



Midlands State University
Established 2000

Our Hands, Our Minds, Our Destiny

Approval form.

This serves to confirm that the undersigned read and recommended the Department of Archaeology, Cultural Heritage and Museum Studies at Midlands State University for acceptance of a dissertation by MUDAOSE SIMBARASHE (REG R122573E) entitled, *Balancing conservation and use with heritage management, a dilemma for heritage institutions in Zimbabwe. Case study: Nharira hills* in fulfilment of the requirements for the degree of Archaeology, Cultural Heritage and Museum Studies.

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Dedicated.

To Mundibaye Chirozva & Leon Madaose.

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Abstract.

The study used a qualitative approach as to understand the need to balance conservation and use with heritage management in Zimbabwe. The aim of the study was to assess whether Zimbabwean heritage institutions have balanced mining use with the conservation of heritage places. In achieving the aim of the study, the research was based on the following objectives to assess whether NMMZ recognise mining company as a stakeholder of Nharira hills, to assess whether the mining use of the site ,is a threat to rock art conservation and to assess how other heritage authorities have balanced mining use and conservation of heritage places. Using the case study from Rio Tinto in Oyu Tolgoi Mongolia as the bench mark bases on how conservation and use can be balanced with heritage management, it state for the need to create acceptable limits of change as to balance developers' interests with heritage conservation. This also led to the understanding that the granite miners at Nharira hills are the stakeholders of the heritage place. On the other hand, the research finds out that there are no predetermined agreement on which mining might operate hence rock art at Nharira hills is facing threats from mining use. The reason behind that was that, the granite miners are excluded from decisions and activities that have to do with the heritage place. Recommendations were also given which include the need to create the acceptable limits of change, the need to consider the developers' interests on heritage places and the mining company should contribute to the development of the local community. Failure to consider the above recommendations, this will led to the loss of rock art at Nharira hills.

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Acronyms.

ICOMOS	International Council on Monuments and Sites.
IUCN	International Union for Conservation of Nature.
NMMZ	National Museums and Monuments of Zimbabwe.
UNDP	United Nations Developmental Programmes.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.
WCED	World Commission on Environment and Development
WHC	World Heritage Convention.

DEFINATION OF TERMS.

Heritage-sites: works of man or the combined works of nature and of man, and areas including archaeological sites which are of ... value from historic, aesthetic, ethnological or anthropological point of view (UNESCO-Operational Guidelines for Implementation of the World Heritage Convention 2013:13).

Natural heritage-natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view (UNESCO World Heritage Convection 1972:2).

Intangible cultural heritage-means the practices, representation, expression, knowledge, skills as well as the instruments, objects, artefacts and cultural spaces associated therewith that communities, groups and some cases, individuals recognize as part of their cultural heritage (UNESCO World Heritage Convention-Convention of the Safeguarding of the Intangible Cultural Heritage 2003:1).

Conservation-means all the process of looking after a place so as to retain its cultural significance (The Austrian ICOMOS Charter for Places of Cultural Significance 1999:2).

Management plan-is relatively a tool which determines and establishes the appropriate strategy, objectives, actions and implementation structures to manage and where appropriate, developing cultural heritage in an effective and sustainable way so that its values are retained for present and future use and appreciation (UNESCO World Heritage Convention Managing Cultural World Heritage 2013:124)

Community- a group or unit that has a relationship with the heritage that make it (the heritage) (Chauke 2003:12).

Stakeholder-individuals, people, organizations that might not have a relationship with the site, although they might have an interest, usually economic or political (Chauke 2003:13)

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CHAPTER 1.

1.0 INTRODUCTION.

Stakeholder participation is regarded as inclusion of individuals, people, organisations that might not have a linkage with a heritage place, although they might have an interest, usually economic and political (Chauke 2003). Thus means anyone who can be affected positively or negatively with the decisions concerning a heritage place is regarded as a stakeholder. Generally, in heritage conservation stakeholder participation has been regarded as traditional, thus means it has a long roots in areas like the Aborigines of Australia and the Mijikenda Kaya forests in Kenya. However, although it is tradition, it seems as if it is new when there is no or little research on how can we balance the interest of stakeholder with use of heritage places.

It is of vital to start by consider how the need to balance the use and heritage conservation started as to have a clear picture as to know what the research seeks to address. The World Heritage Convection 1972 states for the need, " *to adopt a general policy which aims to give cultural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes*" (World Heritage Convection 1972:3). Within this regard, the WHC advocate for the need to manage heritage within its social-political environment and not in isolation from its use. However, although the WHC advocate for use and conservation of heritage places, most heritage institution are failing to maximise this opportunity and tend to regard stakeholder activities on heritage places as threats to its conservation. Thus why this research is aimed on assessing whether heritage institutions in Zimbabwe have balanced stakeholder interests on heritage places with its conservation.

The theory of intergenerational equity proposed by Weiss Brown (1992) argues that the present generation hold the planetary value for both cultural and natural heritage similar with past and future generation. As members of the present generation they hold the natural and cultural heritage for future generation. At the same time, the present generation have the right to use and benefit from the heritage (Weiss Brown 1992). Meanwhile basing on this principle, the present generation should conserve and use cultural and natural heritage with the view to pass it in good condition to future generations. Thus means resources at a heritage places should be used as to support the livelihoods of the present generation as well as ensuring its conservation rather than to pass it in good condition to the future generations like it was before.

Considering all these, literature has documented the success of other countries in balancing the needs of stakeholders and heritage conservation. In Zimbabwe and Africa as a whole it becomes a challenge. There are certain reasons that are behind that failures. In most cases, heritage sites are managed in isolation from its socio-political environment which results in the creation of buffer zones. Most heritage institution are failure to assess the values that are attached to heritage places which results in exclusion of other stakeholders. Besides not only taking into consideration about the causes for the failure of heritage institutions to include stakeholders in the use, conservation of heritage places. Participation of stakeholders in use of resources in its own results in prioritised of one sector without taking into consideration of other sectors, but generally stakeholder participation, conservation and use of heritage places ensure the safeguarding of cultural heritage places.

However, considering that other countries have succeeded in balancing the needs of stakeholder with conservation and use of heritage management. It was the basis of this research on why heritage institutions in Zimbabwe are failing to involve all stakeholders in all sought of development activities on heritage sites. However, it is the aim of this study to assess whether Zimbabwean heritage institutions have balanced mining use with the conservation of heritage places using Nharira hills as its case study.

1.1 Background to the study.

In the world the idea concerning the need to balance use and conservation with heritage conservation has its roots from the World Heritage Convention. In its article 5(a), the convention advocate for member states to adopt policies which aims at giving heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning (WHC 1972:3).Meanwhile basing on this statement, it is the researcher's observation that the world heritage convention laid the bases. It provide an idea that, for heritage to be used, there is need to be a balance between use and conservation. Rather than to be managed in isolation to its use.

In article 5(b), the convention advocate that the protection, conservation and presentation of natural and cultural heritage should be done with an appropriate staff. The staff should possess the means of discharging their functions (WHC 1972:3).However, although it was not written in the official text, the actions of heritage conservation cannot be done by government only. There is need to be collaboration with other parties such as the local communities, academic institutions, heritage professionals and other stakeholders. Hence, the involvement of

stakeholder in conservation and use through participatory is encouraged by the World Heritage Convention.

In 2013, the World Heritage Convention adopted the operational guidelines. In its article 6, the convention embraced the concept of sustainable development. It states that, the protection and conservation of natural heritage and cultural heritage is vital to sustainable development (WHC-Operational Guidelines 2013:3). Meanwhile, sustainable development can be archived through sustainable use. Thus means that, resources at a heritage place should be used and balanced with its conservation as to support the livelihoods of the local community, rather than to pass it in good condition to the future generation (WCED 1987:45).

The Budapest Declaration which was adopted by the World Heritage Convention in 2002 advocate for the need to balance use and conservation of heritage places. In its guidelines, the declaration provide measures on how to stick a balance between conservation, sustainability and development (Kawakami *et al* 2012). It states that, heritage places can be protected by activities that can contribute to the economic and social development. These development activities result in the sustainability of the community's life.

Although literature traced the history behind the need to balance use and conservation with heritage management. In Africa, it still remains a challenge. Higher priorities are granted to sectors that provide high Gross Domestic Product to the economy. Chirikure (2013:2) pointed out how Swaziland withdrew the Ngwenya Middle Age ochre mines from the UNESCO World Heritage Sites nomination list in favour of reviving industrial iron ore extraction. Surely, if heritage is the soul of any nation, then its conservation should be balanced with use. Heritage institutions are required to balance conservation needs with the needs of other stakeholders such as local communities that may need the hospitals, the jobs and the income associated with developments (Chirikure 2013:2).

In case of Zimbabwe, there is no realisation on how use and conservation can be balanced with heritage conservation. Right now, the country is facing challenges such as unemployment and hunger, according to Maslow's hierarchy of needs, heritage is granted low priority. As the country struggles to catch up to these issues, through economic development, more emphasis is being placed on the economic potential of extractive industries, such as mining. In trying to catch out to these activities, developmental activities commenced without considering cultural heritage. Thus means government should not prioritised sectors but it should take into considerations of both sectors.

The legal framework that exist in conservation of heritage places in Zimbabwe, does not embrace the need to balance use and conservation of heritage places. From its act, the NMMZ Act advocate for heritage to be protected rather than to be used (NMMZ Act Chapter 25/11:9). This results in much critics to be laid against that view and tend to regard the act itself as still embrace colonial philosophy (Ndoro and Pwiti 2009:43). Thus during the colonial period, heritage were preserved rather than to be used and any actions done at heritage places during that time was regarded as destruction.

Besides that, the act has failed to stand up pressures against developmental activities on heritage places. Although it is its mandate to carry out, impact assessment to any developmental activities on heritage places (NMMZ Act section 26 and 27:9) Developmental activities such as agriculture, tourism, infrastructure and mining activities has resulted in the loss of cultural heritage places in Zimbabwe. For example infrastructural development at Sviba cultural landscape in Masvingo results in the loss of cultural heritage (Musindo *et al* 2012:284). Like the case of Nharira hills the current management framework, that is the traditional and legal framework has not able to stand up pressures from mining activities on the site.

Given this background, the main drive for this research was that currently heritage institutions are failing to balance use and conservation of heritage places through stakeholder participation. Thus this research is aimed on assessing whether Zimbabwean heritage institutions have balanced mining use and conservation of heritage places using Nharira hills as its case study.

1.2 Statement of the problem.

The current management framework which is used at Nharira hills is not considering all stakeholders in the conservation and use of the site. Hence little is known on how best heritage at that site can be protected from mining quarrying activities.

1.3 Aim.

To assess whether Zimbabwean heritage institutions have balanced mining use and conservation of heritage places.

1.4 Objectives.

- To assess whether NMMZ recognise mining company at Nharira hills as stakeholder of the heritage place.
- To assess whether the mining use of the site, is a threat to rock art conservation

- To assess how other heritage authorities have balanced mining use and conservation of heritage places.

1.5 Research questions.

1 Are these granite miners in cooperated as stakeholders in the management system at Nharira hills?

2 How have the responsible authorities and the mining company tried to reduce the negative effects of mining activities at the site.

3 How have other heritage authorities' balanced mining use and conservation of the cultural resource.

1.6 Delimitation of the study area.

Nharira is located in Saffron Walden Farm in Norton. It is accessible through a narrow strip of tarred road that runs through the commercial farms which branches off from Harare-Bulawayo road at 38 km peg. On the Eastern side of the Nharira hills is Munwahuku River (a tributary of Hunyani) which supplies several dams in the commercial areas.

The Nharira Rock Art sites and ritual shrines are located in an area of granitic landform characterised by balancing rocks, dwalas and broken rings of granitic hills with a lot of caves that were exploited by the hunter gatherers communities and early farming communities. This geographic outlook of Nharira attracted the Director of the film, King Solomon's Mines hence the shooting of the film in the area.

Mushore and Nharira hills.

According to the spirit medium Mushore, Nharira means ninga or tunnels (Mushore per comm).In Nharira, there are a number of tunnels that are said to have been used by the Nyamweda forefathers during the refuge period days. Mushore himself resides among the Nharira hills .Besides that, the Mushore family also pointed out that before they came to stay at Nharira hills they reside in the Mhondoro area. They move permanently to stay at Nharira hills after the attaining of independence in 1980.

In terms of population distribution, the area is composed of different people of varying backgrounds who can be categorized into three main compartments in terms of geographic locations. The district has a mixed populations that is composed of the urban component located in suburbs, peri-urban components who are those from the surrounding farming areas

and the rural component who mainly rural folks from areas such Mhondoro. Most of the population is located in rural setups. In which most of them depends mainly on rain fed agriculture for their survival. Besides depending on agriculture, some of the residents are employed in Harare and others in the surrounding farms.

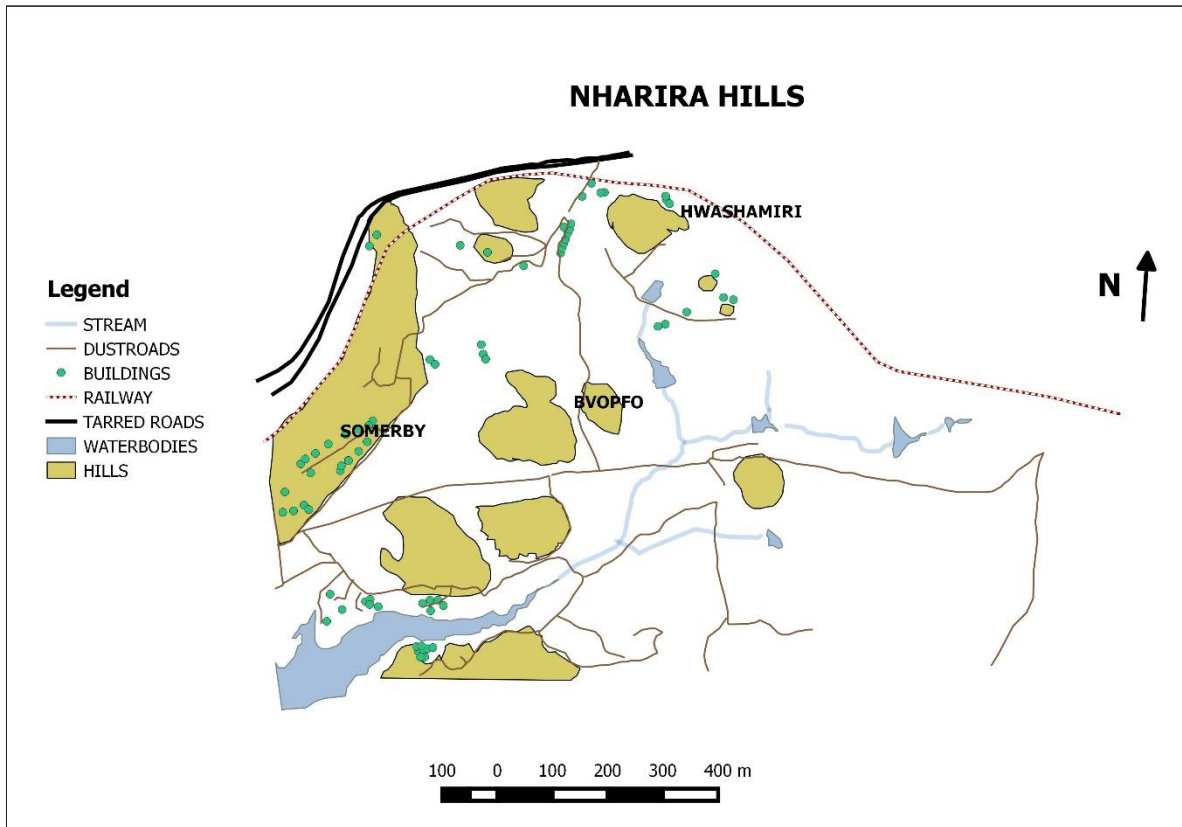


Fig 1: shows a map of Nharira hills.

Source: Midlands State University Survey & Geomatics Department.

1.7 Limitations of the study.

The researcher also thought that the National Museums and Monuments of Zimbabwe is not including all stakeholders in the conservation of heritage places. As a result, rock art at Nharira hills was facing all threats from mining use. Besides that, the researcher also faced limited time and resources as to come up with this research. In spite of limited time and resources, the researcher will use this case study to prove it.

1.8 Justification of the study.

The issue of use and conservation need to be balanced with heritage management. Against this background, the study seeks to provide a basis on how best we can balance conservation and

use of heritage places through stakeholder participation using Nharira hills as its case study. It was the bases of this study to provide arguments on the need for heritage to be used on the expense of others as to insure the issue of sustenance. Hence it was the basis of this study to provide knowledge on how heritage will be useful to stakeholders and to show how people are benefiting from mining activities. The study will also fill knowledge gap on how can we bridge the interest of all stakeholders such as miners and local communities rather than treat some stakeholders as enemies.

1.9 Assumption of the study.

This study assumes that, heritage is managed in isolation without a though understanding of all stakeholders. Thus the responsible authorities are isolating Nharira hills and not fully involving all stakeholders in the conservation of the site It also assumes that, some of the stakeholders such as the mining quarrying company are not aware about the importance and the value of cultural heritage on the site . Therefore it is a motivational of this study to address the issue of use and conservation of heritage places through advocate the need to include all stakeholders.

1.10 Summary.

This chapter provide an introductory background to various issues that constitute the research. Among these issues include how the need to balance use and conservation of heritage places started, the management frameworks that is used to manage Nharira hills, stakeholders that are using the site, the area that constitute the Nharira hills and its surrounding areas. Also the aim, objectives and the research questions are outlined in this chapter. Besides that, the delimitations, the justifications and the assumptions of the study has been discussed.

CHAPTER 2.

LITERATURE REVIEW.

2.0 Introduction.

The chapter will explore the literature concerning the study. Literature was reviewed around the set objectives of the study. The objectives are as to evaluate the management plan which is currently used at Nharira hills, to assess the state of conservation at the site and to evaluate whether granite miners are accommodated as stakeholders at the site. In the process of reviewing the literature, the study also explore the theoretical framework on which the study is based. Case study from Oyu Tolgoi was used as to understand the management framework which are used in other countries as to try to balance use with conservation of heritage places resources.

2.1 Conceptual framework.

Brundtland (2012) defined sustainable development as development that meets the needs of the present generation without compromising the ability of future generation to meet their own needs. In this research, the concept of sustainable development was adopted for its relevance in studying the need to balance use and conservation of heritage places. The issue of use when it comes to heritage conservation is regarded as problematic hence it is regarded as a threat. The concept of sustainable development best fits the case of Nharira hills. Brundtland (2012) notes sustainable development as associated with economic, cultural, political and environmental development. In this notion, the fact that sustainable development encompass economic aspect. The mining use at Nharira hills should support the livelihoods of the present generation whilst the negative impacts from mining use should be at a limited scale as to conserve the heritage resource for the future generation.

Apart from that, the operational guidelines of the World Heritage Convection was adopted within this study. In its guidelines 12, the convection advocate for the participation of stakeholders in the identification, nomination and protection of world heritage sites (WHC-Operational Guidelines 2013). The guideline was adopted for its relevance on the need for inclusiveness of all stakeholders at Nharira hills in the conservation of heritage place. In this notion, the fact that the operational guidelines advocate for inclusiveness. The operational guidelines will provide the bases on the need to involve all stakeholders in the conservation of Nharira hills.

The operation guidelines also advocate for the concept of sustainable development. In its guidelines 6 and 7, the convention states that ,all conservation and management of cultural heritage is significant to sustainable development (WHC-Operational Guidelines 2013).All identification ,protection and preservation should aimed at transmit the cultural heritage to future generation. This concept is vital especially with regards to cultural landscape such as Nharira hills. With proper and adequate inclusion of all stakeholders in the conservation of the heritage place. The negative impacts from mining use at Nharira hills will be limited which will facilitates the conservation of the heritage resource for future generations. Thus this research was aimed on assessing whether Zimbabwean heritage institutions have balanced mining use and conservation of heritage places.

2.2 Stakeholder inclusion in the management plan.

Stakeholder inclusion is regarded as participation of various groups, individuals, institutions and organizations in the management of cultural heritage. In most cases, all cultural heritage places that have management plans they tend to provide room for stakeholders to be involved either in planning, decisions or activities concerning the site (Rio Tinto 2011). Although stakeholder involvement is regarded as a best way of ensuring conservation of heritage places. Its applicability is still fruitless in Africa when it comes to heritage conservation. In countries such as Zimbabwe, heritage institutions have failure to assess values attached on heritage places which results in the exclusion of other stakeholders.

Makoni (1997) pointed out that, literature in Zimbabwe has criticized the failure by NMMZ to involve all stakeholders in all sought of developments on heritage sites, especially the local community. Maybe it is as a result, that NMMZ has failed to recognize some of the local communities who were previously attached to these heritage places. Most local communities who were linked to some of these heritage places, were previously alienated from their heritage (Ndoro 2001).In Zimbabwe, sites such as Nharira hills, Khami and Tsindi were left unattended since colonial property rights were not allowed unauthorized entry without the concert of the owner (Katsamudanga 2003).

In spite of the outcry, focus has worried a lot on how stakeholder inclusion in heritage management insure the conservation of heritage places. However a major ultimate aim of stakeholder inclusion within heritage places is to exchange, share and devised a way forward on how activities and actions concerning a heritage place can be conducted during the phase of heritage conservation (Wahab and Pigram 1997).

Cleere (2011) and Norman (2007) criticized stakeholder participation and tend to argue that the effectiveness of stakeholder inclusion depends on commonly shared vision, equal empowerment, and legislative requirements. Despite that, successful stakeholder inclusion depends on the rightful choice of a right stakeholder at the table during the initiation stage. Stolton and Dundley (1999) supports the above point, basing on the fact that they need for the management team to consider how participation works within different contexts such as culturally and socially environments.

2.2.1 Internal inclusion.

Rio Tinto (2011) regard internal inclusion as an engagement conducted between a heritage institution and the local community concerning the management and conservation of a heritage place. In most cases, internal inclusion fosters a relationship between a heritage institution and the local community on how decisions pertaining to a particular site can be implemented. However, Rio Tinto fails to account how internal inclusion works within the context of external stakeholders on heritage places.

Jopela *et al* (2012) view internal inclusion as community involvement. They regard it as it establish an understanding of the needs of the local communities. In Zimbabwe the inclusion of local communities on places such as Nharira hills, came as a result for the need to ensure sustainability of cultural landscapes. Globally efforts has been made, on how best local communities can be involved in the management of heritage places who were previously excluded in favor of what is called formal methods of managing and conserving cultural heritage (Ndoro 2001).

Segoby (2005) pointed out that, internal inclusion as a form of stakeholder participation, takes various forms that are context depended like in developmental activities, site management and conservation. For example, when local communities are involved in developmental activities such as project controls, it is regarded as a way of empowering previously marginalized groups (Chauke 2003, Chirikure and Pwiti 2008). Hence he view internal inclusion as a way of empowering the local communities in the management and conservation of heritage places.

Chirikure and Pwiti (2008) view internal inclusion in Zimbabwe as regarded as restoring access of power to the local communities who have been denied access to heritage places. An example of Domboshava is a case where internal inclusion has been applied. The Domboshava cultural landscape provide documented experiences on community inclusion. The painted rock art

shelter at Domboshava contained a geological tunnel which was used by locals during ceremonial activities (Pwiti and Mvenge 1996). The proclamation of the place as a national monument alienates and excludes the local people who use the place in times of stress and need. With failure to recognize the local communities in activities concerning the site, the local people became agitated and confrontational which results in committing several acts of vandalism at the site through smearing oil paint on rock paintings. As a result, such activities result in policy change by National Museums and Monuments which began to involve local communities in the management of the site.

Powell (1988) regards internal inclusion as a way of informing the local community about the changes that might happen at the cultural place. Thomas and Middleton (2003) view informing as a way of engaging local communities in heritage management which is referred to as the lowest level of participation in the heritage management process. It can also be termed as a top-down approach in management terms. However, Powell fails to account how internal inclusion works within the context of external stakeholders on heritage places.

Rio Tinto (2011) defined internal inclusion as consultation of the local communities in the conservation of heritage places. For example, at Hail Creek Mine in Australia, the Rio Tinto company consulted the local Wiri Yuwibura people on the construction of an interpretive walking track that was going to be used by employees from the village to the mine (Rio Tinto 2011). As a result, the walking track provided an awareness to the employees about the importance of Aboriginal heritage. However, internal inclusion as a form of community involvement is done with the purpose of publicizing the significance of the heritage place to the general public with the aim of promoting conservation and management of the site from different angles (Damm 2005).

2.2.2 External inclusion.

ICOMOS Africa (2009) views participatory management as external inclusion. Participatory is regarded as the integration of heritage places into a broader context to ensure that decisions concerning a heritage place are taken at a broader level from both the community, institutions and heritage professionals. This shows that all actions and activities such as conservation issues are done in direct consultation with stakeholders. However, the success of participatory management in heritage conservation has been varied. Most case studies from sub-Saharan Africa such as at Khami and Mapungubwe, results concerning external inclusion show mixed

results (Ngoro 2010) .Most heritage institutions are failure to assess values attached on heritage places which results in the exclusion of other stakeholders.

Chirikure *et al* (2010) noted that, external inclusion is a solution that can be used to solve politics associated with a heritage place. The case of Kasubi tombs in Uganda, demonstrates how external inclusion solves management challenges faced by a heritage place. The government of Uganda has returned powers to the local Buganda people. With such a movement, this resulted in a jointly management between the Department of Museums and Monuments together with the local community. In, such a movement, conservation challenges were solved (Reid and Kigongo 2007). However although they view external inclusion as a solution to heritage conservation. Most heritage institutions are failure to assess values attached on heritage places which results in the exclusion of other stakeholders.

Du Cross and Mckerder (2014) view external inclusion as associated with power imbalances. Decisions concerning how heritage places can be managed and presented to the public becomes a challenge. Sectors such as mining can be powerful when supported by government. They tend to conduct their activities within heritage places without the full concern of the local community. However, Rio Tinto (2011) stipulates that, external inclusion is just important as internal inclusion. It insures that activities done within a heritage place falls under the direct control of both the heritage management team and the local community as to meet the requirements of the heritage place. However although they view power imbalances as associated with external inclusion. More central is failure by heritage institutions to assess values of the site and include all stakeholders.

However, although both external and internal inclusion of stakeholders is associated with limitations. It has been thought as the best solution methods that can be used to manage and conserve cultural heritage sites. Chauke (2003) has noted some challenges associated with stakeholder participation and involvement in heritage places such as at Domboshava, Great Zimbabwe and Old Bulawayo. Issues such as social, operational and structural limits were identified. However although they identified the challenges associated external inclusion. More central is failure by heritage institutions to assess values of the site and include all stakeholders.

2.3 Stakeholders and developmental issues on cultural heritage places.

Development as an act of economic and social change that is usually based on related cultural and environmental factors with their interaction (Sinamai 2008, Mapesa n.d). In other ways,

development can be regarded as the use of science and knowledge to meet specific requirements for the community (Mapesa n.d) .The word development is associated with western origins and often regarded as suspicion when it comes to heritage places (Sinamai 2008). As a result it brings outside people who did not respect the values attached to heritage places with the aim of enjoying the benefits extracted from a place. The Oxford English Dictionary (<http://oxforddictionaries.com>) view development as an action which results in change in a situation. Concerning this perspective, can we link stakeholder and developmental issues such as mining, construction and agricultural activities on heritage places as associated with destruction of heritage places? Makuvaza (2014) and Mapesa (n.d) has documented that, conservation and developmental activities on heritage places are not mutually depended, as the two are in contest with each other. Although literature has documented about the negative impacts associated with developmental activities on heritage places. There is also need to consider developers' interests on heritage places rather than to regard as a threat to heritage conservation.

2.3.1 Tourism and development.

In Africa, most World Heritage Sites, have triggered the development of local peoples' enterpreneural skills such as the selling of souvenirs to the tourists (Makuvaza 2014). To the government, it has also result in revenue generation through taxation. Though there are some benefits associated with tourism. Literature has pointed the effects associated with tourism on heritage places. Activities such as infrastructural development and large volumes of visitors on heritage places has been associated with adverse effects (Nuryathi 1999, Sinamai 2008).Like the case of Great Zimbabwe, the site witnessed larger number of tourist visits, recorded at least one hundred thousand before the year 2000 (Sinamai 2008, Ndoro 2001).Such large volume of tourists results in soil erosion and the imposition of new culture within and around people who live around the heritage place. Other developmental activities such as hotels, lodges, and souvenir market which sells art to the visitors results in physical change in appearance of the heritage place (Ndoro 2001).However, tourism as regarded as development, there is also need to consider the interests of tourists on heritage places rather than to regard as a threat to heritage conservation.

2.3.2 Infrastructural development.

Musindo *et al* (2012), pointed out that heritage places continued to be lost through infrastructural development. Developments such as roads, dams, telecommunication structures

and power stations results in loss of natural and cultural heritage. In Africa, most countries invest in projects as way to improve the standards of living for their people. As a result, such activities influences the development of infrastructure which results in loss of heritage (Kiriyama *et al* 2010). However, although infrastructural development is regarded as threat to heritage conservation. There is also need to consider the interests of developers on heritage places rather than to regard as a threat to heritage conservation.

Musindo *et al* (2012), mention how infrastructural development at Sviba Cultural landscape in Masvingo results in the loss of the heritage places. The project initiated by Econet wireless Zimbabwe through the establishment of a base station results in the destruction and loss of valuable heritage such as graves, beads and mortuary pots (Musindo *et al* 2012). However although they associated infrastructure development with threats to heritage conservation. They did not put into consideration about the need to consider the interests of developers on heritage places rather than to regard as a threat to heritage conservation.

Marowero (2012:35) views infrastructural development as a threat to heritage material. Infrastructural developments in the form of installation of telecommunication structures by Econet and Netone at Mahonondo hill in Rusape results in loss of valuable cultural material. Artifacts ranging from potsherds, iron implements and bone artifacts were destroyed during the execution stage of the project. However although her studies associated infrastructure development with threats to heritage conservation. She did not put into consideration about the need to consider the interests of infrastructural developers on heritage places rather than to regard as a threat to heritage conservation.

Marowero (2012) also associate telecommunication development and urban expansions as associated with adverse negative impacts on cultural heritage. In Mutare at Murahwa hills, urban expansion by city urban developers at Avalon Park results in loss of archaeological material such as stone implements. At Gombe mountain in Buhera, infrastructural developments seriously destroying archaeological material. Archaeological attested material ranging from dry stone walled structures, potsherds, tuyere pipes and burial remains were lost during project execution process (Marowero 2012:35). However, although Marowero associate infrastructure development with negative impacts. She did not put into consideration about the need to consider the interests of infrastructural developers on heritage places rather than to regard as a threat to heritage conservation.

2.3.3 Mining development.

Rio Tinto (2011) pointed out that, mining activities has negative impacts on both the heritage place and the livelihoods of the local indigenous people. On heritage places, mining activities such as ground clearance, disturbances, pollution, excavations, vibration, exploration and drilling tend to have adverse effects on heritage places. Dixon and Dillon (1990) mention how mining activities in Australia at Barramundi results in the destruction of Aborigines rock art. Within their study, they failure to consider that they is also need to consider the interests of miners on heritage places rather than to regard as threat to heritage conservation.

In Papua New Guinea, Rio Tinto (2011) mentioned that, the establishment of a new mining company within the area, results in breakdown of local community's traditional customary law. Customary laws that governs the people within the area were changed. People started to follow newly imposed laws, most cultural sites were not respected their sacredness. In return, this resulted in the deterioration of the traditional system within the area. However, Rio Tinto did not put into consideration about the need to consider the interests of miners on heritage places rather than to regard as a threat to heritage conservation.

Marowero (2012:37) states that mining activities in the form of granite quarrying results in the loss of archaeological material. Quarrying activities at Gombe Mountain which were done by Econet employees' results in negative impacts on dry stone walls structures. Dry stone walls structures were vandalized during the installation of Econet base station. With such an activity, dry stone walls were left in a deteriorating state. Negative effects such as bulging and topping were noted. Within her concluding remarks, Marowero associate mining activities with negative impacts on both the archaeological and cultural material found within the heritage place. Although, Marowero associate mining activities with negative impacts on heritage places. Her studies does not put into consideration about the need to consider miners' interests on heritage places rather than to regard as a threat to heritage conservation.

Wetzlmaier (2012) noted that, most communal lands in rural setups are associated with ritual grounds were rituals and ceremonial activities were conducted. These ancestral domain tend to be affected in the event that mining activities are commissioned to mine within the area. In Abra in the Phillippes, Wetzlmaier (2012) states that, mining activities results in the loss of ancestral domain lands which were linked with rituals and ceremonial activities. Most communities were relocated from their traditional lands. With such an activity, this result in marginalization of the local communities to have access to their traditional cultural sites. With such an event, this results in the loss of identity by most local communities. However, although

Wetzlmaier regard mining activities as a threat to heritage conservation. His studies failures to consider about the need to consider the interests of miners on heritage places rather than to regard as threat to heritage conservation.

2.3.4 Agricultural activities.

Ryan *et al* (2012:122) associate agricultural activities with negative impacts on cultural heritage material. On the island of Hawaii, Ryan *et al* (2012) noted how field fires from sugar cane prior for harvesting results in deterioration of rock art. High heat were produced from field fires through large frames. As a result, this causes the accumulation of ash and soot on rock art. Other notable changes which were shown include changes in colour, exfoliation of pictographs from rock art substrate. Although they associate agricultural activities with negative impacts on heritage places. They failure to consider about the need to consider the interests of agriculturalists on heritage places rather than to regard as a threat to heritage conservation.

ICOMOS (2002) noted some negative impacts associated with fast track land distribution in Zimbabwe. Sites such as Mashayamombe were threatened with agricultural activities .Activities associated with agricultural activities such as infrastructural development, land clearance and tillage of massive lands resulted in destruction of both archaeological and cultural materials. However ICOMOS failure to consider that there is need to consider the interests of agriculturalists on heritage places rather than to regard as a threat to heritage conservation.

Chakanyuka (2007) also pointed that, the fast track land programme was associated with large movement of people .Heritage places, such as Nharira hills were placed under the direct control of the local community. Most of these people were characterized with lacking of knowledge about values which were placed upon the heritage places. Values such as spiritual and sacred values were affected. But however within his studies, the study failures to consider that there is need to consider the interests of developers on heritage places rather than to regard as a threat to heritage conservation.

However, from the above discussion, scholars tend to associate stakeholders activities on heritage places with negative impacts. Activities associated with tourism, agriculture, mining and infrastructural developments results in loss of cultural material. Scholars such as Marowero (2012) noted developmental activities on heritage places as a dilemma to conservation of both

archaeological and cultural materials. Makuvaza (2014) view the major ultimate causes for the loss of cultural material through development is based on the view that, most of these projects are government sponsored projects. Hence they conduct their activities without the full concern of other stakeholders. Although literature associate developmental activities with negative impacts. It failure to consider that they is need to consider the interests of developers on heritage places rather than to regard as a threat to heritage conservation.

2.4 Case study- Rio Tinto in Oyu Tolgoi, Mongolia.

Oyu Tolgoi is situated within the province of Mongolia between the boarder of China and Japan. The area in which it is situated is rich in copper and gold. In 2012, Rio Tinto in Oyu Tolgoi wanted to commence its developmental activities within the area in the form of mining activities. However the area on which mining activities were supposed to commence was regarded by the local community as a land that is rich in culture and heritage of the local people. Thus a major challenge exists on how developmental activities can be executed while considering the culture and heritage of the indigenous people. In response Oyu Tolgoi designed to monitor and control all the impacts associated with mining activities along the community's standards. Thus means a management framework was implemented as to track the impacts of operational activities and to monitor the performance of cultural heritage programme against Rio Tinto standards.

As a way to meet the required standards, the Mongolia International Heritage team and a group of Mongolian and International heritage specialists have tasked Oyu Tolgoi to design a Cultural Heritage Programme for the Project. The team created the Acceptance Change Framework. The framework defined the acceptance level of change according to the needs of the community as pertain to the operations of Rio Tinto within the area without causing negative impacts to the tangible and intangible cultural heritage found within the area. Within the framework it stipulates that, all activities were supposed to be monitored under the Cultural Heritage Programme which ensure that all impacts were within the acceptance limits set by the local community.

Besides that, the Acceptable Change framework provide room for stakeholder participation. Stakeholders were tasked to identify cultural heritage threats and to provide solutions and implement them as part of Cultural Heritage Programme. However the management framework was vital in the sense that it determine how mining activities are affecting cultural heritage and how public programmes are enhancing the conservation of cultural heritage.

(Case study Adopted from Rio Tinto 2011).

2.5 Conservation of rock art.

Traditional rock art researchers, thought that mitigation measures was the best methods that can be used to conserve rock art (Deacon 1993). These measures were done through chipping/ packing out of rock art panel for further keeping in museums. These methods were used as to ensure that both physical and human factors were minimized. Besides that, the major ultimate purpose behind this method was to conserve the aesthetic values that are attached on rock art. However, although traditional rock art researchers view mitigation as a method that can be used to conserve rock art. Most of these rock art specialists did not put into consideration about how rock art can be conserved when there is developmental activities on rock art sites.

Mazel (1982) mention monitoring as a conservation technique that can be used to conserve rock art. Monitoring in rock art can be done either through condition monitoring and baseline survey. In rock art, monitoring ensure that different threats that affects rock art are noticed at an early stage, so that future conservation methods can be implemented. Mazel mention monitoring as a method that was used to conserve rock art in Kwazulu Natal through tracing and photographic technique. Deacon (1993) mention the use of photographs, site maps, tracing and colour marcel charts as monitoring techniques that can be used to conserve rock art. Although, Deacon and Mazel mention monitoring techniques as a conservation method. They fail to put into consideration about how rock art can be conserved when there is developmental activities on rock art shelters.

Jopela (2010) view the need to involve the local community in the management of rock art as a conservation technique. In his studies concerning the management strategies that are currently used in Mozambique. He mention the need to involve the local community in the management of rock art sites since they are the tradition custodians to the heritage places. Without involving the local community, rock art sites are exposed to threats such as vandalism and graffiti. Hence, involvement gives the local community a sense of ownership rather than a feeling of exclusion from their heritage. However although, Jopela regard the involvement of local community in the management of rock art as a conservation technique. He did not put into consideration about how rock art can be conserved when there is developmental activities on rock art shelters.

Greener *et al* (2005: 1) on their studies concerning rock art in Wyoming in Australia. They view recording as a method which can be used as to conserve rock art. Recording as part of

documentation provides a detailed information concerning both the physical and natural features that constitutes a site. With detailed and clear recording, awareness about the importance of rock art is created. Threats from animals and visitation are minimized. However within their studies they fail to account how recording can assist in the conservation of rock art when there is developmental activities on rock art shelters.

Fordred (2011:78) view the management of rock art sites as a conservation method which can be used on rock art. Management of rock art can be achieved through the use of site management plans and site custodian. These management tools should pay particular attention to issues to do with visitorship, controlling the surrounding environments with the mission of controlling various adverse effects of deterioration. Besides that, the major purpose of site management is to control visitor's activities on the site. Visitors can be controlled through employing techniques such signage, interpretative centers and walking pathways. However, although Fordred view the management of rock art sites as a conservation technique. His studies failures to put into consideration about how rock art management can assist in the conservation of rock art when there is developmental activities on rock art shelters.

Wainwright (1985:23) advocated the use of fencing as a conservation method which can ensure the conservation of rock art sites. In his studies concerning rock art in Tie Creek in Whiteshell Provincial Park and Peterborough rock art in Australia .He noticed the successes of fencing in reducing vandalism and animal action on rock art sites. Besides that, Wainwright (1985:23) noticed other preventive methods such as restrictive access, educational programmes and limiting advertisement of rock art sites in Kejimikuyik National Park as methods that reduce vandalism on rock art. However within his studies, Wainwright put much emphasis on the need to conserve rock art from human and animal actions without put into considerations about how rock art can be conserved when there is developmental activities on rock art sites.

Watchman (2005) view dust as a major challenge that causes deterioration of rock art. Dust from natural winds, animal movements, mining activities, human and traffic movements contribute to the deterioration of rock art. Watchman (2005) using example from Queensland in Australia, the effects of dust on rock art can be minimized through creating walkaway pavements and the use of dust covers. These methods were effective in eliminate the effects of dust on rock art.

Bedmark (1995) notes graffiti removal as a conservation method that can be applied as to conserve rock art. Lambert (2007) mention that, when removing graffiti, consultation should

done to the local community as to respect the values that are attached to rock art sites. In Zimbabwe at Domboshava, cleaning methods were applied as to remove graffiti (Taruvinga 2002). Cleaning methods were ranging from chemical and mechanical methods. Although mechanical methods were failed to remove graffiti through the use brushes and knives. The chemical methods were used as to resuscitate rock art from graffiti through the use of paint stripper and toluene solvents (Taruvinga 2002). However, although they view cleaning methods as conservation method. They did not put into consideration about how rock art can be conserved when there is developmental activities on rock art sites.

Tatlhego (2012) pointed out that, interpretation and presentation as effective methods that can be used to conserve rock art. Interpretation and presentation ensure that values that are attached on a rock art site are well known to the public. Tatlhego (2012) using example from Tsodilo, threats from tourism were minimized through the use of interpretation methods. Interpretation media such as site museum, tour guides and visitor management facilities were established. However, although Tatlhego outline interpretation and presentation as methods used to conserve rock art. His studies fails to outline how interpretation and presentation can conserve rock art from other developmental activities such as mining activities.

Whitley (2001) states that, through cooperation among various stakeholders conservation of rock art sites can be achieved. Thus all stakeholders who have interest in the site can be involved in conservation practices. Cooperation can be achieved through providing funds and knowledge as to achieve conservation. Besides stakeholders, individuals and experts from various disciplines such as rock art specialist, geologist, climatologist and local community are needed to be involved. However, although Whitley states cooperation as an instrument that can be used as to conserve rock art. He did fails to put into consideration about how rock art can be conserved when there is developmental activities on rock art sites.

Rossouw (2006) pointed out that, the existence of a legislation in most countries ensure the conservation of rock art. Legislation as a management framework, it provides principles and guidelines to be followed when managing all heritage. Besides that, legislation also stipulates punishment and penalty given to offenders. However, although Rossouw mention the existence of legislation in most countries as a method that ensure conservation. In most countries in Southern Africa it still remains a challenge. Countries such as Zimbabwe, legislation is silent when it comes to rock art conservation when there is development activities on rock art sites.

Turner (2012) view the creation of buffer zones as a conservation technique that can be used to conserve heritage places. Buffer zones can facilitate the conservation of heritage places in times of developmental activities. Development activities such as mining activities are minimized. Turner (2012) using example from Mapungubwe, threats from mining activities were minimized through the existence of a map. ICOMOS (2003) pointed out that, a map for a heritage place can be identified through the existence of an updated management plan which I in cooperate all stakeholders. However, although Turner mention the creation of buffer zone as a conservation techniques. His studies failures to account how conservation and use can be balanced. Within his studies, he was more insisting on the creation of buffer zone as a way which can conserve heritage places rather than resources on the heritage place to be used.

2.6 Summary.

The above discussion, reviews literature on how scholars views stakeholders and developmental activities on heritage places. Scholars like Marowero (2012), Musindo *et al* (2012) and Sinamai (2008) tend to associate stakeholder activities with negative impacts. Thus activities associated with tourism, mining, infrastructure and agriculture are regarded as threats when it comes to heritage conservation and preservation. Although these activities are regarded as threats to heritage places. The case study from Oyu Tolgoi, Mongolia illustrated above in this chapter shows how other countries in the world has consider the interests of developers on heritage places rather than to regard as a threat to heritage conservation. In Zimbabwe, the need to balance conservation and use of heritage places is a dilemma. To achieve this, this research will provide alternative ways on the need to consider developers interests on heritage places rather than to associate development activities with negative threats to heritage conservation.

CHAPTER 3.

RESEARCH METHODOLOGY.

3.0 Introduction.

The chapter will explore the research methodology of the topic based on the method employed by the researcher. In this study, the researcher uses case study approach in data collection, analysis and presentation. Case study approach was adopted as a way of using Nharira hills to represent other heritage places that are experiencing negative impacts from developmental activities in Zimbabwe. In the process of data collection, the researcher uses interviews, questionnaires, desktop surveys and field observations as data collection instruments. However, the aim of using this research approach was for the researcher to assess whether Zimbabwean heritage institutions have balanced mining use with the conservation of heritage places.

3.1 Research design.

Explanatory research design was used by the researcher within this study. This research design best suits this study in the fact that, the researcher wants to explain what really transpired at Nharira hills concerning mining use. Explanatory research design was used through adopting a qualitative approach. Qualitative approach was used as a way of understanding the in-depth views from stakeholders of Nharira hills concerning mining use at the heritage place. In order to achieve explanatory research design, the researcher uses interviews, questionnaires, field observations and desktop survey. Interviews were conducted with the Director for Museum of Human Sciences in Harare, Chief curator of archaeology, Monument inspector, mining company owners, site custodian, Chief and Headman of the area, rural district council and the local communities.

3.2 Research sample.

Purposive sampling and stratified random sampling method was used by the researcher as to determine the sample size that the researcher used in data collection. In purposive sampling, the researcher selects the respondents 'based on the already known knowledge from the researcher about the already stakeholders of Nharira hills. Thus for this research, the researcher draws samples from the Director of Museum of Human Sciences, Chief curator of archaeology, Monument inspector, mining company owners, rural district council, Chief and Headman of the area. However, from the local communities, stratified random sampling method was used

by the researcher. This method was used as to determine the average age group that the researcher interviewed.

3.3 Target Population.

The target population concerning the research was derived from the Director of Museum of Human Sciences, Chief curator of archaeology, Monument inspector, mining company owners, site custodian, Chief and Headman of the area, rural district council, and the local communities. Within the local communities, the researcher targeted an age group between twenty years and above. This age group was targeted due to the fact that, within the Shona culture these people are regarded as elderly people and mostly they are involved within the decision circles concerning the area. These individuals and organisations were targeted by the researcher because they are the stakeholders of the heritage place who are directly involved in the use and conservation of the heritage place.

3.4 Desktop Survey.

Desktop survey was carried out by the researcher in the Museum of Human Sciences Library in Harare and in the Monument inspection departmental files. In the process of consulting desktop survey, both published and unpublished sources were used. These sources helped the researcher to know rock art sites that are located within the Nharira hills. The researcher also consulted some documents from Midlands State University Library which the researcher has failed to secure from the museum library. Consultation of these sources assist the researcher to understand other heritage places in Zimbabwe that are being affected with developmental activities.

3.5 Observations.

Desktop survey, did not yield sufficient information concerning the study area. Some of the rock art sites does not exist within the NMMZ monuments map and they was no documentation concerning the negative impacts associated with mining use on rock art. Inorder to note various negative impacts associated with mining use on rock art, the researcher conduct field observation within the heritage place as to know the state of conservation of rock art .Thus the researcher, conduct field walking within the heritage place documenting all negative impacts associated with mining use on rock art sites through recording and photo taking using a digital camera.

3.6 Interviews.

Annum (2014) pointed that in an interview the interviewer interacts with interviewee as to collect data through orally asked questions. Interviews were conducted by the researcher among the NMMZ staffs, mining company owners, site custodian, Chief and Headman of the area, local communities and rural district council. These people and organisations were interviewed by the researcher as to know their views concerning mining use at Nharira hills. In the process of conducting interviews both Shona and English were used as for the informants to express themselves freely. However, semi-structured interviews were used by the researcher. The purpose behind the use of semi-structured interviews was to give the researcher a room to modify the interviews based on the situation on the ground.

3.7 Questionnaires.

Questionnaires were conducted by the researcher as to supplement information gained from interviews. These questionnaires were distributed to the mining company owners. From the questionnaires, the researcher used closed ended questioners. The closed ended questionnaires was designed in a way that the respondent can only tick from the gap provided. The researcher used them as to yield high respondents from the mining company owners. Besides that, questionnaires were used by the researcher because they are not time consuming and the answers from different responses can be easily cross checked to one another.

3.8 Summary.

In the above discussion, the researcher explores the research methodology of the topic based on the research method used. Thus within the discussion, the researcher explore the research approach, research design, research sample, target population and data collection instruments. Thus the research methodology used within this research assist the researcher to do data analysis and presentation of the topic based on data gathered from the field.

CHAPTER 4.

DATA PRESENTATION AND ANALYSIS.

4.0 Introduction.

The chapter consists of fieldwork results which were gathered through interviews, questionnaires and observations. In the process of presenting fieldwork results, the researcher outline the response rate yielded from questionnaires and interviews as to justify the credibility of the research. However, the findings gathered were analysed and presented thematically. These themes were based on the objectives of the research which are to assess whether stakeholder identification was inclusive of all stakeholders including mining companies, to assess whether the mining use, is a threat to rock art conservation and to evaluate the efforts made by responsible authorities as to reduce the impacts of mining use and balance conservation with use.

4.1 Response rate.

Data Instruments Used.	Total targeted Number.	Number of successful Interviews and Questionnaires.	Number of unsuccessful interviews and questionnaires.	Average response rate in %.
Interviews	34	26	8	76.5%
Questionnaires	5	3	2	60%
Total response rate	39	29	10	74.3%

Fig 2: shows response rate from interviews and questionnaires.

The researcher was target 34 people to do interviews with. From the targeted population, the researcher was successful to conduct 26 interviews to make a response rate of 76.5% .For questionnaires, the researcher distributed 5 questionnaires to mining company owners. From 5 questionnaires distributed 3 were returned making a response rate of 60% which is satisfactory for the research.

4.2 Stakeholder identification in the management plan at Nharira hills.

The stakeholders of Nharira hills were asked whether the mining company is regarded as a stakeholder of Nharira hills .73% percent identify the mining company as a stakeholder of the site. While 27% percent of the stakeholders identify the mining company as an enemy to their heritage. In some cases the views of stakeholders were in conflict with each other with regards to mining use at Nharira hills. The NMMZ Monument Inspector, interviewed stated that, *“we cannot regard the mining company as an enemy to rock art conservation at Nharira hills considering the location of rock art sites with the location of company, there is no direct conduct...”*.The Chief Curator of Archaeology articulate that *“... activities from mining use within the area are regulated and demarcated with a map. The map, restrict the company within their located landscape.”*

The Director for Museum of Human Sciences mentioned that, *“when we do stakeholder meetings at Nharira hills we invite them, because they are some of the stakeholders who ensure the conservation of the site.”* The mining company owners also emphasised the point that they are the stakeholders of Nharira hills. They say that, *“we have interests in granite mining within this area, and as to meet our interest we have licence which gives us authority”*. The Director for Zvimba Rural district council articulate that, *“the granite miners at Nharira hills have licence which gave them authority to mine within the Nharira area”*

One of the respondents from the local community articulate that, *“some of our relatives within the local area are benefiting from mining use at Nharira hills”*. They stated that, the company is assisting the local community with a lot of things. One of the respondents from the community mentioned that, *“right now building materials such as concrete are found within our area, before the company operates here, we go for long distances as to buy concrete.* Other respondents from the local community view that, *“mining activities within the Nharira hills was destroying heritage within their area and the methods which were used by the company was not conducive for health issues for the local people.”*

The site custodian also stated that, *“they have promised us to construct roads, clinics, supply water but they are not achieving all of these promises, so we can’t regard them as stakeholders”*. The site custodian mentioned that, *“the company was benefiting from the resources found within Nharira hills without assisting the community”*. Other responses from the Headman and Chief also demonstrated that the company was an enemy to their heritage. *“They are mining within our area without taking into consideration about the heritage found*

within our area.” They mentioned other incident which had happened when the mining company has exhumed human remains during mining process.

The above responses from the stakeholders of Nharira hills shows that the mining company at Nharira hills is a stakeholder of the heritage place. To the granite miners, the fact that they have economic interests within the heritage place shows that they are the stakeholders of the heritage place. As to meet their interests, the miners have licence which gave them authority as to carry out mining activities within the area. The responsible authority has made it clear that, mining company is not an enemy within Nharira hills. The presence of a map as to regulate and demarcate mining use within the allocated landscape. Supports that mining company is not an enemy at Nharira hills but they are the stakeholders of the heritage place.

To the local community, 67% of the responses mention the mining company as a stakeholder of Nharira hills. To those who mentioned the company as a stakeholder. They mention that the local community are enjoying benefits from mining use at Nharira hills. Benefits which were enjoyed from mining use include employment creation and raw materials produced by the mining company. However, 33% of the members from the local community view the mining company as an enemy within the Nharira hills. To those who mention the mining company as an enemy. They view mining use at Nharira hills as destroying heritage within the area. Besides that, the oral testimonies from the local community views the methods which were used by the mining company as not conducive for health issues for the local people.

Oral testimonies from the site custodian, Chief and Headman pointed out that the granite miners at Nharira hills regard them as enemies. Their major concern was that the granite miners at Nharira hills were not put into consideration about the values and importance of heritage found within the area. The granite miners are not assisting the local area through development. Oral testimonies from the site custodian shows that the local people are still expecting benefits in the form of road and clinic construction. Therefore emanating from the oral testimonies from the site custodian, Chief and Headman, the miners are destroying heritage within the area without developing the local area.

4.3 Stakeholder inclusion in the management plan at Nharira hills.

The first thing noted by the researcher shows that decisions at Nharira hills are done on an ad hoc basis. There is no proper channel on how to include all stakeholders. Responses from interviews and questionnaires with the stakeholders of Nharira hills shows that there are no

predetermined agreement on which mining company might operate. Hence rock art at Nharira hills was facing threats from mining use at the site.

Oral responses from the NMMZ staffs articulate that stakeholders at Nharira hills are in cooperated within the conservation of the heritage place through stakeholder meetings. As to support that they do frequent meetings with all stakeholders. They view stakeholder meetings as a way which ensure inclusion of all stakeholders within the decision making circles. The Monument Inspector emphasised that, *“last week we were at Nharira hills doing a stakeholder meeting with all stakeholders.”* The Director of Museum for Human Sciences mentioned that, *“Without stakeholder meetings challenges and problems affecting the site are difficult to identify”*.

The site custodian, the Chief and Headman agreed that they do frequent meetings with NMMZ. Oral responses from these stakeholders supports that most of these meetings are done when there are challenges which needs discussion. Stakeholder meetings were used as a way to conserve the heritage place from deterioration. The site custodian emphasised that, *“when there are issues which need discussion we report to NMMZ. On the other side NMMZ comes and informs us when there are issues which needs discussions.”* However on the issue concerning mining use within the Nharira hills they all agreed that they were informed about the matter.

From the local community, (70%) agreed that they do frequent meetings concerning the site. Oral responses from the local community mentioned that most of the meetings are done when they are threats affecting the site. Threats which were mentioned by the local community include issues such as veld fires. However when the researcher asked the local community about the issue concerning mining use within the area. Other responses were not clear about the matter.


Responses from questionnaires and interviews done with the mining company owner shows that the company is currently not involved within the decisions circles concerning the site. Oral responses from granite miners shows that the granite miners are excluded to participate within activities such as rituals, ceremonies and meetings that have to do with the heritage place. The granite miners are excluded in participating in all activities that have to do with the heritage place. One of the respondent from the owners mentioned that, *“up to now I have worked here for 3years as a director of the company, but I had never heard any day when our company was invited to attend a meeting ...”* The other owner mentioned that, *“our last meeting was in 2009*

with other stakeholders...we are excluded in activities such as rituals and ceremonies which are held within the area.”

4.4 Threats to rock art conservation at Nharira hills.

Condition assessment form for rock art.

Site name: Nharira hills National Monument.
 Conservation issues: Developmental activities.

Causes	Effect	Rock art shelters affected	Sources of causes.	Plate / Picture
Dust	-Reduction in visibility. - colour change. - accumulation of dust on rock art.	Bvopfo Somerby	-vehicle movement -granite grinding	
Noise		Bvopfo Somerby.	-rock blasting -drilling -granite grinding	




Vibrations	Exfoliation of pigment. -cracks on rock art substrates	Bvopfo	-granite blasting -drilling	
Construction Mining use	-granite grinding	Bvopfo	-mining operations	
Body conduct/ touching	-pigment failure -reduction visibility	Bvopfo	Mining company employees.	

Plate 1, 2, 3 & 4 shows the effects of mining use on rock at Nharira hills.

Source: Photographed by the author 27 Sept 2015.

Field observation done by the researcher revealed dust as the major threat to rock art conservation at Nharira hills. The researcher observed that the major ultimate source of dust comes from vehicle movement and granite grinding. Effects such as accumulation of dust on rock art panels were noted. Apart from that, the researcher also observed that effects such as colour change, pigment failure were as a result of dust. From these observations, the researcher concluded that the most affected rock art sites were those located near the mining company. Rock art shelters from Bvopfo and Somerby were observed as the most affected with the effects of dust.

Apart from that, the researcher observed that exfoliation of rock art pigment and cracks on rock art substrates at Nharira hills were as a result of ground vibrations. Sources of ground vibration which were noted by the researcher comes from rock blasting and rock drilling. One of the respondent from the local community when asked by the researcher about the effects of ground vibration. Effects such as rock exfoliation and cracks development on surrounding buildings were mentioned by the respondent. Besides the effects of ground vibration, the researcher observed that noise produced as a result of machinery movement, rock blasting and granite grinding tend to affects rock art .Rock art from hills such as Bvopfo and Somerby were noted by the researcher as the most affected with the effects of noise as compared to other hills.

The researcher also observed that mining use itself at Nharira hills is a threat to rock art conservation .Responses from one of the employee within the mining company also supported this. The employee also mentioned that, “*some of the granite rocks that contain rock art panels are grinded as to produce quarry.*” For the researcher, it was difficult to observe the operational activities of the mining company. Responses from the interviews with the employee showed that mining use at Nharira hills is a threat to rock art conservation.

Rock art shelters at Nharira hills such as from Bvopfo hills were observed by the researcher as facing threats from body conduct or touching from mining employees. The researcher also observed that rock art shelters are used as resting points by mining employees. The researcher also noted that as a result of that, unexpected move into body conduct or touching is done on rock art. Effects such as pigment failure and reduction in visibility were noted by the researcher on rock art substrates.

Apart from the above, the researcher also observed that the mining company owners are the ones who are causing threats to rock art conservation at Nharira hills. The questionnaires and interviews done with the mining company owners showed that the company has no value

awareness about the importance of rock art at Nharira hills. One of the responses from the owners mentioned that, ‘*we know as a company that in this area there is rock art, but we don’t appreciate its importance*’ Responses from interviews with the site custodian also mentioned another incident that has happened long back when remains from human burial were exhumed during the mining process. The site custodian mentioned that “*...instead of informing the traditional leaders within the area, the company owners ordered the remains to be disposed without the concern of the traditional leaders within the area*”

The researcher observed that the method which is used by the company to mine granite is a threat to rock art conservation at Nharira hills. Responses from questionnaires and interviews with the mining company owners also showed how the method employed with the company affects rock art. The mining company owners said that, “*their company uses heavy blasting as a method of mining granite*”. They mentioned this method as associated with the use of dynamites and explosive chemicals as to chop granite into concrete. The researcher observed that method as associated with the emission of large volume of dust and ground vibrations. The researcher noted the method as a threat to rock art conservation at Nharira hills.

4.5 Efforts done at Nharira hills as to reduce the negative impacts of mining use on rock art.


What has been done	Think about	Plate
Mitigation measures	Rock art panels.	

Plate 5: shows a rock where rock art panel was removed as a mitigation measures at Nharira hills. Source: Photographed by author on 27 Sept 2015.

Responses from interviews with NMMZ staff and rural district council demonstrated that there is a map that demarcates boundaries for the mining activities. The map guides and restricts the mining company within their located zone. One of the respondents from NMMZ staff mentioned that, “*a map acted as barricade to the mining company as it protects direct negative impacts of mining activities on rock art at Nharira hills.*” Responses from interviews and

questionnaires with the mining company owners also showed that they are pegs that guides their operation at Nharira hills. One of the company owners articulate that, *“there are pegs which were established by the Ministry of Lands...these pegs restricts and guides us within this area.”*

Interviews with the monument inspector at NMMZ mentioned the efforts that was done with NMMZ at Nharira hills. The monument inspector illustrated that they do awareness campaigns. The monument inspector mentioned that, *“these awareness campaigns are done as to inform miners about the values and importance of rock art at Nharira hills”*. Responses from interviews with the mining company showed that, *‘I don’t still remember the year they last come here as to inform us about the values that are attached at Nharira hills.’* The oral responses from the interviews with mining company also shows that their views with NMMZ concerning awareness campaigns were in conflict with each other. However, from the oral responses from the mining company it shows that there are no or little awareness campaigns that are done to granite miners at Nharira hills.

Efforts such as regular documentation and recording of rock art sites within Nharira hills were mentioned by NMMZ staff as some of their efforts. They said that documentation assist them in future conservation methods. The NMMZ staff interviewed mention documentation measures as assist their institution with in-depth knowledge concerning effects and deterioration rates at rock art. One of the respondents from the staff mention that, *“we use devices such as cameras, conservation sheets and tracing equipment as devices that facilitate documentation processes”*.

Responses from interviews with NMMZ staff and observation by the researcher from the field noted that some efforts were done as to reduce the negative impacts of mining use at Nharira hills. Response from Northern region monument inspector mentioned that they have done mitigation measures as to rescue rock art at Nharira hills. The staff said that, *“mitigation measures were done through removing rock art panels from the rock art substrate.”* They mentioned that these measures were done as to pave way for the mining activities within the Nharira hills. From the field observation the researcher observed that rock art shelters at Bvopfo hills were the ones where mitigation measures were applied. From other rock art shelters such as Somerby the researcher observed that mitigation measures were not applied.

Apart from the above, responses from interviews with the Chief, Headman an site custodian mentioned some of their efforts as to reduce the impacts of mining use on rock art. They

mentioned that as a way of unhappy with mining use within the area. They approached NMMZ as a way to try to stop mining encroachment within Nharira hills. Responses from Headman mentioned that, " *we have tried to move the mining use from the heart of the cultural landscape into the buffer zones of the heritage place*". The site custodian mentioned that even they tried to push for the relocation of the mining company from the heart of the cultural landscape .Rock art within the cultural area is still facing deterioration.

NMMZ staff also mentioned that, fencing was used at Nharira hills as a conservation technique on rock art. The monument inspector mentioned that, "*we have fenced rock art shelters from Somerby as to reduce impacts from mining employees*" .They mentioned that problems such as vandalism were prevented on rock art shelters. Vandalism problems such as graffiti, body conduct or touching were mentioned from their responses. When the site custodian asked about the issue. The site custodian mentioned that the fence was there, but now it was stolen.

Reponses from questionnaires and interviews with the mining company owners also mentioned some of the efforts which were done by NMMZ. They mentioned that in the past years NMMZ was involved within their activities. Responses from one of the owners mentioned that, "*NMMZ was involved within our operations through monitoring activities.*" Monitoring activities were done as to regulate mining activities within the allocated landscape .However when the researcher asked the owners about the last date when monitoring activities were last done. One of the respondents from the mining owner stated that monitoring activities were last done in 2011.

4.6 Summary.

The chapter was presenting fieldwork results which were gathered by the researcher. Among the issues presented include whether stakeholder identification at Nharira hills was inclusive including miners, to assess whether mining use is a threat to rock art conservation and to mention efforts done by responsible authorities as to reduce mining use impacts and balance conservation and use. The chapter that follows discuss in detail the fieldwork results. Recommendations on the best measures as to reduce mining use impacts and balance conservation and use are then put forward.

CHAPTER 5.

CONCLUSION AND RECOMMENDATIONS.

5.0 Introduction.

It appears that granite miners are regarded as stakeholders at Nharira hills. Although they are regarded as stakeholders at Nharira hills. They are not involved in either planning, decisions or activities concerning the heritage place. This chapter will discuss and evaluate the inclusion of stakeholders in the management systems at Nharira hills. Recommendations for the appropriate methods as to balance mining use with conservation of rock art at Nharira hills are offered within this chapter.

5.1 Stakeholder identification and inclusion in the management at Nharira hills.

Chauke (2003:3) defined a stakeholder as individuals, people, organization that does not have a relationship with the heritage place, although they might have an interest, usually economic or political. ICUN WHC (2008) states that in order to regard individuals, groups, institutions and organization as stakeholders. They is need to regard them in relation to their values attached to the heritage place. At Nharira hills, the fact that granite miners has economic interests within the heritage place shows that they are the stakeholders of the heritage place. As to meet their interests, the miners have licence which gave them authority as to carry out mining activities within the area. The responsible authority has made it clear that, mining company is not an enemy within Nharira hills. The presence of a map as to regulate and demarcate mining use within the allocated landscape. Supports that mining company is not an enemy at Nharira hills but they are the stakeholders of the heritage place.

To the local community, mining company has created opportunity for the local community to benefit economically from the site. In particular, when the local community are benefiting from the activities that are done at a site is regarded as economic empowerment (Chirikure and Pwiti 2008). The community within the surrounding areas are enjoying benefits from mining use at Nharira hills. Benefits in the form of employment creation are enjoyed. Some of the people within the local community are employed as plant operators, drivers and drillers. For example in 2013, more than forty people from the local community were employed as workers at the mining company. In such a scenario, the local people are depending their livelihoods on mining use at Nharira hills.

Although the research exposed granite miners as stakeholders at Nharira hills. The mining company was excluded from planning and decisions circles concerning the heritage place.

ICOMOS Africa (2009) view external inclusion as participatory management. Thus means that, it is an integration of decision concerning the heritage place within the broader context. It ensures that all stakeholders concerning the site such as the local community, heritage institutions, heritage professional and other interested organisations are invited to participate within the activities concerning the site (ICOMOS Africa 2009). At Nharira hills, the research has exposed that there is no participatory among stakeholders concerning the conservation of the heritage place. The granite miners are excluded to participate within the decisions concerning the heritage place. Granite miners are excluded to participate within activities such as rituals, ceremonies and meetings that have to do with the heritage place. Thus the researcher recommends the responsible authority should not isolate Nharira from its stakeholders in conservation and management of the heritage place.

Chirikure *et al* (2010) noted that, external inclusion is a solution that can be used to solve politics associated with a heritage place. Thus means through external inclusion conservation challenges that are faced by the heritage place are solved. Reid and Kigongo (2007) notes that conservation challenge can be solved through participation and cooperation among various stakeholders of the heritage place. With such an event, new ideas and contributions towards conservation of the site are brought in. At Nharira hills this was not the matter, stakeholders such as granite miners are excluded from decisions and activities concerning the heritage place. This results in all efforts done by the responsible authority in trying to balance mining use with conservation of rock art to be ineffective. Thus this research recommends the responsible authority to include granite miners as stakeholders of the heritage place as to ensure the conservation of rock art within the heritage place.

Du Cross and Mckerder (2014) view external inclusion as associated with power imbalances. Decisions concerning how heritage places can be managed and presented to the stakeholders is a challenge. At Nharira hills, other stakeholders such as the local community, rural district council, site custodian, chief and headman are involved in decisions through stakeholder meeting. The granite miners as stakeholders of the heritage place are excluded in all activities such as meetings, ceremonies and rituals concerning the heritage place. In terms of presentation concerning the heritage place, the importance and values attached on rock art at Nharira hills are presented to other stakeholders without considering the granite miners as stakeholders of the heritage place. The granite miners are the only stakeholders who are not aware about the values that are attached on rock art at Nharira hills. This shows that the mining company was

putting no or little efforts as to minimise the impacts associated with mining use on rock art at Nharira hills hence this results in threats being faced by rock art at Nharira hills.

5.2 Efforts done as to reduce the negative impacts of mining use at Nharira hills.

5.2.1 Mitigation measures.

Deacon (1993) mentioned the use of mitigation measures as a method that can be used to conserve rock art. Mitigation measures can be done through packing out of rock art panels for further keeping in museums. The major aim for mitigation measures is to ensure that both physical and human factors are minimised (Deacon 1993). According to the research findings obtained, at Nharira hills mitigation measures was used as a conservation technique as to conserve rock art from the negative impacts of mining use. These mitigation measures were applied on rock art sites found within the heritage place as a way to try to pave a way for mining use within the cultural landscape. However, although mitigation techniques was used as to conserve rock art sites found within the heritage place. The method was not successful in conserving all rock art sites. Other rock art sites found within Bvopfo hills and Somerby rock art shelters were not mitigated. Thus means that, they are still facing threats from the negative effects of mining use within the cultural landscape.

Tatlhego (2012) criticised mitigation measures and tend to argue that, rock art specialist who advocate for mitigation measures does not put into consideration about the values that are attached on rock art sites such as spiritual value. Like in Southern Africa, most rock art sites are viewed by the local community as a source of spiritual guidance (Tatlhego 2012). Thus means at Nharira hills, the responsible authority only put into consideration about the aesthetic values without put into consideration about the values attached by the local communities. Thus all in all, the mitigation measures used at Nharira hills was not effective in balancing mining use and conservation of rock art found within the heritage place. Besides that, the mitigation method used put much consideration about the need to conserve the aesthetic values attached on rock art without put into consideration about other values attached with various stakeholders on rock art such as the local communities who value rock art with spiritual significance (Tatlhego 2012).

5.2.2 Mapping.

Tuner (2012) view the creation of buffer zones through formal mapping ,definition of boundaries as a method that can be used to conserve heritage places from extractive industries.

At Nharira hills, the existence of a map that demarcates mining operation within Nharira hills tries to conserve rock art. The map act as a conservational tool as it tries to restricts and controls the mining company to operate within the allocated landscape. The map established and demarcate boundaries for areas that are under the authority of the mining company. ICOMOS (2003) mention that for effective creation of buffer zones, they should be an updated management plan that would adequately define and map the buffer zone. The research findings has exposed that at Nharira hills there was no cooperation among all stakeholders during the creation of the map. The map for the mining company was created by the Ministry of lands with the help from NMMZ. Stakeholders such the local community who have the clear knowledge about the heritage place were left out. However the existence of a map at Nharira hills has not balance conservation of rock art with mining use. The map is ineffective to minimize the indirect negative impacts associated with mining use. Indirect negative impacts from mining use such as dust, body/ touching and vibrations are affecting rock art at Nharira hills. The reason behind the failure of the map to conserve rock art comes from the fact that, the boundaries for the mining company were not clearly spelled out. Thus therefore the map existed for the mining company is ineffective in balancing use with conservation of rock art at Nharira hills.

5.2.3 Monitoring.

Mazel (1982) mention monitoring as a conservation technique that can be used to conserve rock art. Monitoring of rock art can be done either through condition monitoring and baseline survey (Deacon 1993). During the process of monitoring, photographs, site maps, tracing and colour marcel charts are used as monitoring techniques (Deacon 1993).From the research findings obtained, at Nharira hills monitoring activities was another conservation technique that was employed by the responsible authority as to conserve rock art found with the heritage place. However from the documents accessed from the Monument inspection department files in the museum of Human Sciences in Harare. The site maps and photographs accessed shows that the last monitoring activities was in 2012.The information accessed supports that they was no periodical monitoring activities from the responsible authority. Mazel (1982) mention that, periodical monitoring assists in noting the threats that are affecting rock art. Thus means that, the responsible authority without implementing periodical monitoring activities at Nharira hills. Future conservation methods that can be used on rock art found within the heritage place cannot be achieved. Thus this research recommends the responsible authority to conduct

periodical monitoring activities on rock art found at Nharira hills as to ensure that negative impacts from mining use are minimized at an early stage.

5.2.4 Awareness campaigns.

Awareness campaigns was yet another conservation technique that was used at Nharira hills. Wainwright (1985:23) mention educational programmes as an awareness campaign that can be used to conserve rock. Awareness campaigns assist in reducing vandalism on rock art from humans. Tatlhego (2012) pointed out that, interpretation is an effective methods that can be used to conserve rock art. Interpretation ensure that values attached on rock art site are well known to the public At Nharira hills awareness campaigns are done through educational programmes and stakeholders meetings with other stakeholders of the heritage place. These campaigns makes stakeholders aware about the importance and values attached on rock art within the heritage place so that negative impacts associated with vandalism are reduced. Though these campaigns are done at Nharira hills to the stakeholders, not all stakeholders are aware about the importance and values attached on rock art at Nharira hills. Stakeholders such as the mining company owners are not aware about the importance and values attached on rock art. This comes as a result that they are excluded from meetings which are done concerning the heritage place. Besides that, the mining company owners are not interpreted and educated about the importance and values that are attached on rock art found within the heritage place. With such circumstances this results in negative impacts which are faced by rock art within the cultural landscape from mining use. Thus for effective conservation of rock art at Nharira hills. This research recommends the responsible authority to do awareness campaigns to all stakeholders of the heritage place. Stakeholders such as the granite miners should be awaked about the importance and values attached on rock art as to ensure conservation of rock art.

5.2.5 Fencing.

Wainwright (1985:23) states the use of fencing as a conservation method which can ensure conservation of rock art sites. Fencing ensure that vandalism from humans on rock art sites are reduced (Wainwright 1985:23). At Nharira hills, the use of fencing as a conservation technique on rock art sites was done. At Somerby rock art shelters, effects associated with graffiti, body conduct or touching were minimized. Though fencing was used as a conservation technique at Nharira hills. Not all rock art sites within the cultural landscape has been fenced. Rock art sites from Bvopfo hills were not fenced .As a result, rock art shelters found within Bvopfo are exposed to negative impacts from body conduct or touching from mining employees. Thus for

effective conservation of all rock art sites found at Nharira hills fencing should be applied to all rock art sites rather than to omit others. This will assist in conserving all rock art sites found within the heritage place from negative impacts associated with mining employees such graffiti, body conduct or touching.

5.2.6 Documentation and recording.

Documentation and recording of rock art at Nharira hills was another conservation technique used at Nharira hills. Greener *et al* (2005:1) view recording and documentation as it provides detailed information concerning both the physical and natural features that constitutes the heritage place. Greener et al (2005:1) also states that threats from humans, animals and visitation are minimized. The information from records kept within the monument inspection department account how documentation and recording at Nharira hills was done. The records does not account any information that was related to mining use at Nharira hills. Basing on the information provided with the last record created, approximately the last documentation process was done in 2012. With such circumstances, the research exposed that, they was no periodical documentation and recording activities on rock art at Nharira hills. Thus the research recommends the responsible authority to do periodical documentation and recording so that the negative impacts from mining use are minimized at an early stage.

5.3 How heritage institutions in Zimbabwe can balance mining use and conservation of cultural resource.

In Zimbabwe heritage institutions need to take the Rio Tinto in Oyu Tolgoi, Mongolia as its benchmark. The achievements done by Rio Tinto will assist on how to balance developers' interests with heritage conservation. The Rio Tinto in Oyu Tolgoi successfully balanced mining use with cultural resource conservation. Inorder to stick a balance between conservation and use, Rio Tinto creates an Acceptable Limits of Change Framework. The framework defined the acceptance level of change according to the needs of the community as pertain to the operations of Rio Tinto within the area without causing negative impacts to the cultural resource (Rio Tinto 2011). Inorder to ensure that the agreement set aside within the acceptable limits of change are met. Rio Tinto tasked Oyu Tolgoi to design a Cultural Heritage Programme for the project (Rio Tinto 2011). The cultural heritage programme monitors and ensure that all negative impacts posed by mining use were within the acceptance limits set by the local community (Rio Tinto 2011).

According to the research findings, at Nharira hills there is no predetermined agreement on which mining company might operate hence rock art at Nharira hills is facing threat from mining use. The mining company is employing heavy blasting as a method for granite mining. The method is associated with the emission of dust, ground vibrations and noise. In order for heritage institutions in Zimbabwe to balance mining use with conservation of rock art at Nharira hills. The responsible authority should take a comparison with the Rio Tinto in Oyu Tolgoi as a way to balance mining use with the conservation of rock art at Nharira hill. Thus the research recommends the responsible authority for the need to create the acceptable limits of change as to balance mining use with conservation of rock art at Nharira hills. The acceptable limits of change will assist on how the mining company at Nharira hill will operate under the agreed standards set aside with other stakeholders. Achieving this, conservation and use at Nharira hills will be balanced.

5.4 Conclusion.

The research has revealed that the granite miners at Nharira hills are the stakeholders of the heritage place. As to support that, the granite miners are regarded as stakeholders. The mining company has interest in granite mining. On the other hand, the existence of a map, license and the fact that the local community are enjoying benefits supports that the granite miners are regarded as stakeholders of the heritage place. Although they are regarded as stakeholders, there is no predetermined agreement on which mining company at Nharira hills might operate hence rock art at Nharira hills is facing threats from mining use.

The efforts which were done by the responsible authorities as to reduce the negative impacts associated with mining use at Nharira hills were ineffective. Efforts such as the creation of a map, awareness campaigns, mitigation measures, fencing and monitoring activities were failure to balance mining use with the conservation of rock art at Nharira hills. As to balance use with conservation of heritage places in Zimbabwe, heritage institutions need to take a comparison with the Rio Tinto in Oyu Tolgoi. There is need to take Rio Tinto as its benchmark on how to balance developers' interests with heritage conservation. The research advocates that all heritage institutions in Zimbabwe, should create the acceptable limits of change as to balance use with conservation of heritage places. Like the case of Nharira hills, there was need to create acceptable limits of change as to balance mining use with the conservation of rock art.

5.5 Recommendations.

- Mining company should contribute to the development of the local community.
- Acceptable limits of change should be created at Nharira hills as to balance mining use with the conservation of rock art.
- The responsible authority should consider the developers interests on heritage places.
- The responsible authority should not isolate Nharira hills from its stakeholders in the conservation and management of the heritage place.
- The responsible authority should do awareness campaigns to all stakeholders including granite miners about the need to conserve rock art at Nharira hills.
- The responsible authority should do periodical monitoring and documentation as to note changes and threats affecting rock art.

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Appendix A

NMMZ Interview guide.

1. Who are the stakeholders of Nharira hills?
2. How do you cooperate stakeholders in the conservation of Nharira hills?
3. Does NMMZ recognise miners as stakeholders of Nharira hills?
4. Are there any efforts made by NMMZ to inform miners about the need to conserve heritage at Nharira hills?
5. How destructive is mining on rock art at Nharira hills?
6. What is the current agreement between NMMZ and mining company?
7. Have there been complains by the local communities concerning mining activities at Nharira hill?
8. Have the miners have the value awareness about the importance of rock art at Nharira hills?
9. Are there acceptable limits that guides mining activities at Nharira hills?
10. Are there any challenges that are faced in trying to allow mining activities at Nharira hills?
11. Are there any efforts made as to rescue rock art at Nharira hills?

Appendix B.

Mining company Interview guide.

1. Is your institution recognised as a stakeholder at Nharira hills?
2. What method does your institution employ during mining process at Nharira hills?
3. As an institution do you have a clear understanding about the importance of rock art at Nharira hills?
4. Have your institution informed about the need to conserve rock art at Nharira hills?
5. Are there acceptable limits that guides your operations within Nharira hills?
6. What is the current agreement between your institution, local communities and NMMZ concerning your operation within Nharira hills?
7. What are the problems the mining company is facing in trying to balance mining use and the needs of other stakeholders at Nharira hills?
8. Are there any efforts made by mining company to meet the needs of other stakeholders at Nharira hills?

Appendix C.

Local communities Interview guide.

1. Do you recognise miners as stakeholders at Nharira hills?
2. How does the community use Nharira hills?
4. Have the community consulted during the process of establishing a mining company at Nharira hills.
5. How does the community think about mining activities at Nharira hills?
6. Have you approached NMMZ concerning mining activities within the cultural area?
7. What problems does the local community is facing in trying to balance the needs of the miners and the needs of the local community in the use of Nharira hills?
8. Does the mining company have a proper understanding about the importance of Nharira hills to the local community?

Appendix D.

Rural district council Interview guide.

1. Does the mining company have the right to mine at Nharira hills as your area of jurisdiction?
2. How do you work with the mining company that operates within your area?
3. How significant is Nharira hills as an area within your jurisdiction?
4. How destructive is mining within your area?
5. What is the current agreement between rural district council and mining company about its operations at Nharira hills?
6. Are there acceptable limits that guides mining operations within Nharira hills?
7. Does mining company have a proper understanding about the importance of cultural heritage within Nharira hills?
8. What problems are being faced by rural district council in trying to balance mining use and the needs of the local communities at Nharira hills?
9. Are there any efforts made by rural district council in order to meet the requirements of the miners and the needs of the local communities at Nharira hills?

MIDLANDS STATE UNIVERSITY

MINING COMPANY STAFF QUESTIONNAIRE

My name is Mudaose Simbarashe studying BA Honours Degree in Archaeology, Cultural Heritage and Museum Studies at Midlands State University (MSU). I am carrying out this research in partial fulfilment in this course. The research looks at **Stakeholder participation, conservation and use balancing with heritage management. Case study Nharira hills**. The information you give in this questionnaire shall remain confidential and it is going to be used for academic purposes only.

Questionnaires

Instructions for filling the questionnaire

Use the spaces provided to write your answer to the questions, if answers require a yes or no Please tick the applicable answer.

Do not leave any blank spaces

SECTION A

1. Is your institution recognised as a stakeholder of the site? Yes. No

2. As an institution do you have a clear understanding about the importance of rock art at Nharira hills? Yes No

2b). If yes, what are the importance of rock art at Nharira hills?

Economic

Political

Social

Historic

3a).Are your institution insuring that rock art is not destroyed? Yes No

3b).If yes, what method of mining do your institution employ?

Silent blasting

Heavy blasting

4a). Do you contribute to the physical conservation of the site? Yes No

4b).If yes, what are the physical conservation method that you done at the site?

Fencing off

Protecting rock art panels

Cleaning

Fire guards

5a). Are the NMMZ involved in your operations at Nharira hills? Yes No

5b).If yes, what strengthens your relationship?

Management plan

Mutually dependent

6).How the local communities benefited from your mining activities at Nharira hills?

Financial

Employed

Grands

Road construction

7a). Are there any prescribed limits that guides your operation at Nharira hills?
Yes No

7b).If yes what limits your operations at Nharira hills?

Mapped out

Mutual consent

