mechanisms are in place to enable local communities to play effective roles in decision making
- Provision of essential infrastructure for local economic development: The government should put in place mechanism that enable mining companies to engage RDC and communities as a first priority for training, social services and public goods like clean water, transport, energy, schools, roads, dams, bridges and clinics. This can be a catalyst for improvement in local government capacity as they work with local government and communities to avoid the creation of a culture of dependency on mines
- *Create employment opportunities*: The government should enforce regulation that compels mining companies to use employment systems that retains an agreed % of local staff for positions whose expertise are found within the communities. If the communities do not have the requisites skills the companies should provide on the job training. The available jobs should be made available continuously to avoid communities going into poverty
- Government through local authorities should transparently furnish communities with basic information about mining companies that will be operating in specific communities,

the stage at which they are and their CSR objectives and timeframes to reduce syndrome of expectations and hatred.

- Mining companies should not create domains of developments that separate mining staff from adjacent communities. They should allow joint use of resources like clinics, roads, electricity, water supplies and playfields.
- Government should ensure that mining companies undertake EIAs and cost benefit analysis prior to granting of production licences which involves effective community consultations.

Recommendation for further research

- Comparative analysis of levels of poverty / benefits/ effects between wards closer to mining operation and those located distant from the mine.
- Underground and surface water quality testing for adjacent rivers and borehole on the downstream of tailing dams and their effects to livestock and people.
- In depth analysis of the sustainability of local economies of mine residential communities based on opportunities or opportunity costs of mining activities
- The role of the government and traditional leaders in empowering / disempowering mine residential communities rights for poverty reduction.
- Further analysis on the roles of community ownership share schemes in poverty reduction (Shurugwi, Zvishavane, Guruve).
- The effect of mineral dust of the health of people and animals in communities adjacent to large scale mining operations.

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Annexes

Annex 1: HH questionnaire

Household Survey Questionnaire

Assessing poverty in mining communities in the Great Dyke areas of Zimbabwe

Before you begin: My Name is …… I would like to invite you to participate in a survey. This questionnaire is part of a research to look into poverty in mining communities. This will help us to understand different needs, issues and opportunities of women, men and children in your community who are involved in different livelihoods and how they are benefiting from and impacted by these different livelihoods

Are you the head of the household and over 18 years of age? If yes and if you would like to participate this will involve me asking you a number of questions about your household and the economic activities you are involved in. It will take about 30 minutes.

I would very much appreciate your participation, but I want you to know that this is completely optional and at any time we can stop at your request. I also want to assure you that anything you say will be kept completely confidential and your participation will not be public.

Do you have any questions? So we can carry on with the survey questions.

Name of interviewer	
Date	
Start time	
End time	

Name of respondent	
Name of District	
Name of Ward	
Name of Village	

1. I would like brief details of your household members (tick)

Sex of household head	Male	Female								
Number of males in the household	0	1	2	3	4	5	6	7	8	9	More than 10
Number of females in the household	0	1	2	3	4	5	6	7	8	9	More than 10
Number of children (under the age of 16	0	1	2	3	4	5	6	7	8	9	More than 10

years)											

I would like to know about your household incomes and expenses.

2. What is the main source of your income and how much do you earn annually?

Source of income	**Estimated earnings per year in USD**							
	1-30	31-50	51-75	76-100	101-150	151-200	201-300	More than 300
Employment –Formal Mining								
Mining- artisanal								
Employment – others								
Farming								
Buying and selling								
Tailoring								
Metalwork								
Casual labour								
Other (specify)								
Other (specify)								
Other (specify)								
Other (specify)								

3. Are the incomes enough for your survival?

Yes	
No	

4. What is the main source of drinking water in your household?

Source of water	Tick
Tapped water	
Borehole	
Protected spring/ well	
River	
Unprotected well	
Open dam	
Water vendors	
Other specify	
Other specify	

5. Is the water safe for drinking? Tick

Source of water	**Yes**	**No**
Tapped water		
Borehole		
Protected spring/ well		
River		
Unprotected well		
Open dam		
Water vendors		
Other specify		
Other specify		

6. What is the main source of energy in your household?

Energy source	Tick
Firewood	
Electricity	
Paraffin	
Coal	
Other specify	
Other specify	

7. Does your household own land?

Yes	
No	

8. If yes how what is the ownership and size of the land?

Ownership of land	Number of Hectares					
	Less than 1	1-5	6-15	16-50	51-100	More than 100
Customary						
A1						
A2						
Rented						
Resettlement						
Others						

9. Does the household own or rent the houses they are staying in?

Ownership	Tick
Own	
Rent	
Other specify	

10. What is the type of material used for roofing most of the houses at the household?

Type of material	Tick
Iron sheets	
Tiles	
Asbestos	
Thatch grass	
Tins	
Other specify	

11. What is the type of sanitary facility the household use?

Type of sanitary facility	Tick
Blair toilet	
Flush latrine	
Bush	
Uncovered pit latrines	
Others specify	

Benefits from mining

12. Have you benefited from the mining activities?

Yes	
No	

13. How has mining benefited you and your household?

Ways	Tick
Employment	
Road repairs	
Education (Schools)	
Education (scholarships)	
Health (clinics/ supply of medicines)	
Energy	
Funding	
Markets	
Water provision	
Training	
Food provision	
Farm implements	
Agricultural inputs	
Teachers' salaries	
Built Houses	
Micro-credits	
Others specify	
Others specify	
Others specify	

14. Are you satisfied with these benefits?

Yes	
No	

15. Is there any member of the household working in the mine?

Yes	
No	

16. If yes tick how many

Male	1	2	3	4	5	6	7	8	9	More than 10
Female	1	2	3	4	5	6	7	8	9	More than 10

Impacts of mining on communities

17. Has mining affected your livelihoods?

Yes	
No	

18. How have you been affected?

Ways affected	Tick
Noise pollution and Blasting effects	
Water pollution	
Air pollution	
Land degradation	
Grazing land lose	
Destruction of forest natural resources	
Schools not built	
High cost of farm lands	
Increase of Diseases	
High/rising cost of living	
Destroyed sources of living	
No job opportunities	
False promises	
Low crop yields	
Harassment	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	

19. Have you lost any assets as a result of mining activities?

Yes	
No	

20. If yes what were the assets

Asset type	Tick
Farm land	
Houses	
Farm implements	
Livestock	
Grazing pastures	
Water Sources	
Unsatisfactory compensation	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	

21. What have been the effects/impact of such losses of assets on your life?

Effect/impact	Tick
Hunger	
No land to farm	
Renting expensive farmlands	
Travel long distance to farm, graze animals	
Illnesses and sickness	

Live in poverty	
Unemployment	
Difficulties in education	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	

Coping strategies

22. How do you and your household cope/ solve your problems?

Coping strategy	Tick
Help from sons/ daughters/ relatives	
Travel to urban areas to look for jobs	
Petty trading (buying and selling)	
Compensation from mine	
Manual labour	
Gifts from well wishers	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	

23. Have you received any assistance from the government, private companies, NGOs or CBOs around your community?

Yes	
No	

24. If yes what type of assistance?

Type of assistance	Tick
Money	
Food	
Clothing	
Livestock	
Labour	
Others (specify)	
Others (specify)	
Others (specify)	
Others (specify)	

25. What do you think are the best policy options that can improve the livelihoods of communities living around mines?

1……

2……

3……....

4……

Annex 2: FGD guidelines

Livelihood context	What is needed to be known
1. Institutions	• List down important institutions exist in the area and their roles (what resources do they control) that have something to do with the livelihoods of the communities. (government, CBOs, NGOs, private,) in all sectors of the economy • Rank the institutions according to importance
2. Social mapping	• Map communities (wards and villages) around each mine which are influenced by that mine- quantify HHs • Identify physical infrastructure (schools, health centres, water points, shops, • Who is benefiting (Men, Women, children and what proportion of the pop) • Identify negative or positive socio-economic and environmental impacts and impacted areas and its effects to men, women and children.
3. Infrastructure	• Map out assistance (physical) that the mine has provided e.g. schools, water, health, sanitation, roads and transport services
4. Natural resources	• What are the natural resources found in the area? • Which natural resources are used, when and by whom (women, men, children) for livelihoods? • Who owns and controls use of the natural resources? • How do communities access land? • How much land do HHs own on average?
5. Mining contribution and impacts on Livelihoods	• What are the roles and contribution of mining to the socio-economic and environmental development of communities in the Great Dyke? Specify /quantify contributions • What are the impacts of mining in the Great Dyke?- environmental, social, cultural, economic, political
6. Poverty dimensions – wealth ranking	• What's the local definition of poverty in the community? Wealth Ranking (very poor, poor and rich) • Where are the poor found in the local community? • What's the proportion of the pop is each category (men and women) • Why did the poor fall into poverty and how did the rich got wealth? • When is poverty mostly evident... Jan-Dec? and why (draw annual calendar and specify months when poverty is evident who is mostly affected and the reasons and possibly what

	can be done.
7. Poverty dimensions- drivers	• What are the drivers of poverty in each category (2004-2009 and after 2009-to date 2013) • What are external influences on the livelihoods of women and men- markets, politics, social customs • What do the community (men and women) think will be required to move HHs from each lower category to the next
8. Poverty dimensions- gender	• What are the gender dimensions of poverty in the Great Dyke- how does poverty affect men, women and children and how are they affected? • Access to basic services for women, men and children (health, education, water, production inputs, technical advice
9. Household assets (what are they and how are they used)	Physical • What household assets do communities possess? • What is the type of housing? • What are the sources of water? • What are the sanitary facilities? types? • Shops • Transport • Energy
	Human • Education levels
	Financial • Livestock ownership (what types, numbers and what they are used for) • Savings • Remittances • Access to credit • Pensions
	Social • Presence, membership and roles of Social groupings • Assistance from extended families

	• Nature of interactions with other HHs
10. Livelihoods coping strategies	• How do the people survive? • What are the different livelihoods coping strategies adopted the communities (indicate differences between men and women)----- identify pre GNU and post GNU periods • What types of activities are undertaken by each HH member • What is the level of contribution to the household economy?
11. Livelihoods challenges	• What are the livelihoods challenges the communities have? (Separate men and women
12. Policy recommendations	• Based on challenges and coping strategies what do the communities think are the possible policy recommendation…. What should be done by the communities, mining companies, civil society and government?

Annex 3: List of people who were met

Mhondoro Ngezi: Ward 2

Name	Sex	Village
1. Wellington Jaison	M	3 Wanganui
2. Chenjerai Mhunga	M	3 Wanganui
3. Sekai Mafambo	F	
4. John Mavhure	M	
5. Sharon Hloko	F	
6. Joyce Mavingire	F	3 Turf
7. Fanuel Tika	M	
8. Elias Mafondokoto	M	
9. A. Nyumbo	M	
10. M. Chimunda	M	
11. C. Verenda	M	
12. T. Ncube	M	
13. O. Mavhengere	M	
14. J. Karuva	M	
15. E. Moyo	M	
16. Elias Mafondokoto	M	
17. A. Nyumbo	M	
18. M. Chimunda	M	

19. C. Verenda	M	
20. T. Ncube	M	
21. Netsai Tika	F	
22. Clive Beta	M	
23. Francisca Tsvangiwa	F	1 Wanganui
24. Alice Magwise	F	
25. Isaac Mabhandi	M	
26. Netsai Tika	F	
27. Clive Beta	M	

Shurugwi: Ward 19

Name	Sex	Village
1. Annah	F	
2. Chakanyuka	M	11
3. Chekenyu	M	4
4. Chikambure	M	Chironde
5. Diniwe Munikwa	F	Clinic
6. Elizabeth	F	T/Ship
7. Fakarai	M	Clinic
8. Ivin Musengi	M	4
9. Joseph	M	
10. Komborerai Beka	M	Dzikamidzi Co-Op
11. Mackenzie Makusha	M	Makwikwi Co-Op
12. Mai Madya	F	Clinic
13. Mai Marisa	F	5
14. Mai Mugwagwa	F	Chagwenya
15. Makarara Morgan	M	Dzikamidzi Co-Op
16. Memory	F	T/ Ship
17. Mrs Chkanyuka	F	Chronicle Sch.
18. Mrs Ngwenya	F	Makwikwi Co-Op
19. Mrs Ngwenya	F	
20. Nancy Munikwa	F	6
21. Ropa Chiza	F	Chironde
22. Shava Edmore	M	Dzikamidzi Co-Op
23. Sophia	F	T/Ship
24. T. Hwacha	M	5
25. Tapiwa	M	Makwikwi Co-Op
26. Timi Francis	M	Dzikamidzi Co-Op
27. Vimbai Munikwa	F	6
28. Wilton Musengi	M	4

Guruve: Ward 1

Name	Sex
1. Amai Malola	F
2. Bathwell Nhemachena	M
3. Berison Mambodo	M
4. Deborah Chigwida	F
5. Freddy Gwereda	M
6. Gombarago Phillip	M
7. Gwaze John	M
8. House Maxen	M
9. Jairos Chimokwende	M
10. Juja Tembo	M
11. Kephas Chamarenga	M
12. Mabvuto Mangiza	M
13. Member Magirazi	M
14. Nyamadzawo Christopher	M
15. Prosper Chiroodza	M
16. Rufura Hwarari Magombedze	M
17. Samba Manyika	M
18. Sarudzai Kanyerere	F
19. Taurai Rukodzi	M
20. Watson Chirume	M

Zvishavane: Ward 5

Name	Sex	Village
1. Alice Tari	F	8
2. Alson Nyoni	M	3
3. Andrew Chimuti	M	3
4. Annalia Chinganga	F	Irrigation
5. Bekithemba Nyoni	M	4 Irrigation
6. Blessed Hove	M	4
7. Chalet ncube	F	8
8. Charles Moyo	M	Irrigation
9. Charles Mutunguru	M	3
10. Chiedza Muneri	F	3
11. Chivhanga Munyaradzi	M	4 irrigation
12. Christopher Moyo	M	Irrigation

13. Cosmas nyoni	M	Irrigation
14. Cuthbert Guswayi	M	Irrigation
15. Darlington Musingaindi	M	4 Irrigation
16. Dhingori K	M	1 Mapirimira
17. Dignity Nyoni	M	Irrigation
18. Dorcas Sibanda	F	Irrigation
19. Dzosai Shava	M	2B
20. E. Muchakati	M	4
21. Elaega Mubvumba	F	4
22. Elinety nyoni	F	Irrigation
23. Eliot Mazana	M	7B
24. Elisa Murira	M	7B
25. Elisha bvungure	M	3
26. Elizabeth Dave	F	4
27. Ellen Muchakata	F	4
28. Emilia Jaravaza	F	2B
29. Eneracy Chimangamusasa	F	8
30. Ephet masuku	M	Irrigation
31. Erido Tichagara	M	7B
32. Esnathi Hlekiso	F	2A
33. Eunice Ngarakana	F	Irrigation
34. Evelin Giga	F	8
35. Evelyn mabvumba	F	Irrigation
36. Fadzai banditi	F	8
37. Farai Moyo	M	Irrigation
38. Favourate Zhou	M	4
39. Fedelis Gwatirengana	M	Irrigation

40. Fungai zhou	M	8
41. G.S Chikirikiri	M	2
42. Givetone Dube	M	Irrigation
43. Gladys Ndlovu	F	4
44. Harusiyi Manyani	M	8
45. Herrieta Mafa	F	4 Irrigation
46. Hillary Chitura	M	Irrigation
47. Hlamisi Mkwanazi	M	8
48. Hosia Sibanda	M	Irrigation
49. I . Mantondo	M	6
50. Idzai Chademana	M	6
51. Iyline Matongo	F	4
52. Jescah Manongere	F	4
53. Joice Ncube	F	1
54. Kazato Mhandapanda	F	3
55. Kezia Good	F	6
56. Knowledge Moyo	M	Irrigation
57. Kudakwashe Zipeva	M	4
58. Kumbirai gwatipedza	M	Irrigation
59. Lawewnce Mugiya	M	4 Irrigation
60. Lawrence Masuku	M	4
61. Lawrence Singalandi	M	Irrigation
62. Liunear Maronga	F	Irrigation
63. Loreta Masuku	F	Irrigation
64. Magline Madzvamuse	F	6
65. Makanyara Murape	M	8
66. Margaret Maronga	F	Irrigation

67. Maria Madzoke	F	7B
68. Mary Chrikure	F	4
69. Melody Chisa	F	Irrigation
70. Memory Ndabazonke	F	Irrigation
71. Merim Chemhuru	F	6
72. Mike Zireva	M	Irrigation
73. MM.Luzani	M	7B
74. Muchanyara chitera	M	2 A
75. Nesi Moyo	M	1
76. Ngqwele Vuma	F	1 Irrigation
77. Nhete Home	M	2
78. Nobuhle Sibanda	F	6
79. Nyarai Zhou	M	4 Irrigation
80. P.Mabvumbu	M	1
81. Paradza Mazo	M	7B
82. Pezi Mhandu	M	1
83. Precious Nyama	F	Irrigation
84. Prettymore Chidza	F	7B
85. Pumulani Mauye	M	4 Irrigation
86. Rachel Ngwarira	F	Irrigation
87. Ratidzo Moyo	F	7 B
88. Renada Chimiti	F	3
89. Rosina Sibanda	F	Irrigation
90. Rudo Mashiri	F	1
91. Rumbidzai Ndave	F	7 B
92. Rumbidzai Njovo	F	
93. S. Maride	F	3

94. S. Msiza	F	3
95. Saliwe Pome	F	4
96. Sarah chimombe	F	Irrigation
97. Sekai Nyahwi	F	Irrigation
98. Shadreck nhome	M	6
99. Shamiso Jinja	M	7B
100. Shunyai Jefta	M	4 Irrigation
101. Silas Takavapa	M	7B
102. Stern Mkanda	M	Irrigation
103. T. Zhou	M	4 irrigation
104. T.Munyuki	M	4 Irrigation
105. Tafara Maposa	M	Irrigation
106. Takawira Svusvu	M	7B
107. Tavonga Shumba	M	4 Irrigation
108. Tendai Shava	M	4
109. Thandiwe Ncube	F	8
110. Themba Guswayi	M	3
111. Thembeni Ncube	M	Irrigation
112. Tinomuvonga Mauye	M	4 Irrigation
113. Traiphinar Barati	M	2A
114. Tsitsidzaishe Mawarire	M	1
115. Violet Danga	F	Irrigation
116. Ylora Mugabe	F	7B
117. Zivanayi Singalandi	M	Irrigation