

Mining in the Context of African World Heritage Cultural Landscapes: An Assessment of Management Planning Effectiveness

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by

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Declaration

I hereby declare that this thesis has not been previously published or written by another person; neither has it been submitted nor accepted for any other academic award. It is the result of my original work carried out at Brandenburg University of Technology Cottbus, Germany, within the framework of the Ph.D. Programme “Heritage Studies”. All materials from other sources have been duly and adequately acknowledged.

Oris Chapinga Malijani

Original signature

Cottbus, 2020

Dedication

This dissertation is dedicated to my family, friends and numerous people that have supported and encouraged me as I was at various stages of the PhD project.

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Abstract

Sub-Saharan African cultural landscapes are adversely impacted by various development pressures, which calls for a holistic and integrated approach in their management. Mining development has been ranked highly by UNESCO World Heritage Centre, as one of the most common factors threatening the conservation and management of World Heritage properties around the world. For instance, out of 141 World Heritage properties which submitted their state of conservation reports in 2015, 18% were affected by mining activities. Out of these, 84% of the properties that were threatened by mining development were either cultural landscapes, natural properties and or mixed properties. African World Heritage cultural landscapes are the ones highly affected and threatened by planned and on-going mining and exploration activities.

Therefore, research was carried out using the Mulanje Mountain Cultural Landscape of Malawi and Mapungubwe Cultural landscape of South Africa. Specifically, the study aimed at examining the existing cultural landscape management theories and concepts in order to understand the key elements to be integrated into the suggested strategic management planning methodological framework. It also aimed at evaluating the impact of mining development on the conservation and management of African cultural landscapes. The study also investigated the stakeholder's views and perception about the impact of mining activities on cultural and natural heritage values of the landscapes. Further to this, it assessed the effectiveness of the existing strategic management planning framework for the protection and management of cultural landscapes.

To achieve the research objectives, the literature was reviewed, firstly to determine the dimensions of cultural landscapes, and secondly, to determine the dimensions of mining development in World Heritage cultural landscapes. The study used two case studies as an effective comparative research strategy in the investigation of the conflicting issues of mining development against the conservation of the attributes of the two cultural landscapes. A case study research strategy was combined with other research methodologies. These included interviews, focus-group-discussions, observations, field site surveys, qualitative content analysis, and thematic analysis.

The study has revealed that stakeholder participation and inclusion is a key element in the integration of mining development in cultural landscape planning. This research has contributed to the methodological gap in cultural landscape management planning by developing and applying an integrated strategic management planning methodological framework. This framework has

proposed strategic solutions to challenges faced when managing Sub-Saharan African cultural landscapes that are threatened by various development activities such as mining. The application of the management planning methodological framework has shown that the governance in place for Mulanje Mountain cultural landscape conformed to the requirements of a long-term and holistic planning process and the participation and empowerment of multiple stakeholders in that process. The developed framework has provided a comprehensive level of technical support for decision-making in Mulanje Mountain cultural landscape. Given the fact that every cultural landscape is unique in terms of its environmental, cultural, socio-economic and political context, and every mining operation is also different in nature, it was recommended to have different approaches on how mining and cultural landscape conservation can potentially co-exist. In order to facilitate the potential integration of cultural landscape conservation and mining development, all key stakeholders need to be committed to a collaborative approach to land use planning, decision-making, natural and cultural resource management, socio-economic development and stakeholder engagement.

Keywords: Cultural Landscapes, Mining Development, World Heritage, Management Planning, Conservation

Abstrakt

Unterschiedliche Entwicklungsaktivitäten beeinträchtigen die afrikanischen Kulturlandschaften südlich der Sahara bereits heute einschneidend, weswegen ein ganzheitlicher und integrierter Managementansatz für einen langfristigen Erhalt erforderlich ist. Bergbau wurde vom UNESCO-Welterbezentrums als einer der häufigsten Faktoren eingestuft, der die Erhaltung und Bewirtschaftung von Welterbestätten auf der ganzen Welt bedroht. So waren beispielsweise von den 141 Welterbestätten, die 2015 ihre Erhaltungsberichte vorgelegten, 18 % negativ von Bergbauaktivitäten betroffen. Davon waren 84 % der von der Entwicklung bedrohten Stätten entweder Kulturlandschaften, Naturschutzgüter und/oder beides. Die Kulturlandschaften des afrikanischen Welterbes sind hierbei unter denjenigen zu finden, die von geplanten und laufenden Bergbau- und Explorationsaktivitäten besonders stark betroffen und bedroht sind.

Deswegen, wurde mithilfe der Fallstudien Mulanje Mountain Cultural Landscape of Malawi und Mapungubwe Cultural Landscape in Südafrika über möglichen Managementansätzen geforscht. Konkret ging es hierbei um die Untersuchung von bestehenden Theorien und Konzepten des Kulturlandschaftsmanagements, um Schlüsselemente zu verstehen, die in den vorgeschlagenen methodischen Rahmen der strategischen Managementplanung integriert werden sollten. Zudem zielte die Forschung auch darauf ab, die Auswirkungen der Bergbauentwicklung auf die Erhaltung und Bewirtschaftung afrikanischer Kulturlandschaften zu bewerten. Des Weiteren wurden auch die persönlichen Ansichten und Wahrnehmungen der Stakeholder über die Auswirkungen von Bergbauaktivitäten auf die Werte des kulturellen und naturräumlichen Erbes der Landschaften näher beleuchtet. Darüber hinaus bewertete die Arbeit die Wirksamkeit des bestehenden strategischen Managementplanungsrahmens für den Schutz und die Bewirtschaftung von Kulturlandschaften.

Zur Erreichung der Forschungsziele erfolgte zuallererst eine Literaturüberprüfung, um die Dimensionen der Kulturlandschaften zu bestimmen, und das Ausmaß der Bergbauentwicklung in den Welterbe-Kulturlandschaften festzustellen. Die vorgelegte Arbeit untersuchte des Weiteren die zwei genannten Fallstudien in Form einer Vergleichsanalyse um die Möglichkeit von Bergbauaktivitäten und dem gleichzeitigen Erhalt der Attribute der beiden Kulturlandschaften zu erörtern. Eine Fallstudien-Vergleichsanalyse wurde mit zudem mit anderen Forschungsmethoden

kombiniert. Hierzu gehörten Interviews, Fokusgruppendifkussionen, Beobachtungen, Feldfeldbefragungen, qualitative Inhaltsanalysen und thematische Analysen.

Die durchgeführte Studie hat aufgezeigt, dass die Beteiligung und Inklusion aller Stakeholder ein Schlüsselement bei der Integration der derzeitigen und zukünftigen Bergbauentwicklungen in die Kulturlandschaftsplanung darstellt. Durch die Entwicklung und Anwendung eines integrierten strategischen Managementplanungs-Methodik Rahmens hat die Forschung damit zur Schließung der methodischen Lücke in der Kulturlandschaftsplanung beigetragen. Dieses Rahmenwerk hat strategische Lösungen für politische Herausforderungen vorgeschlagen, denen sich die Verwaltung afrikanischer Kulturlandschaften südlich der Sahara gegenübersteht, die von verschiedenen Entwicklungsaktivitäten wie dem Bergbau bedroht sind. Die Anwendung des methodischen Rahmens der Managementplanung hat zudem gezeigt, dass die institutionelle Steuerung für die Kulturlandschaft des Mulanje-Berges den Anforderungen eines langfristigen und ganzheitlichen Planungsprozesses sowie der Beteiligung und Ermächtigung verschiedener Stakeholder entspricht. Das entwickelte Rahmenwerk hat somit ein umfassendes Maß an technischer Unterstützung für die Entscheidungsfindung in der Kulturlandschaft des Berges Mulanje bereitgestellt. Angesichts der Tatsache, dass jede Kulturlandschaft in ihrem ökologischen, kulturellen, sozioökonomischen und politischen Kontext einzigartig ist und jeder Bergbaubetrieb auch unterschiedlicher Natur ist, wurde empfohlen, unterschiedliche Ansätze zu integrieren, inwieweit Bergbau und kulturelle Landschaftspflege potenziell nebeneinander bestehen kann. Um die mögliche Integration des Landschaftsschutzes und der Entwicklung des Bergbaus zu erleichtern, müssen sich alle wichtigen Stakeholder für einen kollaborativen Ansatz in den Bereichen Raumplanung, Entscheidungsfindung, Bewirtschaftung natürlicher und kultureller Ressourcen, und sozioökonomischer Entwicklung zusammenfinden.

Schlagworte: Kulturlandschaften, Bergbauentwicklung, Welterbe, Managementplanung, Naturschutz

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List of Acronyms and Abbreviations

ASAPA	Association of Southern African Professional Archaeologists
AWHF	Africa World Heritage Fund
CoAL	Coal of Africa Limited
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMP	Environmental Management Programme
EP	Equator Principles
EPFI	Equator Principles Financial Institutions
ESIA	Environmental and Social Impact Assessments
IFC	International Finance Corporation
GDP	Gross Domestic Product
GoM	Government of Malawi
HIA	Heritage Impact Assessment
ICMM	International Council on Mines and Minerals
ICOMOS	International Council of Monuments and Sites
IUCN	International Union for Conservation of Nature
MCL	Mapungubwe Cultural Landscape
MGDS	Malawi Growth and Development Strategy
MMCL	Mulanje Mountain Cultural Landscape
MMCT	Mulanje Mountain Conservation Trust
MMSD	Minerals, Mining and Sustainable Development
NCC	Canada National Capital Commission
NORAD	Norwegian Agency for Development Cooperation
OUV	Outstanding Universal Values
PDCA	Plan-Do-Check-Act Model
PGEs	Platinum Group Elements
PS	Performance Standards
REE	Rare Earth Elements
SAHRA	South Africa Heritage Resource Agency
SANParks	South Africa National Parks

SMPMF	Strategic Management Planning Methodological Framework
SWOT	Strengths, Weaknesses, Opportunities, Threats
TBCA	Trans-boundary Consulting Africa
TFCA	Trans-frontier Conservation Area
UNDATA	United Nations Statistics Division
UNECA	United Nations Economic Commission for Africa.
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USNPS	United States National Park Service
WCPA	World Commission on Protected Areas
WH	World Heritage
WHC	World Heritage Centre
WHCB	World Heritage Capacity Building
WHM	World Heritage and Mining
WHS	World Heritage Site
WWF-UK	World wild Fund - United Kingdom
5Cs	Credibility, Conservation, Capacity building, Communication and Community involvement

CHAPTER ONE

1 GENERAL INTRODUCTION

1.1 Introduction

The adverse impacts of mineral resource extractive activities in African cultural landscapes have been a growing concern over the past years. The threat presented by mining development projects on cultural and natural heritage resources has globally been on the increase, (UNESCO 2017; Turner 2012). For instance, between 1984 and 2015, as recorded in the World Heritage State of Conservation Information System, there have been 411 reports on 79 World Heritage Properties in 47 States Parties affected by either mining, oil/gas or quarrying issues (UNESCO 2018). According to World Heritage Committee decision report, it has also been recorded that out of 141 properties which submitted their conservation reports in 2015, 18% were affected by mining activities; and out of this, 12 properties have been inscribed on the List of World Heritage in Danger (UNESCO 2015). Based on the conservation reports submitted by States Parties, it has also been recorded that 84% of the properties that are threatened by mining activities are either cultural landscapes and or natural and mixed World Heritage properties.

Africa is one of the regions where issues of conservation are crucial. By 2015, 35% of all properties inscribed on the list of World Heritage in Danger were African World Heritage properties, although they represent less than 10% of the World Heritage List. The 2015 state of conservation reports has highlighted that African World Heritage sites are the ones highly affected and threatened by planned and on-going mining and exploration activities (UNESCO 2015). See Figure 1. 1 and Table 1.1 below for WHS under threat by extractive activities.

Table 1. 1 WHS under threat by extractive activities grouped by UNESCO World regions

Region	No. of Natural WHS	No. of WHS with Extractive Activities.	WHS with Mines	WHS with Mining Concessions	No. of Mining Concessions Within WHS	Estimated Mining Concessions Overlap with WHS (Km ²)
Africa	41	25 (61%)	3	11	196	12,387
Arab States	6	1 (17%)	0	0	0	0
Asia and Pacific	70	24 (34%)	5	15	121	4,298
Europe and North America	71	4 (10%)	3	2	6	29

Latin America and Caribbean	41	13 (31%)	1	10	121	1,207
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Source: adopted from WWF-UK, (2015).

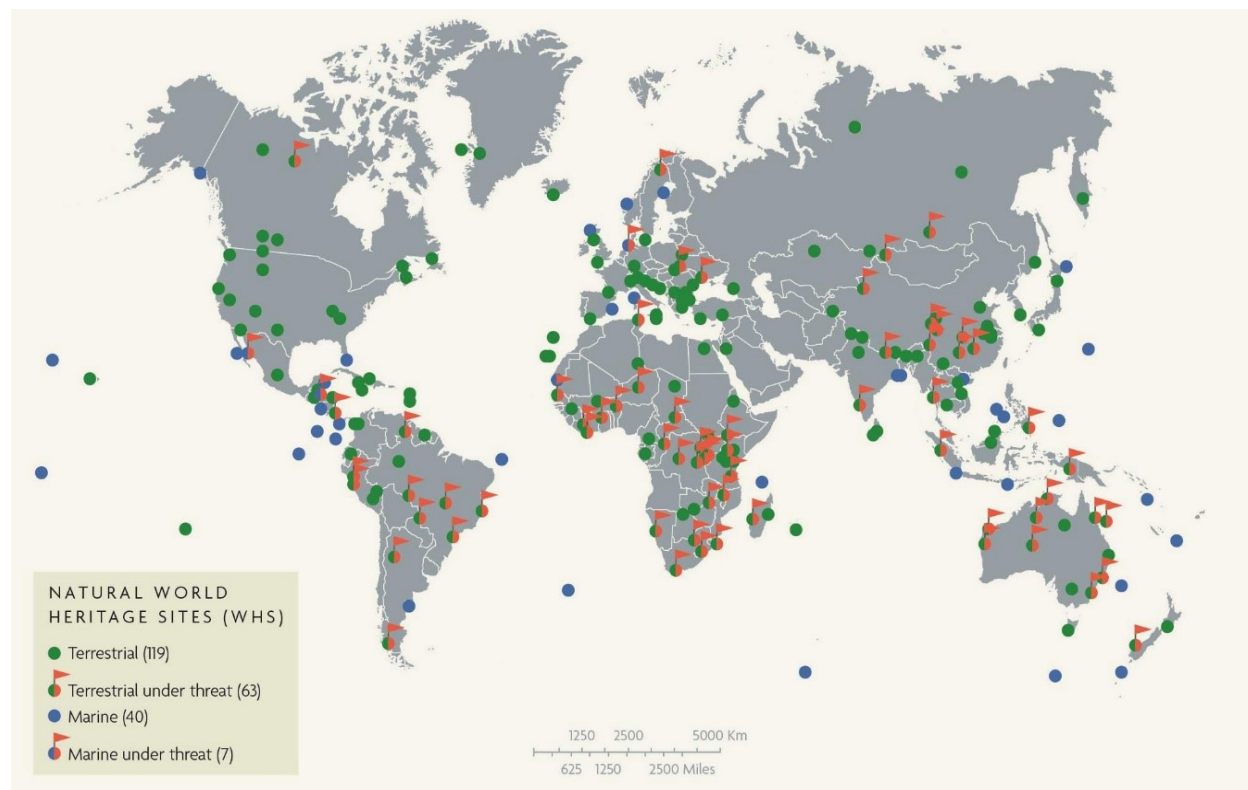


Figure 1. 1. WHS under threat by extractive activities.

In sub-Saharan African countries, the impacts of mineral exploration and exploitation on cultural landscapes are well documented (Matea et al. 2011; Rossler 2011; Turner 2012). The nature and extent of the impacts usually differ according to the stages of the mining development and their proximity to the mining and or exploration sites. Some of the direct impacts during the exploration and actual mining stages include the destruction of the natural habitat and the ecosystems and the cultural heritage which has high spiritual significance to the local communities who use these areas as sacred spaces for their traditional rituals. Indirect negative impacts of mining activities on cultural and natural heritage resources around and within cultural landscapes emanate from road networks created for mineral transportation and other mining-related installations which also has substantial negative impacts on the natural and cultural environment. According to the 2011 report by United Nations Economic Commission for Africa (UNECA) on Minerals and Africa’s

Development, it has highlighted that mining activities accelerate the rate and degree of change in African’s cultural landscape (UNECA 2011). It is, therefore, a common fact that mining activities modify cultural landscapes and their impact has long-term effects on local communities and cultural and natural heritage resources.

Worldwide, mining and or gas and oil exploration and exploitation activities stand as the 7th most factor affecting the conservation and management of World Heritage properties (see Table 1.2 below for most of the common factors affecting management and conservation of World Heritage properties).

Table 1. 2. Factors affecting the management of most WH properties

Factors	Percentage of reported properties affected
Management systems/Management plan (Lack of / Inadequate)	66%
Housing	33%
Illegal Activities (e.g. poaching, illegal timber exploitation, etc)	28%
Ground Transport Infrastructure	19%
Land Conversion	19%
War And Civil Unrest	18%
Mining, Oil and Gas (Exploration and / or Exploitation)	18%
Management Activities	17%
Impacts of Tourism / Visitor Recreation	16%
Legal framework (Lack of / Inadequate)	14%
Identity, social cohesion, changes in local population and community	11%
Livestock farming/grazing of domesticated animals	11%
Water infrastructure	10%
Human resources (insufficient staffing level and/or need for capacity building)	10%
Major visitor accommodation	9%

Source: UNESCO (2015).

Due to a growing concern of threats of extractive industries, in the late 1990s the World Heritage Centre (WHC), International Union for Conservation of Nature (IUCN) and International Council

of Monuments and Sites (ICOMOS) began discussing the issue and concern of mineral resource extractions in protected areas, in particular, the negative impacts they have on the conservation and management of natural and cultural heritage resources (UNESCO 1999). In 2008 the IUCN issued a statement calling for World Heritage Sites to be off-limits to extractive industries (IUCN 2008). In the same period, the International Council of Minerals and Metals (ICMM) and other international mineral advisory councils, made commitments to refrain from undertaking explorations or mining activities in World Heritage Sites and other protected areas (ICMM 2008; IUCN 2008). Similarly, the Operational Guidelines for implementation of the World Heritage Convention state that protection and management of World Heritage Sites by countries should include legislative and regulatory measures that ensure the protection of heritage sites against development and change that might negatively impact their integrity and outstanding universal value (UNESCO 2016). This is applicable to both sites which have a World Heritage status and those on the UNESCO tentative list waiting to be inscribed.

In this situation, sub-Saharan African World Heritage cultural landscapes are the heritage spaces in which States Parties to the World Heritage Convention needs to provide effective legislative and regulatory measures to ensure that mining development are in tandem with the conservation and management of the cultural and natural heritage resources which are found within these cultural landscapes. If these legislative and regulatory measures are in place, according to the World Heritage Convention, States Parties are requested to ensure that they are effectively implemented, failure to do so the sites could not be listed as a World Heritage site; and if it is already listed, the sites could easily be delisted from the World Heritage list.

However, not much academic research has been carried out in this field to critically explore the negative impact mining development projects are causing on natural and cultural heritage values of most cultural landscapes. Therefore, this research was undertaken to further examine the threats of mining projects on effective conservation and management of cultural landscapes which eventually has contributed to fill-in the knowledge gap in the heritage management academic field. An integrated strategic management planning methodological framework has been proposed in this thesis to be used by heritage and mining industry decision makers in order to balance the need of economic development through mineral extractive industries and the socio-cultural

development through the conservation and proper management of the natural and cultural heritage resources of the cultural landscapes.

Mulanje Mountain cultural landscape in Malawi, a site which is on the UNESCO World Heritage Tentative list, has been used as the main case study. This cultural landscape is being threatened by proposed mining development activities among other factors affecting its conservation and management. A comparative case study of Mapungubwe Cultural Landscape World Heritage Site in South Africa has been also been used. This second case study has similar issues and management challenges of mining activities, but it has successfully been integrated into its management system. Fieldwork was conducted in both case studies where the focus was on collection of data of mining exploitation and exploration activities as factors affecting the two sites and map out the best practices from these case studies. The gathered data has been used to develop the proposed integrated strategic management planning methodological framework which can be used as a planning tool when integrating development in cultural landscape management processes.

Hence, the proposed integrated strategic management planning methodological framework has integrated the mining development aspects in the cultural landscape management system. It is intended that this management planning methodological framework be used by site managers, heritage institutions, mining developers and other mining investors as a planning tool for decision-making aimed at preventing and resolving conflicting interests and minimizing potential damages associated with mining developments in cultural landscapes of sub-Saharan African countries. This proposed methodological framework is based on recognizing the rights of the local communities of their cultural heritage resources and assessing risks of all stakeholders, including the risk to cultural heritage. The concept of risk is an important dimension to understanding how, and to what extent, a mining project may have an impact on people's rights and on the archaeological and cultural heritage resources of local communities and of a nation as a whole.

The proposed methodological framework has developed around the integration and effectiveness of UNESCO's strategic action plan for the implementation of World Heritage Convention (2012-2022) which builds on the orientations set by the five strategic objectives by identifying the World Heritage goals, priorities, and actions which could help to achieve long-term strategic objectives. These strategic objectives include, strengthening the credibility of the World Heritage List; ensure

the effective conservation of the World Heritage properties; promote the development of effective capacity building in states parties; increase public awareness, involvement and support for World Heritage through communication; and enhance the role of communities in the implementation of the World Heritage Convention (UNESCO 2011). In short, these strategic objectives are referred to as ‘5Cs’, shortened as Credibility, Conservation, Capacity Building, Communication, and Communities. To achieve this, the management planning framework for Mapungubwe cultural landscape has been reviewed in order to provide an opportunity to evaluate the success in achieving these strategic objectives of the UNESCO’s Strategic Action Plan.

The proposed integrated strategic management planning methodological framework and corresponding guiding principles for cultural landscape management and mining development will be discussed further and in more detail in chapter 7 and 8 of this thesis where a structured framework has been developed and applied in one of the case studies. A set of management planning strategies has been proposed in Chapter 8 for the implementation of the suggested methodological framework.

1.2 Problem Statement

Potential losses of cultural and natural heritage resources within and around cultural landscapes due mining development activities are not adequately considered in heritage management planning processes. Existing mining projects neither includes cultural heritage impact assessment studies before starting mining operations nor implementing systematic rescue work in the processing of mining operations. Almost all active mining development projects so far suffer from a lack of cultural heritage impact assessment studies. Mostly this is exacerbated by combined problems of time constraints, under-budgeting and a shortage of qualified personnel in most African countries. These are seriously hampering the management and conservation of cultural heritage resources in affected cultural landscapes.

Other studies has revealed that mining exploration and exploitation activities within and in proximity to cultural landscapes have significant adverse impacts on the cultural heritage resources. The direct and indirect negative impacts include loss of cultural and natural heritage resources found within and around the landscape. These include sacred sites and the sacred elements; the degradations of the archaeological sites and artifacts found within the area like plant

and animal remains, burial sites and architectural features found within it. Mining exploration and exploitation activities cause damage to the cultural heritage elements within the cultural landscapes through land transformation, construction of road networks and installation of mining machinery.

Most cultural heritage sites in the African continent appear to suffer from inadequate management (Ndoro 2016). This is the same with all sub-Saharan cultural landscapes which mostly are impacted by infrastructural development. However, in order for Africa to develop socioeconomically and reduce poverty, there is a need to exploit the natural resources which are found in these cultural landscapes. Exploitation of mineral resources is one way of using cultural landscapes for economic gains. But these mining activities are at odds with heritage conservation and protection in some cultural landscapes. According to Ndoro (2016), he highlighted that one of the most contentious issues with the management of sub-Saharan African cultural landscapes is the need to reconcile heritage conservation with socioeconomic development around natural resource exploitation within these cultural landscapes.

The demands of mineral exploitation for economic development in most African governments have been articulated in their national strategic development agendas. In Malawi for example, this has been prioritized in the Malawi Growth and Development Strategy (MGDS III, 2016) and in the African region, this has been emphasized in the African Union Agenda 2063. Malawi Growth and Development Strategy paper has identified mining as one of the sectors that could potentially generate economic growth for the country. Similarly, the Malawi Mines and Mineral Policy (2013), has indicated that the country has abundant mineral resources that can sustainably be exploited to contribute to the government's vision of transforming the country from predominantly importing and consuming nation into one that is predominantly producing and exporting. The contribution of mineral industry to Malawi's economy is well emphasized in the national policy document. It has recognized that the minerals sector has a significant potential to contribute towards the rapid economic growth and development of the country, (Malawi Mines and Mineral Policy (2013). The sector has somehow made some socioeconomic impact on the lives of individuals and communities where these mining activities are in operation. The sector provides both part-time and full-time jobs to the local people around mining sites. According to Amankwah and Anim-Sackey (2003), in Ghana, for example, mining activities have reduced rural-urban migration, promoted local economic development and contributed towards poverty reduction. In

the Malawi situation, mining operations have been seen as useful, since it has developed basic skills among local community members by transforming the unskilled labor to semi-skilled and skilled workers (Malunga 2017).

In some African rural communities where mining activities have flourished, the contribution to the local economies in terms of investment in people and infrastructure has been acknowledged by the local people and national government ministries and departments responsible for mining developments, (Nyamekye 2012; Malung, 2017). These ranged from housing and resettlement programmes, alternative livelihoods and direct training to employment opportunities for local people (Nyamekye 2012; Malunga 2017). Most mining companies in Africa are expediting the management of comprehensive social responsibility programmes which fund these development projects. In Malawi, as part of the social responsibility programmes, mining projects have supported education to local communities, provided safe water supplies and healthcare programmes that meet the demands of the local people even beyond the closure of the mining operations (Malunga, 2017).

However, in the Malawi context, the government's development-oriented mining projects in Mulanje Mountain Cultural Landscape, which the government is promoting is in conflict with the proper management and conservation of the natural and cultural heritage resources found within this cultural landscape. This is where the problem lies, bearing in mind that mining activities both at planning and exploration stages pose a threat to the management of the natural and cultural heritage resources. On the other hand, mining development is being prioritized by the Malawi government as one of the vibrant economic activities to be supported since it is envisaged that it will contribute to poverty reduction and economic sustainability for local people. Therefore, arguing from a cultural heritage conservation point of view, it has been eluded that mineral resources exploration and exploitation in African cultural landscapes threatens the proper management and conservation of natural and cultural heritage resources within and around it. To balance the two opposing initiatives, a synergy has been proposed in this thesis which has been discussed in more detail in Chapter 7 through the integrated strategic management planning methodological framework that has been developed.

1.3 Project Aim, Objectives and Key Research Questions

1.3.1 Main Aim

The main aim of this PhD research project was to contribute to the research gap in cultural landscape studies by developing and applying an integrated strategic management planning methodological framework that has proposed technical solutions to challenges faced when managing Sub-Saharan African cultural landscapes that are threatened by on-going and planned mining developments.

1.3.2 Specific Objectives

The following are the specific objectives in order to achieve the main aim:

- a. To examine the existing cultural landscape management theories and concepts in order to understand the key elements to be integrated into the strategic management planning framework.
- b. To understand the impact of mining on the conservation and management of African cultural landscapes.
- c. To find out the local people's perception about the impact of mining activities on the cultural and natural heritage resources within their localities.
- d. To assess the effectiveness of strategic management planning frameworks for protection and management of cultural landscapes threatened by mining development projects.

1.3.3. Key Research Questions

To address the above specific objectives, the following four key questions guided this study:

1. To what extent do cultural heritage resources be considered in mining development planning projects in African cultural landscapes?
2. What are the management strategies that can be put in place in order to harmonize mining development activities and heritage conservation measures in African cultural landscapes?
3. What are the local people's perceptions and levels of awareness about mining activities and their impact on the cultural and natural heritage of African cultural landscapes?
4. Which key elements should be incorporated in the integrated strategic management methodological framework as a planning instrument in order to assess and integrate development in cultural landscape management planning processes?

1.3.4. The Significance of the Study

This research project has contributed to the theoretical and practical body of knowledge in one or more key emerging issues of sustainable use, management and protection of cultural landscapes threatened by development projects. A management planning methodological framework with key strategic actions has been developed on how best the two aspects of heritage conservation and mining development can be harmonized in African cultural landscapes so that national economic developments should be in tandem with cultural heritage conservation programmes. Through this project, the thesis has proposed innovative and promising contributions to the better management and conservation of African cultural landscapes. In addition, through the application of the proposed management planning methodological tool, a few African cultural landscapes which are listed on the World Heritage list will not be placed on the List of World Heritage in Danger soon after their inscriptions. The recommendations of this thesis can also be used by African States Parties as a baseline to develop site management plans and incorporation of the thesis ideas in their national cultural heritage strategic plans and policies.

This study has also contributed to the current debate on the sustainable use of cultural landscapes which usually has conflicting interests amongst different stakeholders, whereby all of them would like to exploit the cultural and natural resources from the cultural landscapes for national and local socio-economic purposes. The study has also contributed to the development of a comprehensive database of the perceptions of local people, heritage and mining experts on the proper management of cultural landscapes that are threatened by mining developments. Finally, this study has contributed to the body of literature on mining developments and sustainable use of cultural heritage with particular emphasis to cultural landscapes of sub-Saharan Africa.

1.4 Definition of Key Terms

Cultural Landscape: is defined as a geographical area, including both cultural and natural resources therein, either associated with a historic event, activity or person exhibiting other cultural or aesthetic values (Birnbaum 1994). According to Birnbaum (1994), he has categorized cultural landscapes into four types. This includes Historic Cultural Landscapes; Historic Designed Landscapes; Historic Vernacular Landscapes and Ethnographic Landscapes.

A **Historic Cultural Landscape** is a type of cultural landscape that is significant for its association with historic events and activities. Example include battlefields. While a **Historic Designed Landscape** is a type of cultural landscape that was consciously designed or laid out by landscape architects. Aesthetic values play a significant role in designed landscapes. **Historic Vernacular Landscapes** is a landscape that evolved through use by the people whose activities shaped that landscape. **The ethnographic landscape** is a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive structures (Birnbaum 1994). These last two types are the ones which are directly related to the case studies used in the research project.

Other than the above definition of cultural landscape proposed by Birnbaum (1994), another definition of cultural landscape worth to be discussed here is the one which has been explained in the Operational Guidelines for the Implementation of World Heritage Convention (UNESCO 2016) (For detailed discussion, see Chapter 2). **Cultural Landscapes** has been defined as cultural properties which represent the combined works of man and nature. They have been divided into three main categories. The first one is the **landscape designed and created** intentionally by man. This includes gardens and parklands constructed for aesthetic reasons. The second type is the **organically evolved landscape**. This second category has been further divided into two sub-categories. This includes a **relict or fossil** landscape. This is a type of landscape in which an evolutionary process came to an end at some time in the past. A second sub-category is a **continuing landscape**. This is the one which retains an active social role in contemporary society closely associated with a traditional way of life, and in which the evolutionary process is still in progress. A final category is the **associative** cultural landscape. This type of landscape embraces the powerful religious, artistic or cultural associations of the natural element rather than the material cultural evidence, which may be insignificant or even absent (UNESCO 2016). The combination of the last two categories fits well with the case studies used in this research. Therefore, this UNESCO definition has been adopted throughout the thesis because the case studies under discussions have World Heritage statuses.

Mining: has been defined in its broadest context as encompassing the extraction of valuable minerals or other geological materials from the earth usually from an ore body for utilitarian purposes (Hartman and Mutmansky 2002). While a **Mine** on its own is an excavation made in the

earth to extract minerals. A **mineral** is a naturally occurring inorganic element or compounds having an orderly internal structure and a characteristics chemical composition, crystal form and physical properties. An **Ore** is a mineral deposit that has sufficient utility and value to be mined at a profit (*ibid*). Therefore, this project has linked mining development with heritage management and conservation, bearing in mind that mining operations usually create a negative impact on natural and cultural heritage resources, hence a synergy has been suggested in this thesis.

Cultural Landscape Management: It is defined as an interdisciplinary approach that draws on a body of knowledge and skills developed in the field of history, art, geography, landscape architecture, archaeology, anthropology, ecological sciences, social sciences, including town planning, communication and marketing, sociology, financial management, interpretation, training and education, as well as the various uses of landscape, such as agriculture, forestry, industry or tourism (Mitchell and Rossle, 2009). The purpose of the management of cultural landscapes is to protect the natural and cultural values for present and future generations. It is, therefore, the role of management to guide change in the cultural landscape while retaining important values. Planning is an important management tool. It is part of the management process that is used to organize, document and coordinate management strategies among a variety of stakeholders with varying interests on the resources of the cultural landscape, (*ibid*).

World Heritage Site: This is defined as a natural or man-made site, area or structure recognized as being of outstanding international importance and therefore they are accorded special protection by the World Heritage Convention. All World Heritage sites are nominated by the UNESCO World Heritage Committee under the World Heritage Convention (UNESCO 2017).

Integrated Cultural Landscape Management Planning: In this thesis, it is defined as a dynamic and multidisciplinary process for the management of cultural landscapes using an integrated approach, regarding all aspects of the cultural landscapes, including all the natural and cultural values, in an attempt to achieve sustainability.

1.5 Thesis Organisation

This thesis has been divided into nine chapters as follows:

Chapter one has provided a general overview of the study with an introductory part linking cultural landscape management and conservation and the impact of mining development projects on the cultural and natural values of the cultural landscape. This has been followed by a statement of problem, aim and objectives, key research questions and the significance of the study. Thereafter, key terms that have been used throughout the thesis has been defined.

Chapter two presents the theoretical perspectives for understanding and managing cultural landscapes. The historical background of the concept of cultural landscapes, focusing on the historical trends of their management and conservation both at the international, sub-Saharan African regional level and national levels. Discussions have also been presented on how international organizations got involved in the protection and management of the cultural landscape. In the later part, the chapter presents the management and conservation aspects of African cultural landscapes during the pre-colonial, colonial and post-colonial periods.

Chapter three has reviewed the literature on the impact of mining development on cultural landscapes. An overview of African World Heritage cultural landscapes and other protected areas which are under threat from mining activities has been presented. Legal and policy frameworks for the management of impacts attributable to mining operations in African cultural landscapes has been discussed in this chapter.

Chapter four has focused on research methodological strategies adopted to achieve the objectives. There are three sections in this chapter, in the first part, the justification for the selection of the case studies and the research participants has been presented. Thereafter, there is an explanation on the data collection methods, how data were analyzed and presented. On the last part is the section on how the research ethical issues have been considered.

Chapter five provides a detailed review of two case studies that have been used in the study in order to generate data for the thesis. This includes Mulanje Mountain Cultural Landscape in Malawi, a site on the UNESCO World Heritage Tentative List and Mapungubwe Cultural Landscape in South Africa, a site listed as a UNESCO World Heritage cultural landscape.

Chapter six provides the results of the perceptions of local people and other stakeholders on issues concerning mining and management of cultural landscapes. The focus has been on understanding how local people and other stakeholders perceive issues of mining and heritage conservation in

African cultural landscapes. A final part of this chapter has discussed the reconciliation of conflicting interests over the use of natural and cultural resources found in African cultural landscapes.

Chapter seven provides results of the assessment of the management planning framework for Mapungubwe cultural landscape. The chapter has provided detailed results of how the management plan has achieved and incorporated the strategic objectives of the UNESCO's strategic action plan for the implementation of the World Heritage Convention 2012-2022, (the 5Cs).

Chapter eight discusses the application of the suggested integrated strategic management planning methodological framework for World Heritage cultural landscapes. The focus has been on the discussion of the need to adopt the proposed integrated strategic management framework in order to effectively and efficiently manage the cultural landscapes of sub-Saharan Africa.

Chapter nine concludes the chapter with general recommendations that have been put forward for decision and policy makers in heritage and mining industry to follow. The last part of the chapter is the concluding remarks of the thesis. Here, an outline of areas which needs further research in the future has also been highlighted.

CHAPTER TWO

2 CONCEPTUAL AND THEORETICAL PERSPECTIVES IN UNDERSTANDING CULTURAL LANDSCAPES

2.1 Introduction

In this chapter, conceptual and theoretical perspectives have been provided in order to understand cultural landscapes in sub-Saharan Africa countries, especially on the relationship between the local communities, nature and the surrounding environment. This conceptual and theoretical perspective has drawn from the social constructionist perspective that includes aspects of phenomenology and symbolic interactionism to define African cultural landscape as the symbolic environment created by a human act of conferring meaning on nature and the environment (Greider and Garkovich 1994). The local communities within and around sub-Saharan African cultural landscapes define how part of the landscapes should be perceived, hence all cultural landscapes reflects how the people have defined them (Taylor 2011). Mostly, African local communities define themselves by the physical environment in which they have been surrounded with and conversely, these natural environments are reconstructed in response to the local communities' changing characterization of themselves (Greider and Garkovich 1994). This chapter will, therefore, discuss this conceptual and theoretical overview of the idea of African cultural landscape, its significance at the local, national and international level and will explore how the concept in Africa has the special meaning manifested by its history, ways of life of the African rural people and its intrinsic role of the intangible values associated with it.

The chapter has been organized into three parts. The first part has introduced and discussed the two concepts of 'Landscape' and 'Cultural Landscape' as understood and defined in the African context. The next part has reviewed theoretical perspectives to help in understanding sub-Saharan cultural landscapes. Here three perspectives have been discussed: cultural landscapes as symbolic environments, as cultural products and as cultural processes. In the last part, an analysis of the management and conservation aspects of cultural landscapes in Africa has been provided. This has been complemented with an overview of international legal and administrative instruments applicable in the management of cultural landscapes.

2.2 Landscape as a Concept

Landscape as a concept is a broad term that is understood differently across a wide range of disciplines. These multi-disciplinary fields of study range from, ecology, history, architecture, among others. In ecological studies, landscape ecology deals with the ecological effects of spatial patterning of ecosystems and develops approaches to landscape planning (Wu 2013). While in landscape history, it explores the ways in which humanity has changed overtime, and how it is continuing to change the physical appearance of the environment (Marcucci 2000). Whereas landscape architecture is more of a multi-disciplinary field that incorporates a wide range of disciplines, such as geography, geology, botany, horticulture, and industrial design with the aim of applying artistic and scientific principles to the research, planning, design and management of both natural and built environment (Francis 2011; Afanasyeva 2015).

The word landscape arrived in the English language in the 15th Century, following the arrival of the Anglo-Saxons (Mitchel 2007). This term by then referred to as a system of human-made spaces on the land (Twidale 2002). The concept of landscape in modern days was introduced in the 16th century by the Dutch painters and portrayed ‘rural scenery’, depicting a tract of land perceived from an artistic point of view (Olwig 1996; Afanasyeva 2015). Since then, a number of different meanings of the landscape have been developed, adding to the multiple layers of definitions underlying the concept.

There are several definitions of what constitutes a landscape, depending on context. In everyday usage, however, a landscape constitutes either all the visible features of an area of land, usually rural, often considered in terms of aesthetic appeal. The New Oxford Dictionary (2016), has defined landscape as visible features of an area of land, its landforms and how they integrate with natural and man-made features. The key aspect in this definition is the idea of the relationship between the natural features and the man-made features. However, from the scholarly point of view, a number of academicians have attempted to come up with a clear definition of what a landscape encompass. According to Emmelin (1996), in her paper on landscape impact analysis, she has defined landscape as a visual expression of the sum of objects and processes in a given locality at a given time where there is an interaction between human and natural systems. An important idea in her definition is that landscape is understood not as steady-state of locality, but as a process continuing through time (Palang 2003). Therefore based on this definition of Emmelin

(1996), it can be elaborated further that land-use planning affecting these processes are influencing the emergence of new landscapes depending on the specific policies and planning models that are applied in different localities. While according to European Landscape Convention, the landscape has been defined as “an area, perceived by the people, whose character is the result of action and interaction of natural and/or human” (ELC 2000). This convention has also defined landscape protection as “action to conserve and maintain the significant or character features of a landscape, justified by its heritage value derived from its natural configuration and/or human activity” (Olwig 2007; Bloemers 2011).

2.3 Conceptualizing Cultural Landscapes

Landscapes link people to nature and establish interaction with the environment (Kaya 2016). Because the existence of tangible and intangible values in landscapes belongs to humans, the landscape notion is highly cultural. Human beings are one element of nature, among others, and the presence of a wide variety of relations between humans and the landscape are expressed by the notion of cultural landscapes, (ibid). On the other hand, at this point in time, there is a need to discuss what ‘cultural landscapes’ are. The term ‘cultural’, refers to the extended meaning of the forms of these relations (Antrop 2005; Mitchell et al, 2009; Tudor 2014).

Landscapes as a field of scientific research can be traced to the early writings of geographers mainly in the English, French and German schools of geography and related disciplines in the second half of the 19th Century (Olwig 1996; 2007). Geographers evaluated the landscape in terms of time and space as they are related to each other in a continuous process of development, dissolution or replacement, (Mitchel 2007). Because of this, the landscape was considered as having an organic quality. Moreover, their approach to landscape was distinctively anthropocentric, as human beings were part of it, lived with it, and modified it (Leighly 1969; Kaya 2016). In particular, the American Geographer, Carl Sauer developed the concept of Cultural Landscape in 1925, (Leighly 1969). According to his approach, the cultural landscape is a geographical area which is formed by all of the works of man that characterize the landscape (Solot 1986). However, this definition neglected the energy, customs, or beliefs of man.

The United States National Park Service (USNPS) has defined cultural landscapes as ‘a geographical area, including both cultural and natural resources, and the wildlife or domestic

animals therein, associated with a historic event, activity, or person or exhibiting other cultural and aesthetic values'. This USNPS definition classifies cultural landscapes into four major types: historic sites; historic designed landscapes; historic vernacular landscapes; and ethnographic landscapes, (Birnbaum 1994).

Furthermore, Robert Melnick (1984) prepared a report of Cultural Landscapes which included the following perspective: 'In a cultural landscape, the factor is culture, as it interacts, overtime with the medium of the natural landscape we see and experience. This definition is quite similar to Sauer's except that it includes consideration of visual perceptions and experience of the landscape. One of the most important advantages of Melnick's views is the description of the characteristics of the rural landscape and how these can be used for research and inventory of sites. Basically, Melnick's characteristics are the starting point for the assessment and mapping of cultural landscapes, (Buckle 2004).

Additionally, the Canada National Capital Commission, (NCC 2009), developed a study about cultural landscapes intended to bring in a set of guidelines for the identification and assessment of cultural landscapes. This report outlines a methodology for search, analysis, identification of cultural landscapes and suggests related management strategies. The key essence in a cultural landscapes approach is to find out the relationship between people and landscapes in order to develop appropriate management tools. This relationship creates the identity, the sense of place and place attachment that form the concept of meaning and social values. Canada NCC (2009) defines cultural landscapes as 'any geographical area that has been modified, influenced, or given special cultural meaning by people as a set of ideas and practices, embedded in a place', and then goes on to classify three basic categories: designed, evolved and associative. This classification is similar to that of the UNESCO World Heritage Convention (WHC 1972). The NCCs definition is used to comprehend the relationship between the tangible and intangible qualities of cultural landscapes and it brings in the notion of meaning in addition to the natural and cultural characteristics. A landscape may be important as a cultural landscape by virtue of its having sentimental or spiritual meaning to a group of people, whether or not there are any physical relics in the landscapes (NCC 2009).

Amos Rapoport (1992) discussed the cultural landscape in general as the subject matter of environment-behavior relations, and of traditional dwellings and settlements in particular. He argues that the cultural landscape is explained by discussing its two components – ‘Cultural’ and ‘Landscape’. All landscapes are lived in and are modified through human actions which give them the meaning, and this makes them ‘cultural’, since culture defines all human beings, while at the same time dividing them into groups. Cultural landscapes are the result of a complex history because the different populations and groups produce derivative interaction, over time, with a variety of physiographic and ecological specifics of the land, (i.e. geographic, biotic, resource, social and other opportunities and constraints). This interaction produces different and specific culture complexes called “Cultural Landscapes”, (Rapoport 1992). According to Rapoport, cultural landscapes can be suggested as organizations of space, time, meaning and communication. Cultural landscapes must be understood as a result of a historic layering of cultural and natural values and attributes. It must be studied in its entirety and include the broader vernacular context and setting.

Cultural landscapes have been used with many different meanings because of the notion that cultural landscapes indicate a wide variety of relationships between populations with the environment and its natural elements. As a result, the term embraces four distinctive characteristics as indicated here. A cultural landscape has: (i) Natural elements such as climate, soil, vegetation, geomorphology, and drainage, which are important components to understanding the backdrop of the cultural landscape. The natural environment provides the biological and ecological framework for the cultural landscape, i.e. natural factors. (ii) a distinctive character that has proceeded from human cultural activity over time. Cultural influences are the tangible results of changes such as settlements, transportation, land use, roads, and boundaries, as a combination of social, political and economic facilities, i.e. cultural/social factors. (iii) a meaning formed over time from layers of additional experience and feelings. The character is connected with meaning, i.e. cultural association. (iv) a unique visual, aesthetic quality and authenticity due to natural and cultural relics, i.e. perceptual aesthetic factors, (Melnick 1984; Tudor, 2014; Mitchell et al. 2009; Bloemers 2010; Rapoport 1992).

The concept is particularly relevant in Europe, where large-scale human impacts on land starting in Neolithic times (c. 3000–1100 BC). Hunting, cultivation (of cereals, fruits and other crops) and

settlements altered natural ecosystems and shaped Europe's landscape. Until the 18th century, European landscapes preserved many remnants and structures of the remote past. Since then, however, enormous technological and social changes have fundamentally altered land use, (Tieskensa, et al 2017, Strecker, 2019). Transport infrastructure and urbanization have fragmented habitats, while intensified agriculture has created a much more homogenized landscape, threatening the diversity of habitats, species and genes. An important element of the 'cultural landscape' concept is recognition that human activities are key drivers of changes in ecosystems — with potentially severe impacts on human wellbeing, (Vos 1999). But the concept also reflects the idea that human cultures are themselves shaped by their natural surroundings and ascribe huge value to local ecosystems for their spiritual, aesthetic and recreational properties.

Almost all rural areas in Europe have been shaped or altered by humans and can be considered cultural landscapes, many of which now are considered to entail valuable cultural heritage. Current dynamics in land management have put cultural landscapes under a huge pressure of agricultural intensification and land abandonment.

Traditional agricultural landscape (from Renaissance till 19th century, sometimes till today): The landscapes became multi-functionally managed by farmers, mainly in mixed agriculture systems, integrating forests and tree pastures, rough grazing lands, water systems, (Vos and Stortelder, 1992; Austad et al., 1993; Vos, 1993; Vos et al., 1993, etc.). Well-established regionally differentiated land use systems developed that became the engines behind most of Europe's characteristic cultural landscapes. These integrated farming forestry systems were regionally differentiated by their adaptation to climate, physiography and local cultures. Almost all rural areas in Europe have been shaped or altered by humans and are considered cultural landscapes. Current dynamics in land management have put cultural landscapes under a huge pressure of agricultural intensification and land abandonment, (Fairclough, 2002).

In 2000, the Council of Europe recognized the importance of managing cultural landscapes more effectively. This led to the European Landscape Convention which has influenced government policy and underpins a European emphasis on developing ways to manage landscapes in a sustainable framework.

The Convention establishes the principle that all of Europe's landscape is a common cultural resource, and that an important aim of European policy is to maintain the landscape's diversity for

reasons of local and regional identity, and for economic and social health. Underlying the philosophy and agenda of the Convention are two very powerful inter-related ideas:

- Landscape belongs to everyday life, as part of every citizen's culture, heritage and environment, and must be democratized both in terms of identifying why it is valuable and deciding how it is used and.
- Landscape is a cultural construct composed of many different ways of understanding and appreciation. Not all of these ways are 'scientific', objective or material. Many are personal, individual and subjective, or reflect intangible aspects of the environment.

Landscape issues have been a concern of European and international policy for some time, but with a relatively low level of recognition of its historical depth. Landscape's main champions to date have been nature conservationists, geographers and landscape architects (eg IUCN 1994; ICOMOS-Deutschland 1993; Ryszkowki et al. 1996; Bennett 1996; Hajós 1999). The idea of landscape as being primarily natural has therefore dominated important documents such as the Council of Europe's Pan-European Biological and Landscape Diversity Strategy (Sofia October 1995). For example, the IUCN defines many categories of Protected Areas ranging from areas maintained as strict wilderness to managed resource areas (IUCN 1994). Almost all of the categories focus more or less exclusively on natural ecosystems. The IUCN's overall definition is of areas 'especially dedicated to the protection of biological diversity, and of natural and associated cultural resources'.

2.4 Theoretical Perspectives for Understanding Cultural Landscapes

In this section, theoretical perspectives have been provided in order to understand cultural landscapes. In the African context, the theoretical viewpoint draws on a social constructionist perspective that includes aspects of phenomenology and symbolic interactionism on the way cultural landscapes are viewed as symbolic environments created by a human act of giving meaning on nature and the environment, (Greider and Garkovich 1994). The local people who reside within and around these cultural landscapes define what part of the landscapes should be valued highly.

2.4.1 Cultural Landscapes as Symbolic Environments

Sub-Saharan African Cultural landscapes are symbolic environments created by human acts of conferring meaning to nature and the environment. The people define the environment from a particular angle of vision and through a special filter of values and beliefs, (Greider and Garkovich 1994). These cultural landscapes reflect the local peoples' self-definitions that are grounded in culture. Sub-Saharan African cultural groups of people have transformed the natural environment into landscapes through the use of different symbols that bestow different meanings on the same physical objects or conditions of the landscape. According to Berger and Luckmann (1967), these symbols and meanings are sociocultural phenomena which result from ongoing negotiations in a cultural context. Through sociocultural phenomena, the physical environments have been transformed into landscapes that are the reflections of how the local people have defined themselves, (Greider and Garkovich 1994).

In African cultural contexts, the definitions of nature and the environment are grounded in various symbols through which cultural groups transform nature and the world that is there into meaningful subjective phenomena. These subjective phenomena are reflections of how local people define themselves as *individuals* within a given cultural group. Faced with change, the process of negotiating new self-definitions begins, but the negotiations occur within the context of existing cultural landscapes that frame the directions that the new self-definitions may take, (Greider and Garkovich 1994).

Cultural landscape phenomena are sociocultural phenomena in the sense that they are constructed through social interactions among members of a cultural group as they negotiate the meanings of nature and the environment. Sociocultural groups construct a landscape from nature and the environment through culturally meaningful symbols, (Greider and Garkovich 1994). However, one of the questions this thesis has tried to answer is on how landscapes persist and sustain core understandings of human-natural environment relations among cultural groups of people in the face of economic and other changes. Tax (1990) offers an explanation for the persistence of significant symbols and values. Lying beneath what he calls the relatively observable worldview of a culture is a structure of beliefs that are shared in a community.

Sub-Saharan African cultural groups use symbols to define the natural environment and fit it into their ongoing, everyday life within which they organize both their relationships to each other and their relationships with the environment. The natural environment is transformed through symbols

and concepts that organize local people's relationships in the social world, (Greider and Garkovich 1994). Cultural groups in sub-Saharan African societies socially construct landscapes as reflections of themselves. In the process, the social, cultural and natural environments are meshed and become part of the shared symbols and beliefs of these members of the cultural groups. Thus, the natural environment and the changes in it take on different meanings depending on the social and cultural symbols affiliated with it, (Greider and Garkovich 1994).

A broader interpretive framework for understanding local people's relationships with each other and the environment is needed, one that links people's changing conceptions of themselves. A sociology of knowledge perspective, combined with phenomenological and symbolic interaction perspectives, provides a framework for understanding the symbolic transformation of the environment into cultural reflections of the local people. (Greider and Garkovich 1994). According to Stryker (1987), a symbolic interaction framework emphasizes, among other things, the importance of shared symbols and meanings in a group's definitions of the situation, and the negotiation of meaning as a change in context occurs. Nature and the environment are socially and culturally constructed through these social processes and become cultural landscapes through social interaction and negotiation, (Greider and Garkovich 1994).

In my case studies, for example, where some developers are exploring and exploiting the mineral resources within the cultural landscapes, it is observed that these developers and local people use very different epistemologies to make sense out of their worlds and with different cultural resource management strategies result from these epistemologies, (Stoffle, et al. 1990). The landscape of the two groups reflect these differing epistemologies. For instance, to the local people, the artifacts, plants, mountains and hills, water pools and rivers and other elements of the non-human environment connect them to their creation, to their ancestors, to each other, and to their future. They do not have to understand the specific interconnections between these parts of the cosmos in order to have a complete and comprehensive cosmology. Thus disturbance of any part disturbs the whole, which includes disturbing the local people within and around the landscapes. Scientists or developers, however, use the verification and hypothesis-testing of positivist science to understand the cosmos and cannot understand the whole without testing the interconnections between the parts. These are completely opposing epistemologies.

Knowledge of the whole, for example, leads local people within and around Mulanje Mountain cultural landscape in Malawi, to recommend for holistic conservation, whereby the importance of one part of the mountain which plays an important role in the spiritual life of the local communities, is equivalent to the whole mountain covering the area. Disturbance of one part of the mountain disturbs the local people because it disturbs the holistic cultural landscape that reflects their definitions of themselves, (Stoffle and Evans 1990). Developers, however, discount the importance of traditional religious practices within the mountain. They question that how can the destruction of one small part of the mountain make any difference in an environment where the mountain is so massive covering a wide area of land. This shows the differences and competition in epistemologies which eventually lead to different assessments of the sociocultural and environmental consequences of most development projects, for example, mining development projects.

To apply this theoretical perspective of the cultural landscape as a symbolic environment in real life, there is a need to develop more effective management planning frameworks of project developments and community responses to environmental change. In the case of this thesis, the proposed management planning methodological framework which has been developed, (see chapter 7) has emphasized that the natural environment has multiple meanings and that these meanings are symbolic reflections of how the local people define themselves. The changes in the environment can challenge these cultural expressions and require a renegotiation of the meaning of both the local communities and their relationships to the environment. In the arena of social and cultural heritage impact assessment, this framework suggests that there are sociocultural-heritage impacts of an environmental change precisely to the extent that new cultural definitions and expressions that existed prior to the change will be lost. The suggested management planning methodological framework also suggests that the potentially affected population should include all local people whose cultural definitions and landscapes include the physical environment in which the change is occurring or is proposed to occur, (Greider and Garkovich 1994).

Other researchers have noted that sociocultural-heritage impacts also occur prior to the actual implementation of the development project or environmental change, (Freudenburg and Gramling 1992; Gibbs 1990; Stoffle et al 1991). For instance, sociocultural-heritage impacts occur from the point of conception and especially, from the time planned development projects have been

announced. The proposed management planning methodological framework of cultural landscapes, developed through this research, has accounted for the occurrence of sociocultural-heritage impacts prior to actual change on cultural landscapes. Within this framework, the sociocultural-heritage impacts have been created as cultural groups interpret the proposed changes within the context of their definitions of themselves and begin the process of renegotiating these definitions in light of the proposed changes. These definitions incorporate the group's social and economic resources and how these resources are used in ongoing social-cultural relations and negotiations with other groups (Gibbs 1990). If the proposed changes can be incorporated into local people's ongoing self-definitions, symbols, and meanings with minimal conflict, then renegotiation of their definitions of themselves will not be needed and sociocultural-heritage impacts will not occur from the change (Stoffle et al 1991). If, however, the development project or environmental change cannot be incorporated into this everyday life-world or threatens access to valued resources, then negotiations among members of the group will occur. These new definitions are the sociocultural-heritage impacts.

As the status of land and prospects for the physical environment become a focus of national and international debate, the question of whose landscape is being protected, altered, or exploited becomes more important. As Bord (1991) suggests, the issue of symbolic politics in the realm of the global environment is becoming significant given the inherent uncertainty of environmental problems, which leads to competing scenarios. The proposed management planning methodological framework of landscapes provides a vehicle for understanding the use of power and political conflicts that emerge around the issue of environmental change.

The management planning framework proposed in this thesis have emphasized a well-established integration of stakeholders' views and environmental issues. It has paid attention to the social construction of reality by highlighting the need to explore the symbolic creation of cultural landscapes, the cultural meanings of aspects of the physical environment and biophysical changes in this environment, and the values and beliefs that sustain these symbols and their meanings.

2.4.2 Cultural Landscapes as Cultural Products

There is an important contrast between 'cultural landscapes as a 'symbolic environments' and cultural landscapes as 'cultural products'. The later, focuses almost exclusively on the study of landscape as a physical entity, in the longer-established approach. Whereas the symbolic landscape

approach differs mostly from cultural landscapes as a cultural product approach mainly over the questions of subject/object (Cosgrove 1989). Cultural landscapes as a cultural product approach purport to take an objective perspective, whilst the symbolic approach view suggests that the world cannot be perceived in this way, we can only experience and understand it subjectively, (Robertson and Richards 2003).

The first important point to make about the symbolic approach is, therefore, that it understands cultural landscapes subjectively. In addition, because this approach sees all landscapes, whether on the ground or imagined, as representations, then it includes landscape representations. Thus a single landscape may well be either (or both) be subject to a range of interpretations dependent on the cultural position of the interpreter or be viewed ‘simultaneously in a variety of ways’ (Seymour 2000).

2.4.3 Cultural Landscapes as Cultural Processes

More persuasive, however, are the views that rework landscape not as a cultural product but as a cultural process. In cultural geography, this view is most closely associated with the work of W.J.T Mitchell (2000), who attempted to move our understanding away from seeing the landscape as a static text to seeing it as a part of a process by which identities are formed. In this view, the landscape is active and dynamic, it does work, in both the mental and material senses.

It is within the fields of archaeology and anthropology that the notion of landscape as cultural process finds its most consistent expression (Stephenson 2008). Nevertheless, where the landscape is considered, the way in which it is understood is often based upon a phenomenological stance, the key issue is the manner in which people experience and understand the world. In this view, then, the physicality of the cultural landscape is seen as critical and as the setting in which humanly created locales occur. This leads authors like Ingold (1993) to reject the notion of landscape as a cultural or symbolic construct as it falsely separates mental and material worlds. Instead, he proposes a temporality to landscape in order to incorporate the process of social-cultural life (Ingold 1993).

This is a term that allows Ingold (1993) to see the landscape as part of and a product of the dynamic process of dwelling in which the landscape is never built but it is perpetually under construct and is always in the nature of ‘work in progress’. The landscape is never complete. It is always already

fashioned by human agency and is constantly being added to. Life activities are the medium through which landscape is experienced and that occur in relationship with the visual and physical forms of landscape. Hirsch (1995:3), argues that landscape is a cultural process that brings together the cultural meaning of landscape with 'the concrete actuality of everyday life'.

Cultural landscapes also provide useful ways of knowing the world. It gives us a framework of understanding within which to describe and analyze what we see of, and feel about, the environment in which we live (Swaffield 2006). The landscape also provides a systematic basis for understanding the spatial patterns and processes we see around us and the way that people adapt the environment to their needs and desires. Understanding cultural landscapes complements and provides an important counterpoint to their ways of knowing.

Evolution process and mechanism of organically evolved cultural landscapes

The evolution of cultural landscapes is an important angle for the decoding of demographic, social, economic and cultural changes in a certain place. Because of the existence of regional difference, the evolution process and mechanism of cultural landscapes should be studied on different scales and regions. In the past 100 years, rural cultural landscapes of Africa have changed enormously due to the faster industrialization and urbanization.

The concern about the vanishing historic cultural landscapes and new emerging cultural landscapes has become a recurring topic in most of landscape researcher around the world, (Antrop, 2005). Landscapes change because they are the expression of the dynamic interaction between natural and cultural forces in the environment. Cultural landscapes are the result of consecutive reorganization of the land in order to adapt its use and spatial structure better to the changing societal demands. In Africa, history has recorded many successive and even devastating landscape changes, which have left barely any relics today. Today, the changes are seen as a menace, as a negative evolution because they cause a loss of diversity, coherence and identity, which were characteristic for the traditional cultural landscapes that are rapidly vanishing, (Antrop, 2005).

This growing concern is also expressed in number of World Heritage Cultural landscapes which are being subjected to various development pressures. Values change accordingly and so does the way of using and shaping the landscape. It is argued that this changing perception also influences what kind and aspects of landscapes are studied, protected and managed. Diversity and identity of

cultural landscapes are central in the discussion. It is shown that coherence between small composing elements in a broader spatial context is important for the legibility of the landscape and that the ability to tell the (his)story of a place strongly enhances the identity and the overall value, (Antrop, 2001).

This offers criteria for inventorying and assessing landscapes, which is needed to define future management and development. Although the general trends of future development of the African landscapes are rather well known, planning and managing future landscape remains difficult and extremely uncertain. The processes and management in past traditional landscapes and the manifold relations people have towards the perceivable environment and the symbolic meaning it generates, offer valuable knowledge for more sustainable planning and management of future landscapes.

Landscapes are dynamic and change is one of their properties. Humans have always adapted their environment to better fit the changing societal needs and thus reshaped the landscape. All the important driving forces are related to the population growth and the life-style becoming increasingly more urban and more mobile. Since the 18th century, however, the pace and magnitude of the changes increased greatly, causing definite breaks with the past. Only in the beginning of the 20th century was there a first concern regarding the loss of natural and cultural values.

A second period of concern emerged gradually at the end of the 20th century, stimulated by the growing awareness of environmental deterioration and loss of ancestral roots. Modern developments are found to be not very sustainable when compared to traditional land management practices that lasted for centuries. More attention is given to the scattered remnants of the past traditional landscapes. Their importance is manifold. They are the tangible witnesses of ancestral values everyone can perceive and experience directly in the landscape. Symbolic and cognitive values pass through esthetically felt scenery. They contain a lot of information concerning the still poorly known history of ordinary people and land management traditions. Much wisdom and inspiration for sustainable management can be found here, which is useful when decisions have to be taken for the future management of landscapes, their restoration and even for creating new ones. Landscapes of the past cannot be brought back, but ways how valuable elements and areas can be

preserved and become embedded functionally in the modern urbanized and globalized society must be studied.

2.5 Cultural Landscapes in Sub-Saharan Africa

Africa is the continent where the human species differentiated itself. It is thus where the most ancient cultural landscapes are found (Le Berre 2000). Some of the examples of these cultural landscapes include sites like the Omo in Ethiopia, Turkana in Kenya, Olduvai in Tanzania, Sterkfontein in South Africa, Koro-Koro in Chad, among others. Amongst some of the typologies of cultural landscapes found in Africa includes; *fossil cultural landscapes* as evidenced by numerous prehistoric sites in the region. *Associative cultural landscapes* are also numerous, they are amongst the living landscapes, and they constitute an essential element of the nature-culture link so important in African cultural heritage. African associative landscapes are diverse and it includes woodlands, rocks, ponds, mountains, among others. It has also *pastoral landscapes*, a distinctive category in the arid and semi-arid zone, with unique elements such as the pastoral wells and cattle enclosures. *Itineraries and exchange routes* also constitute a category of linear landscapes of diverse usage like commerce, religion, and culture, which was particularly important in Africa. The examples of the Salt and Slave Routes are illustrative of the importance and diversity of this category. In addition, the *Intensive agricultural landscapes*, terraced and with original irrigation systems, translate the efforts of survival under difficult environmental conditions (Le Berre 2000).

In this period of the 21st century, these different categories of landscapes are evolving rapidly under the increased economic development projects within these cultural landscapes. It is important, therefore that, means of conservation and management strategies of the most representative elements of the African cultural landscapes be envisaged without hindering their development potential.

African cultural landscapes are places or areas that demonstrate the combined works of man and nature. In these areas, it is where people get their livelihood, portray their identities and belief systems. These African cultural landscapes are shaped by the people within and surrounding them, and nature's resources are managed and harvested in a sustainable manner to satisfy the local people's material and spiritual needs. African's cultural landscapes are vibrant scenic places that

are prime examples of traditional cultures that are still very much alive today. They demonstrate life-styles, building techniques, and customs that have remained largely unchanged for centuries.

African cultural landscapes demonstrate a clear symbiotic relationship between the ecosystem and the ethno-systems (Munjeri 2000). This is so because more than anywhere else, the cultures of Africa have evolved out of nature and still draw their authority from it (Berre and Messan 1996). In the context of Africa, everything relating to the interaction of natural resources and people is indeed summarized in that statement. African civilizations have always been closely attached to their natural surroundings from which they draw materials and inspirations. African cosmology ties together the supreme deities, ancestors, and the natural resources: forests, mountains, springs and other sacred places which form a network that enables people to understand the landscape around them and give it a special meaning and purpose and to become part of it.

The spiritual interpretation of relationships of African cultural landscapes concerning the natural heritage has enabled conservation of natural areas because of their holy nature (Le Berre and Messan 1996). This arrangement works because in most African cultural landscapes, the living are part of the spirits of the ancestors and the dead continue to exist as spirits co-existing with humanity (Beach 1994). For example, in the case of sacred groves found in Ghana, 80% of the sacred groves serves as a watershed or catchment areas that protect sources of water and provide essential herbs of medicinal importance. In this particular area, through a system of taboos and customs, encroachment or unwanted exploitation is limited. The unlimited powers vested in the custodians equally protect other numerous groves in the country.

To emphasize the effectiveness of this 'spiritual legislation' another case of Baakye Amoako-Atta presents the case for Tali sacred grove which covers 25 square kilometers of dense forest in the middle of the savanna. Through the use of traditional regulatory mechanisms which involves five village communities that offer custodial leadership over the grove of Jaagbo god, the landscape has been preserved. The grove which is so dense attests to the ecological complexity of the Tali grove which is the last drop of the thick forest in a vast plain of the degraded savanna, (Amoaka 1995). These groves are evidence that traditional values, human settlement, and initiative in the conservation of natural landscape through religious beliefs can resist what is almost irreversible destruction and degradation of the whole bio-geographical unit in West Africa. Mostly, in African

cases, elaborate rituals, traditional structures and the ‘great in-born pride’ in being part of the mountain culture and the unbroken tradition of several years of agricultural achievement have sustained these cultural landscapes and their inhabitants.

However, most of the African cultural landscapes are poorly managed. The core reason is the absence of management guidelines and plans for these cultural landscapes. In most of these sites, maintaining the correct balance between the requirements of the sites and the local people who have placed their stamp on nature to produce the biologically productive and aesthetically pleasing landscapes is a delicate ‘balancing act’ calling for skills and expertise and experience that is rarely found.

In terms of authenticity and integrity of the cultural landscapes, as the position stands, in the ‘Operational Guidelines for the implementation of the World Heritage Convention’, the authenticity of cultural landscapes relates to cultural sites and integrity relates to natural sites (UNESCO 2016). With respect to integrity, the African perspective lies in the inseparability of the cultural and natural environment. That being so, the nature-culture demarcation is hard to apply because, in Africa, the natural heritage is the very basis of the cultural heritage. Thus, the division between a natural and cultural heritage is almost impossible.

2.6 Traditional Management Systems of Cultural Landscapes in pre-colonial Africa

Africans protected and promoted their heritage resources well during the pre-colonial period. Cultural heritage included but not limited to grooves, caves, pools, trees, graves, shrines, spiritual landscapes and animals (Maradze 2003; Onyima 2016). Preservation of these resources was managed through traditional management systems (Jopela 2011). These included taboos, restrictions, myths and ceremonies, and these measures were effective in ensuring the survival of heritage places (Maradze 2003). Jopela (2011) also reports of studies done in southern Africa which revealed that rituals have been done in rock art sites such as Domboshava and Silozwane in Zimbabwe; Tsodilo Hills in Botswana; Kandoa-Irangi in Tanzania; and Chongoni in Malawi. Some customs and beliefs that were done in such places have endured to date. Smith (2005) states that particular sections of rock art have a link to certain local customs and beliefs of the people around the sites.

Chiefs were at the center of preserving their local heritage sites. Onyima 2016 states that in Nigeria during this period, heritage was preserved in royal palaces of tribal kingdoms and empires by kings, heads of families and kindred, deity priests in charge of shrines and sacred groves. The chiefs made use of skilled personnel in arts and crafts to lead in the production of dance and crafts necessary for ritual practices. Chiefs ensured that trees were not cut down in sacred grooves (Maradze 2003). Oral tradition and training ensured the preservation of skilled personnel in various arts and crafts (Onyima 2016). The chiefs, therefore, ensured that they had costume designers for royal regalia and other props, mask carvers for masquerades, drum makers, praise singers, choreographers, and weavers. In some cases, the chiefs doubled their roles as kings and religious leaders, for example, Mulopwe of the Luba State, in the present day Congo, whose house at his death became an important religious center or shrine under a priestess. Another one was Kyungu in Northern Malawi who lived a life of seclusion on a summit of a hill, (Kalinga 1983).

Though the pre-colonial period has been portrayed as a chaotic world with barbaric ethnic wars, cultural landscapes have relatively been untouched. This should be because most Africans had the belief in the existence of a Creator (Tindall 1968) and spirit mediums hence places associated with spirits were revered as sacred. In places where two or more ethnic groups interacted cultural heritage sites were all preserved. Evidence in Chongoni Rock Art sites in Malawi shows that the Batwa (short-statured people) and the Chewa used the same caves but the latter did not obliterate the paintings of the former. Similarly before the arrival of the Maravi (Phiri) in the central region of Malawi, there lived the Proto-Chewa, Zubieta (2009). Zubieta (2009) reports of several studies that have suggested that the Phiri newcomers adopted “Gods” of the Banda. In Northern Malawi, Tumbuka clans lived loosely headed by clan leaders/heads without a centralized system. They all, however, paid allegiance to the “Chinkhang’ombe” cult (Kalinga 1983). When the Balowoka came into the area under Msawira and established a kingdom over the Tumbuka, they also maintained the Chinkhang’ombe cult. After the fall of Great Zimbabwe, the Changamire Empire was founded by Changa, a Rozvi. Great Zimbabwe was a great empire with stone buildings built without mortar and an important religious center. Though the new Empire did not occupy the Great Zimbabwe buildings, Great Zimbabwe still functioned as a religious center, (Kalinga 1983).

Since most African chiefs wielded their power through divine decent (Shillington, 1995), their subjects followed their dictates. Among the Yoruba the founding ancestor, Oduduwa, is said to

have been lowered from heaven by “Olurun” (the God of the Sky), the Bemba kings in Zambia claimed their descent from crocodiles “Bena Ng’andu” and the Pharaohs in Egypt were regarded as sons of Ra, the Sun God (*ibid*). This kind of claim enabled kings to manage cultural sites since their word was that of “God” himself. There were customs and rituals that were done at various points in time at cultural sites that ensured that the sites are preserved for posterity. The sites were regarded as the abode for ancestors (Maradze 2003) or places for communication with the ancestors (Jopela 2010). As such certain behavioral patterns were supposed to be observed at the sites in respect for the ancestors. Maradze (2003) wrote about a sacred groove at Domboshava in Zimbabwe which presents a classic example of how taboos and other restrictions conserved its landscape:

“Oral tradition has it that cutting down of trees and cultivating in the vicinity of the groove was prohibited”. It was believed that if a person cut down a tree it would be in its original place the following day, and the culprit had to pay heavily.

Khuluvu sacred thicket in Malawi has survived to date because of restrictions that are enforced by Malemia the custodian of the thicket who resides at Nankhodzo. Malemia oversees the sacred site delegated by the Chiefs Tengani and Lundu. He sees to it that no one violates the site and anyone wishing to offer a sacrifice is led by him, (Rengeley 1952). Every person by virtue of belonging to a community was supposed to take part in the ceremonies to placate or gain the favors of the ancestral spirits, (Tindall 1968). This ensured that all people in the community took part in the preservation of their cultural landscapes.

2.7 International Instruments on Management of Cultural Landscapes

In the 19th and 20th century the pioneer environmentalist movements began and in addition to landscapes becoming an important field of study, protection strategies were simultaneously developed within the protection movements (Kaya 2016). After the Second World War, the first international conservation achievement was realized. In 1962, a UNESCO “Recommendation Concerning the Safeguarding of the Beauty and Character of Landscapes and Sites”, was accepted by the members. For the purpose of this recommendation, the beauty and character of landscapes and sites was taken to mean the preservation and, where possible, the restoration of the aspects of

rural and urban landscapes and sites, whether natural or man-made, which had a cultural or aesthetic interest or form typical of natural surroundings (UNESCO 1962).

The recommendation mentioned the growing concern of the human negative impact on the beauty and character of landscapes and sites forming part of the natural environment, including damage through: improvement of the cultural, aesthetic and even vital heritage; cultivation of virgin land; ill-regulated development of urban centres; vast schemes for industrial and commercial development and equipment; and destruction of wildlife (UNESCO 1962).

This document pointed out that the beauty and character of landscapes and sites play a crucial role in the life of humans, for whom they embody a physical, spiritual and moral regenerating influence. They are important universally known examples that bear witness to their age. Landscapes and sites are an important factor in the economic development and social life of many countries, and are largely valuable in ensuring the health of their inhabitants.

The General Conference of UNESCO which met in Paris in 1962, in its twelfth session, requested that member states bring this recommendation to the attention of the authorities and bodies concerned with the protection of landscapes and sites and with regional development, (UNESCO 1962). The safeguarding of landscapes and sites should be ensured by use of the following methods: general supervision by the responsible authorities; insertion of obligations into development plans and planning at all levels, regional, rural and urban; organizing of extensive landscapes by 'zones'; organizing of isolated sites; and creation and maintenance of natural reserves and national parks; acquisition of sites by communities, (UNESCO 1962).

Secondly, in 1964, the International Charter for the Conservation and Restoration of the Monuments and Sites was adopted by ICOMOS as a basic document which frames the issue of conservation within a system of international principles (UNESCO 1964). This document focused on historical monuments and their settings and emphasized that *'The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time'*. The Charter emphasized that it was essential to preserve ancient buildings from changes and that restoration must be done to reveal the aesthetic value of the monument. According to the Charter, conservation and restoration of

monuments must have appeal to all the sciences and techniques which can support the safeguarding of the architectural heritage, (UNESCO 1964).

The third one relevant to cultural landscapes is the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage. UNESCO adopted this convention referring to the Declaration of Human Rights of 1948, the International Covenant on Economic, Social and Cultural Rights of 1966, and the International Covenant on Civil and Political Rights of 1966. The purpose of this Convention is: to safeguard the intangible cultural heritage; to ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned; to raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and to ensure mutual appreciation thereof; to provide for international cooperation and assistance (UNESCO 2003). The convention defines intangible cultural heritage as the *“practices, expressions, knowledge, skills – as well as instruments, artifacts and cultural spaces associated therewith – that communities, groups and, and in some events, individuals recognize as part of their cultural heritage”* The definition also points out that: it is transmitted from generation to generation; is constantly recreated by communities and groups in response to their environment. Their interaction with nature and their history provides them with a sense of identity and continuity; promotes respect for cultural diversity and human creativity; and complies with international rights regulations, (UNESCO 2003).

The World Heritage Convention and Cultural Landscapes

After World War II, the idea of creating an international movement for protecting heritage emerged, protection ideas were converted to international legislation. UNESCO assisted the convention managed by the World Heritage Committee (WHC) in 1972. The committee consisted of 21 countries and it concerned with the protection of world cultural and natural heritage. The Committee’s purpose is to encourage countries to sign the World Heritage Convention and to ensure the listing and protection of their natural and cultural heritage. UNESCO defines heritage listing as *‘the designation for places on earth that are of outstanding universal value to humanity and such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy. Heritage is our legacy from the past, what we live with today, and what we pass on to future generations. Our cultural and natural heritage are both irreplaceable sources of life and inspiration’*, (WHC 1972).

The concept of cultural landscapes is not new, although it has only relatively recently become a prominent part of the international cultural heritage movement. After nearly a decade of debate, in 1992 the World Heritage Committee (an international committee with responsibilities for implementing the World Heritage Convention, adopted in 1972) agreed that cultural landscapes could meet the criteria of “outstanding universal value” and revised the convention’s guidelines accordingly. In doing so, the committee recognized that cultural landscapes have values in their own right that are different from the scientific and the perceptually based scenic qualities of properties valued for their natural characteristics.

The guidelines also specifically address the relationship between cultural heritage and natural resource values by acknowledging that cultural landscapes represent the combined works of nature and of man” as designated in Article 1 of the convention: *“They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal”* (section 36 of the guidelines). In section 37, the term “cultural landscape” was defined as *“a diversity of manifestations of the interaction between humankind and its natural environment.”* By this definition, a cultural landscape is created through the interrelationship of culture and nature, which shapes environments over time and results in landscapes of today.

The World Heritage guidelines also specifically integrate nature conservation into the definition of cultural landscapes, referring to the role of cultural landscapes in sustainable land use and to their importance, in certain situations, for maintaining biological diversity. As these sections state: Cultural landscapes often reflect specific techniques of sustainable landuse, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature. Protection of cultural landscapes can contribute to modern techniques of sustainable landuse and can maintain or enhance natural values in the landscape. The continued existence of traditional forms of land-use supports biological diversity in many regions of the world. The protection of traditional cultural landscapes is therefore helpful in maintaining biological diversity (section 38).

The committee also recognized the great diversity of cultural landscapes around the world. To distinguish their different values, they defined three categories of cultural landscapes.

Category 1, the “*clearly defined landscape designed and created intentionally by man*,” largely concentrates on parks and gardens (section 39-i). Certain World Heritage landscapes, like the Cultural Landscape of Sintra in Portugal and the Lednice - Valtice Cultural Landscape in the Czech Republic whose principal values are clearly rooted in their design, are equally clearly “working landscapes” that reflect particular cultural responses to the natural environment. A recent presentation on the 200-sq-km Lednice-Valtice Cultural Landscape pointed out that “human creativity has completely changed the natural environment and created a complex cultural landscape producing new natural environments.”

Category 2, “the “*organically evolved landscape*,” reflects that process of evolution of cultural factors in association with the natural environment over time in their form and component features. Such landscapes derive “from an initial social, economic, administrative, and/or religious imperative” and have developed their present forms by association with and in response to their natural environment. “Such landscapes reflect that process of evolution in their form and component features.” They fall into two subcategories:

- “A *relict (or fossil) landscape* (such as an archaeological landscape) is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.”
- “A *continuing landscape* is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time”.

By virtue of their organic nature and continued management and use over time, all landscapes may be said to have evolved. The essence of the organically evolved cultural landscapes, whether relict or continuing, is that its most significant values lie in the material evidence of its evolution in the context of a natural environment that influenced and shaped it.

Evolved continuing cultural landscapes, such as the Rice Terraces of the Philippine Cordilleras and the Hallstatt-Dachstein Salzkammergut Cultural Landscape in Austria, are traditional

settlements that embody cultural adaptations to specific natural environments through which they have shaped both a livelihood sustained over time and a distinctive sense of place.

Category 3, the “*associative cultural landscape*,” derives its significance from “the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent” “Associative cultural landscapes may be defined as large or small contiguous or non-contiguous areas and itineraries, routes, or other linear landscapes—these may be physical entities or mental images embedded in people’s spirituality, cultural tradition and practice. The attributes of associative cultural landscapes include the intangible, such as the acoustic, the kinetic and the olfactory, as well as the visual” (Australia ICOMOS 1995). Tongariro National Park in New Zealand and Uluru-Kata Tjuta National Park in Australia are World Heritage Sites designated for both their natural and cultural qualities. They are also traditional homelands of indigenous peoples who have lived on these lands for centuries and have powerful spiritual associations with these places, often most vividly expressed in their oral traditions passed from generation to generation.

IUCN distinguishes protected areas in six categories. Category V, Protected Landscape/Seascape, is defined as “a protected area managed mainly for landscape/seascape conservation and recreation. It is an area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance, and evolution of such an area” (IUCN 1994). The key areas of significance of protected landscapes, as described in IUCN’s “green book,” are high scenic quality, diverse associated habitats, flora and fauna along with manifestations of unique or traditional land use patterns, and social organizations as evidenced in human settlements and local customs, livelihoods, and beliefs (IUCN 1994).

In the early 1990s, the World Heritage Committee noted that cultural landscapes were increasingly threatened with destruction, not only by traditional causes of decay but also by changing social and economic conditions. At the beginning, there was no guidance on how they were to be identified and managed. Then cultural landscapes were put in the broader World Heritage context, and cultural criteria were broadened to cover a variety of interactions between humankind and the

natural environment. The Mulanje Mountain and Mapungubwe cultural landscapes, examples of *continuing organically evolved cultural landscapes*, forms the basis of the case studies used in this thesis which has been discussed in detail in Chapter 3 and 5.

2.8 Chapter Summary

This chapter has provided a theoretical and conceptual understanding of the concept of cultural landscape in Sub-Saharan African context. Specifically, the two concepts of ‘Landscape’ and ‘Cultural Landscape’, has been defined and discussed based on different academic viewpoints. Three theoretical perspectives have been reviewed and discussed in the context of African cultural landscapes. These perspectives include either viewing cultural landscapes as symbolic environments, or as cultural products, or as cultural processes. A brief overview of the cultural landscapes of Africa has been discussed with reference to the theoretical perspectives discussed. This has been followed by a discussion on the general traditional management systems applicable to some African cultural landscapes. On the last part of this chapter is the discussion on the international legal and administrative instruments for the management and conservation of cultural landscapes.

In the next chapter, a detailed discussion of the factors affecting the management and conservation of cultural landscapes in Africa has been presented. Specifically, the impact of mining on cultural landscapes has been the main focus of this thesis. Hence chapter 3 below will provide an analysis of the impact of extractives industries on African cultural landscapes.

CHAPTER THREE

3 MINING AND AFRICAN WORLD HERITAGE CULTURAL LANDSCAPES

3.1 Introduction

Exploration and exploitation of mineral deposits in most African cultural landscapes are threatening the proper conservation and management of the cultural and natural attributes and values of these landscapes. According to Raju and Sai (2016), mining has been defined as a process of exploring, extracting and processing of minerals from the earth. Most of the cultural landscapes in the sub-Saharan African region are known for their large quantities of rich mineral deposits, (TBCA 2012). The most important minerals and metals that are produced in most parts of the sub-Saharan African region include gold, Platinum Group Elements (PGEs), diamond, uranium, manganese, chromium, nickel, bauxite and cobalt, coal and others. Africa has about 30% of the world's mineral reserves, including 40% of gold, 60% cobalt and 90% of the world's Platinum Group Mineral (PGM) reserves – making it a truly strategic producer of these precious metals, (TBCA 2012). Over the past decades, most of the foreign direct investment has gone to the mining sector. Many African countries have undertaken mineral extraction because of its contribution to economic development through job creation, tax revenues, technology transfer and foreign exchange acquisition among others. These have helped in the growth and development of mineral-rich countries, (TBCA 2012).

This chapter has, therefore, provided a critical analysis of the impact of mining development on the cultural attributes and values of cultural landscapes. Detailed examples of African World Heritage sites which are at risk of mining exploration and exploitation activities has been provided. This has been followed by an evaluation of the legal and policy frameworks for the management of impacts attributable to mining operations in African cultural landscapes. Specific examples of Malawi and South Africa regulatory measures on cultural landscapes have been given. In the last section of the chapter, a general discussion has been provided as regards to the international policies on mining and heritage conservation. Particular emphasis has been put on the evaluation of the World Heritage Convention and other international policies on mining in and around World Heritage properties. The chapter has concluded with a discussion on the practical aspects of mining and heritage conservation applicable in cultural landscapes. These included some best practices

and initiatives that have been implemented as regards to issues of mining and World Heritage management and conservation.

3.2 Mining and Minerals in Africa

Extensive archaeological evidence indicates that mining activities, particularly those aimed at the extraction of iron, gold, and copper, have occurred in many of the sub-Saharan African countries for at least a thousand years (Mendelsohn 1961). These activities expanded spectacularly during the past century with the discovery of new mineral resources and the development of new mining and metallurgical technologies. Mineral exploration surveys also revealed that, collectively, sub-Saharan African countries contain some of the most abundant mineral reserves of strategic and economic importance like gemstones, oil and gas than anywhere in the world (Anhaeusser & Maske 1986; Wilson & Anhaeusser 2000; Ashton et al 2001). These mineral resources hold the promise of exceptional long-term social and economic benefits for the region and their exploitation has accelerated dramatically during the past century (Hounsome & Ashton 2001). Today, despite recent adverse economic features and depressed commodity prices for many minerals and mineral products, mining and its associated industries continue to form the cornerstone for the economies of most sub-Saharan southern African countries. Table 3. 1 provides a summary data for the twelve sub-Saharan African countries showing the relative importance of social and economic contributions made by the mining sector in each country.

Table 3. 1. Summary on economic contributions of mining in twelve sub-Saharan African countries.

Sub-Saharan African Country	2000 population (millions)	Population Growth Rate (%)	Mining Contribution to GDP (%)	Mining Employment (%)	Mining Share of Foreign Earnings (%)
Angola	10.145	2.15	52.3	9.0	90.0
Botswana	1.576	0.76	38.0	5.5	70.0
D.R Congo	51.965	3.19	28.0	4.0	70.0
Lesotho	2.143	1.65	0.5	1.0	0.3
Malawi	10.386	1.61	0.9	0.4	0.5
Mozambique	19.105	1.47	2.0	1.3	2.0
Namibia	1.771	1.57	20.0	4.5	48.0
South Africa	43.421	0.50	8.0	9.0	28.6
Swaziland	1.083	2.02	2.0	3.5	2.0
Tanzania	35.306	2.57	2.8	2.7	22.0
Zambia	9.582	1.95	12.1	9.0	80.0
Zimbabwe	11.345	0.26	8.0	7.0	40.0

Source: Adapted from Hounsome & Ashton 2001

In some sub-Saharan African countries, the mining industry has been pivotal in the development of infrastructure and in the establishment of manufacturing industries. Although the direct contribution of mining to the economies of these countries varies, the importance of manufacturing industries based on a wide variety of minerals as raw materials is substantially growing (Ashton et al, 2001).

The economic benefits attributable to the mining sector are reflected in the contribution to direct foreign exchange earnings in each country (Table 2.1). In particular, the economies of Angola, Botswana, Democratic Republic of Congo, Namibia, South Africa, Tanzania, Zambia and Zimbabwe obtain between 22% (Tanzania) and 90% (Angola) of their foreign exchange directly from mining and mineral exploitation activities. Overall, it is conservatively estimated that mining contributed an average of 40% to the direct foreign exchange earnings of sub-Saharan African countries in 2000 (Mbendi 2018; Hounsome & Ashton 2001).

Many sub-Saharan African countries depend highly on mineral exports in order to sustain national economies. In 2012, mineral fuels (such as coal and petroleum) accounted for more than 90% of the export earnings for Algeria, Equatorial Guinea, Libya, and Nigeria, whilst countries such as Angola, Sierra Leone, Namibia, Zambia and Botswana they also rely heavily on the mining industry as a major sources of foreign currency. They export large quantities of diamond, nickel, soda ash, gold, copper, bauxite, alumina, and petroleum (TBCA 2012). In addition, minerals and mineral fuels accounted for more than 50% of the export earnings of Mali from gold mines, Mauritania from iron ore mines, Mozambique from aluminium mines, Zambia from copper and cobalt mines and Namibia from diamond, uranium, gold, and zinc mines (TBCA 2012). Some major new mines opening in Africa or under development are distributed between South Africa, Namibia, Botswana, Tanzania, and Gabon producing gold, diamonds, niobium products, PGE's, chrome and base metals. Major discoveries over the past five years include the discovery of several potentially diamondiferous kimberlites in Mauritania and Namibia. Following the above, it shows that huge mining investments are taking place in South Africa with PGM 69% and gold 31%, while investments are also taking place in Guinea for bauxite and aluminium minerals, Madagascar for nickel minerals, Mozambique for coal minerals, Zambia for cobalt & copper minerals, and Nigeria and Sudan for crude petroleum and Senegal for iron ores, among others.

The scale and importance of the diverse activities comprising the mining sector in the economies of all sub-Saharan African countries have significant impacts on the social, economic and biophysical environment (Hounsome & Ashton 2001). Depending on the size, type and location, the impacts of mining activities and mineral exploration programmes are often large enough to be regarded as drivers of environmental change, particularly on the World Heritage cultural landscapes. Conversely, most of the World Heritage African cultural landscapes in the sub-Saharan African region are known for their rich mineral resources.

In order to appreciate the ways in which mining activities affect most African cultural landscapes, it is important to appreciate both the variety of mining activities and the different phases involved in a typical mining operation.

3.2.1. Mining Operations in the Context of Cultural Landscapes

In most sub-Saharan African countries, there are basically two types of mining; the artisanal/small-scale mining and industrial mining. Over 6 million people in Africa engage in ‘small-scale mining’ often as a side job with farming (TBCA 2012). A number of minerals are suitable for this purpose, from building materials to precious stones (diamonds) and gold. Industrial mining, on the other hand, is often associated with the industrial investment that comes largely from foreign companies. In this sub-Saharan African region, the different impacts of mining on the social and physical environment are associated with the minerals being mined, the mining method in relation to the size of the area disturbed and workforce employed; and its physical and chemical characteristics. The mining of most materials involved in construction, such as sand, gravel, and building stones are generally limited in their environmental impacts to the land area disturbed as they are relatively chemically stable. In contrast, the mining of most metallic ores involves the storage and processing of these ores on the surface and the possibility of a variety of chemical processes can have severe effects on the environment if not properly controlled and managed (ICMM 2010).

Mining methods vary widely and depend on the location, type, and size of mineral resources. Surface mining methods are most economical in situations where mineral deposits occur close to the surface (e.g. coal, salts, and other evaporite deposits or road quarry material) or form part of surface deposits (e.g. alluvial gold and diamonds, and heavy mineral sands) (Ashton et al 2001). Typical surface mining methods include strip mining and open pit mining, as well as dredge, placer and hydraulic mining in riverbeds, terraces, and beaches. These activities always disrupt the surface and this, in turn, affects the archaeological and other cultural heritage sites, soils, surface water and near-surface groundwater, fauna, flora and all alternative types of land-use (Fuggle & Rabie 1996; Ashton 1999).

Shallow underground mining, up to about 50 meters below the surface, includes bord (room) and pillar mining (often used in coal mines), where pillars of the mineral seam are left to support overlying material (Ashton et al 2001). For example, many of the gold and copper mines in Zimbabwe, Zambia and the Democratic Republic of Congo are sited on historical workings that employed a variety of shallow underground mining techniques (Mendelsohn 1961).

A variety of deep underground mining techniques are required to extract ores located deep beneath the earth’s crust. Deep mining techniques include specialized ore extraction techniques, such as block caving and long-wall mining, and require sophisticated infrastructure to ensure mine safety

and maintain safe working environments (Ashton et al 2001). The principal environmental impacts associated with deep underground mining (for example, in gold, platinum, chrome and copper mines) are linked to the mine wastes and blasting residues brought to the surface by mine dewatering activities. These cause water pollution from leachates, as well as visual pollution, changes in land use, excessive dust, and surface subsidence as a result of mine dewatering activities (Ashton et al 2001).

Offshore (sub-marine) mineral deposits such as diamonds, oil, and gas, heavy mineral sands, phosphorite, glauconite, and manganese occur off the shores of most African countries and some of these are already exploited in various ways (Ashton et al 2001). These offshore mining activities differ according to the specific locality and the effects of the mining operation on intertidal, subtidal or deep-sea marine environments (Gurney et al 1996). Many offshore mining operations are vulnerable to extreme weather conditions that pose added risks of fuel and material spills and loss of human life (Ashton 1999).

Besides the rate and method of mining, the location, variety, and scale of mine infrastructure also influence the nature and extent of impacts. Typical mine infrastructure includes: haul roads and ore dumps; ventilation shafts; surface facilities (e.g. offices, workshops, car parks and warehouses); tailings and waste rock disposal areas; transport and service corridors (e.g. railway lines, roads, pipelines, conveyors, airstrips, port facilities, power, water and gas corridors); product stockpiles; ore processing facilities; chemicals and fuel storage and the locations of towns and housing facilities (Fuggle & Rabie, 1996; Ashton 1999; Weaver & Caldwell 1999; Ashton et al, 2001).

3.3 Impact of Mining Development on Cultural Landscapes

3.3.1. Mining Development Phases

Mining development involves different phases. These range from pre-exploration, exploration, development and construction, operation and closure phases. In each stage of this mining development, it is characterized by a diverse range of activities that vary in their potential to impact on the physical cultural heritage resources and their associated values within cultural landscapes, (See Table 3. 2 below shows the stages of mining development in relation with mining activities). At the pre-exploration and exploration phases, the area of land considered for mining is oftentimes

vast with low impact caused by the mining activities. While at the development of the mine, the focus is on a small area, usually with high intensity of impact (ICMM 2010).

Table 3. 2. Stages of mining development in relation with mining activities

STAGE OF MINING DEVELOPMENT	ASSOCIATED MINING ACTIVITIES
Pre-Exploration	<ul style="list-style-type: none"> - Desk-top resource estimation - Compilation of mineral inventory and assessment - Geological mapping of resources
Exploration And Surveying	<ul style="list-style-type: none"> - Exploration, camp development, and operation - Drilling, surveys, and investigations - Bulk sampling - Access routes and other infrastructure
Mine Development And Construction	<ul style="list-style-type: none"> - Social and physical environmental investigation - Clearing of tracts of land - Excavation of mine and establishment of waste disposal, water management, and other areas - Construction of facilities and services - Sourcing and moving of materials, equipment and personnel
Operation	<ul style="list-style-type: none"> - Mining and processing of ore, disposal of waste - Ancillary processing of by-products - Workforce accommodation and supporting infrastructure - Sourcing and moving of materials, equipment and personnel - Clearing and occupying new areas for development - Extending exploration and mineral development
Closure	<ul style="list-style-type: none"> - Removal of structures and infrastructure - Waste material management and disposal - Rehabilitation and re-vegetation - Laying off or redeployment of employees - Management and monitoring of residual structures - Removal of bulk services supply
Post-Closure	<ul style="list-style-type: none"> - Monitoring and management of residual structures

Source: Adapted from Minerals, Mining and Sustainable Development (MMSD) (2002)

3.3.2. Exploration and surveying activities

Most of the potential environmental impacts associated with mining exploration and surveying activities occur at a smaller scale than those that can be recorded during mine operational activities and are mainly restricted to specific exploration areas and sites or slightly larger localities (Ashton 2001 et al). However, the cumulative effects of exploration activities at multiple sites within an area have the potential to drive environmental change, particularly from a larger regional perspective. The general cultural landscape impacts of mining exploration include the removal of vegetation for survey lines, soil erosion from vehicle tracks, abandoned equipment and supplies, pollution and contamination, and disturbance of archaeological and other cultural heritage sites.

3.3.3. Mine development and construction

The development and construction of a mine, cover the period of time when considerable changes take place, for instance, as the mine infrastructure, plant and facilities are constructed, and when the ore body is first exposed (see Table 3.2). In practical terms, the scale and sequence of events vary from mine to mine, but always entails dramatic changes to most features of the cultural landscape. Large areas of land are cleared of vegetation and leveled prior to construction of the mine facilities. The spatial scale of the mine site where impacts may be displayed can vary from a few tens of hectares to several square kilometers. However, the most immediate impacts on cultural landscapes are the disruptions of the attributes conveying the significant socio-cultural values of the sites.

3.3.4. Operation: Removal and storage of ores and waste material

The removal and storage (stockpiling) of ores prior to milling and extraction is usually the most intensive activity on any mine operation. The process involves large-scale exposure of ore bodies, followed by blasting, loading, and transportation of various ore grades to the stockpile sites where the ores are separated on the basis of their ore grade (see Tables 3.2 and 3.3). Waste material, including waste rock and soil overburden, are separated and stockpiled for possible later use during mine rehabilitation after closure. These activities are characterized by large-scale disturbance due to noise, vibration, and wind-blown dust. Rainfall is contaminated by eroded and oxidized materials, leading to varying degrees of sedimentation and pollution in local watercourses, including sacred pools in most cultural landscapes. Remediation techniques are very difficult to

apply to ore stockpiles since these are “live” and undergo changes on a daily basis. Waste rock dumps can be rehabilitated as soon as they reach their planned extent (Ashton et al 2001).

3.3.5. Operation: Blasting, milling, and grinding activities

The routine operational phases account for most of the environmental impacts associated with mining (see Tables 3.2 and 3.3) and are considered to have the greatest potential to drive cultural landscape change. The extent to which mining operational activities act as drivers of landscape change depends in part on the type, scale, duration and magnitude of the mining activities, and the sensitivity of the receiving cultural landscape (Ashton et al 2001).

3.3.6. Mine closure and post-operational waste management

Many mine-related environmental impacts often continue long after the mine has stopped production and has been closed (see Table 3.2). Amongst the more pronounced post-closure impacts on record are landscape scarring in the form of un-rehabilitated waste rock dumps, mine tailing dams, discard dumps, old shafts, and underground fires. In addition, continuing environmental damage from polluted waters (including acid rock drainage), wind-blown dust and the dispersal of contaminated solid waste is a feature of mines throughout the world (Johnson et al 1994). Environmental changes that result from these impacts include the following (Carl Duisberg Gesellschaft 1999):

- Loss of productive land for alternative uses;
- Loss or degradation of groundwater quality;
- Pollution of surface water by sediments and/or salts, as well as lower pH values and increased metal concentrations;
- Alterations to river channels by erosion and slumping;
- Changes in river flow regimes with sharper flow peaks and reduced dry season flows;
- Air pollution from dust, radionuclides and toxic gases; and
- Risks of falls into abandoned shafts and pits that are not adequately protected.

General overviews of the main types of impacts associated with the various operational phases of mining are described briefly below.

3.3.7. Environmental changes associated with surface and underground mining methods

Surface mining methods, including strip mining, open-pit mining, dredge, placer and hydraulic mining, may drive environmental change of the affected land surface in the following ways (Brink et al 1990):

- Changes in topography and surface drainage with the potential for increased soil erosion, long-term compaction, subsidence and reduced agricultural capacity;
- Disturbance and disruption of the natural groundwater regime with the potential for both ground and surface water pollution; and
- Changes in topsoil characteristics with a potential for increased acidity and salt content, development of nutrient deficiencies or imbalances, surface crustiness or desiccation, changes in vegetation cover and land use with the potential for production of atmospheric dust and other pollution.

3.3.8. Changes at Cultural Landscape Scale

The process of constructing, erecting and commissioning new mining infrastructure often results in large-scale alteration of the environment, particularly at landscape and ecosystem levels. Infrastructure associated with mine construction includes transport and service corridors (railway lines, roads, pipelines, conveyors, airstrips, port facilities, power, water and gas corridors) and surface facilities (e.g. offices, laboratories, workshops, vehicle parks and service bays, fuel storage and dispensing depots and warehouses), sinking of mine shafts and the removal of soil, vegetation and rock to access ore deposits and create sites for tailings and waste disposal areas. The landscape level environmental impacts are generally in the form of landscape alteration and fragmentation or dispersal of biological habitats, populations, communities, and ecosystems. They also include altered patterns of stream flows, especially where mines have to be de-watered, (Ashton et al 2001).

The stages at which most significant impacts occur are during mine development and construction, operation, and mine at closure, especially in the event of inadequate rehabilitation and planning for the social and economic impacts of closure. The management of the impacts of mining has greatly improved over the past decades, however, current best practices is not equally applied by all mining operations and impacts can still be unacceptable from an environmental and social point of view. The legacy of past mining methods is apparent all over the African continent and some

of these areas will take a long time to be repaired. Even at the best operations, there will be some impact although it is expected that it would be smaller per unit of output (ICMM 2010). The environmental and social impacts during the development of mineral resources are very broad. Table 3. 3 below provides a summary of the potentially serious and long-term impacts of most mining operations.

Table 3. 3. Summary of potential long-term impacts of mining

MINING OPERATIONS	POTENTIAL IMPACTS
Mine Development	<ul style="list-style-type: none"> - Large volumes of mineral waste - could result in a significant physical footprint, visual intrusions, among others. - Types and location of disposal including overburden and waste rock, tailings, heap leach spent ore - could have impacts on terrestrial, marine and riverine environments including loss of habitat and sterilization of land - Physical and chemical stability - could result in soil erosion, catastrophic failure, and contamination of water resources (e.g. through acid drainage).
Mine Closure	<ul style="list-style-type: none"> - Final land use framework for actions and decisions taken during mine’s life - if not implemented properly, could potentially impact negatively on use of the land. - Long-term physical and chemical stability – if not addressed adequately it could result in residual impacts. - Physical rehabilitation and social stability – if not planned and implemented adequately could result in pollution, financial liabilities and loss, and negative social impacts.
Mining Legacies	<ul style="list-style-type: none"> - Negative public perception – as a result of past mine workings, historic abandoned mine with no identifiable owner and closed mines with the unidentifiable owner. - Environmental and social liabilities - from uncontrolled mining practices.

	<ul style="list-style-type: none"> - Cost and accountability of rehabilitation – no responsibility or ownership taken for rehabilitation.
Energy Use in the minerals Sector	<ul style="list-style-type: none"> - Climate change – impacts of energy use on climate change - Energy efficiency - sources of fuel and use of energy - Emissions.
Metals in the Environment	<ul style="list-style-type: none"> - Health impacts – occupational as well as public exposure - The fate of contamination and pollution.
Threats to Biological Diversity	<ul style="list-style-type: none"> - Areas of valuable biodiversity – potential impacts on areas of high diversity - Trade-offs between human activities and biodiversity - Measuring effects of mining on biodiversity - Managing and improving biodiversity – the effectiveness of biodiversity offsets.

Source: Adapted from MMSD (2002).

3.3.9. Specific Impacts of Mining on Cultural Heritage Resources

The mining development phases have destructive and irreversible effects on the archaeological and other cultural heritage sites found in most cultural landscapes. The land transformation activities during the mining operations, development of access roads, clearing of the cultural landscape to set up mining camps and site offices among other mining facilities, would directly and indirectly destroy the historical, archaeological and palaeontological sites, cemeteries and shrines and other sacred places like pools, groves, hills and other intangible cultural values found within and around cultural landscapes. However, the severity of the impacts depends on the closeness of the heritage sites to the mining project area.

A lot of archaeological and palaeontological sites and human remains are uncovered during land transformation activities involved in mining development. This is due to the long history of human habitation and settlement patterns in most of the African cultural landscapes. Damage to cemeteries, sacred shrines, and other significant heritage features during mining development phases usually have detrimental effects on the local communities which sometimes derail mining development projects. Hence detailed cultural heritage impact assessment should be integrated into the broader environmental impact assessments for all phases of mining development.

Obviously, any large mining operation is likely to have a proportionately greater impact on the heritage resources than a smaller mining operation located in the same cultural landscape. However, it is important to note that most large mining operations also tend to employ more effective and efficient cultural heritage management programmes than smaller ones. Indeed, many small mining operations very often cannot afford to implement effective cultural heritage management programmes and their impacts on cultural heritage resources are sometimes disproportionately large. This is clearly evident in the case of small-scale and artisan mining operations, where little or no attention is directed towards minimizing impacts on the surrounding environment. As a consequence, it is often extremely difficult to assign specific proportions of heritage impact to different scales of mining operations where these occur in close proximity to one another. The only way to separate the individual impacts in such a situation is through the application of a carefully structured monitoring programme that examines and minimizes negative impacts of mining operations on cultural heritage resources (Ashton et al 2001).

3.3.10. Distinguishing between direct, indirect and cumulative impacts

Environmental impacts associated with or caused by mining, as distinct from those associated with the subsequent use of the extracted minerals, are largely confined to relatively restricted areas in the vicinity of the appropriate geological formation and downstream in the catchment where the deposit is located. These impacts would normally be considered to be “direct” impacts that can be linked directly to the mining and ore processing operations (Ashton et al 2001).

In contrast, there are many other types of impacts that are associated with mining activities but do not occur as a direct consequence of the mining activity itself. These would be considered to be “indirect” impacts. A typical example would be the variety of impacts caused by the activities of individuals and organizations that take place in areas peripheral to a mining operation. An example of this is the discharge of effluent and wastes from households, businesses, and factories in the towns that develop around or close to a particular mining operation. In several instances, these indirect impacts can exceed the total environmental impact of the original mining operation and thereby require a far greater degree of management attention.

The term “cumulative impacts” is generally applied to those situations where several impacts from different processes and activities combine to exert a greater set of effects than those that would be

predicted from the original activities. An example of this type of situation would be the combination of adverse effects that a local community within or surrounding a cultural landscape would experience if it were exposed simultaneously to atmospheric emissions of gases, wind-blown dust, and effluent discharged from a mining operation (Ashton et al 2001). A second example would be the situation where effluents and discharges from several mining operations or industries in a single catchment exerted a set of combined effects or impacts on the river system draining the sacred lake which is part of the wider cultural landscape.

3.4 African World Heritage Sites threatened by Mining

There is a growing concern with mineral resource exploration and extraction activities, which are threatening many cultural and natural World Heritage Sites across the African continent (Meskell 2011). In this section, an overview of African World Heritage cultural landscapes and other protected areas which are under threat by mining activities has been presented. Historically, many cultural and natural World Heritage Sites in Africa have been mined by European collectors, antiquarians and wealthy western museums (Schmidt and McIntosh 1996). However, mining activities have continued to threaten the management and conservation of most of these World Heritage sites.

A recent study by the Trans-boundary Consulting Africa (TBCA 2012) found that there are 21 World Heritage Sites in Africa that are being affected by mining activities. The most affected of these heritage sites are either natural or mixed World Heritage properties also categorized as cultural landscapes even though some cultural World Heritage sites are also affected (See Figure 3.1). There are indications that this number is on the increase.



Figure 3. 1. African World Heritage Sites represented in green dots affected by mineral extraction

Source: HIA Report prepared for Limpopo Coal Company 2012.

According to International Union for the Conservation of Nature (IUCN) and Trans-boundary Consulting Africa (2012) they have listed some of the African natural and cultural World Heritage sites that are increasingly threatened by commercial mining and oil/gas projects (See Table 3. 4). These include:

- Virunga National Park in the Democratic Republic of Congo (Congo): In this park, gold mining is posing a threat to a park with some of the greatest diversity of habitats than any park in Africa, ranging from steppes, savannas and lava plains, swamps, lowland and montane forests to volcanoes and the unique giant herbs and snowfields of Ruwenzori over 5,000m high.

- Comoe National Park in Cote d'Ivoire: the government of Cote D'Ivoire has currently issued licenses to explore minerals in one of West Africa's largest biosphere;
- Mount Nimba Strict Nature Reserve on the boundary of Cote d'Ivoire and Guinea: The nature reserve's unique biodiversity is under threat from miners extracting high-grade Iron ore;
- Dja Biosphere Reserve in Cameroon: This is home to some of the largest and best-protected rainforest tracts in Africa, but now the reserve is under threat from cobalt mining operations on its precincts;
- Kahuzi-Biega National Park in the DRC: there is a direct threat to gorillas – a protected species – due to unauthorized and unregulated Coltan and Gold mining;
- Selous Game Reserve in Tanzania: In this reserve, Uranium exploration within the property of 50,000km² sanctuary is posing a direct threat to large number of flora and fauna undisturbed by human impact;
- Air and Tenere Nature Reserve in Niger: This is the largest protected area in Africa, covering some 7.7 million hectares, due to its unique desert landscape, flora and fauna but which is now under threat from petroleum prospecting activities;
- Manovo-Gounda Nature Reserves in the Central African Republic: The largest savannah park in the west and central Africa, located at a major biogeographic crossroads of central Africa, is being threatened by gas and petroleum exploration;
- Mana Pools National Park, Sapi and Chewore Safari Areas in Zimbabwe: Unregulated and unlicensed gold, copper and uranium exploration are threatening directly the natural wildlife species in these areas.

All these natural and or cultural World Heritage landscapes has been categorized as 'heritage at risk'. Some of these mining and exploration activities are at their nascent stages, which means that governments, mining and oil/gas companies, financial backers and other stakeholders have the opportunity to make well-informed decisions by committing themselves to preserve the heritage and thereby also safeguarding the livelihoods of local people within and around these cultural landscapes.

Table 3. 4. African World heritage sites under threat of mining activities

African States	World Heritage Site	No. of Mining and Oil & Gas Concessions Overlapping WHS	Estimated area of WHS overlapped by mining (sq.Km)
Côte d'Ivoire	Comoé National Park	3	39.9
	Taï National Park	1	30.61
Côte d'Ivoire; Guinea	Mount Nimba Nature Reserve	6	181.72
Democratic Republic of the Congo	Kahuzi-Biega National Park	22	1,192.00
	Okapi Wildlife Reserve	63	3,450.66
	Virunga National Park	5	57.18
	Salonga National Park (oil & gas)	4	30,143.93
	Virunga National Park (oil & gas)	2	4,897.01
Namibia	Namib Sand Sea	17	2,053.78
Uganda	Bwindi Impenetrable NP	10	146.34
	Rwenzori Mountains NP	11	431.33
Tanzania	Selous Game Reserve	57	4,595.93
Zimbabwe	Mana Pools National Park, Sapi, and Chewore Safari Areas	1	207.92
Central African Republic	Manovo-Gounda St Floris N.Park	1	9,648.80
	Sangha Trinational	1	4,101.78
Kenya	Kenya Lake System	2	333.37
	Lake Turkana National Parks	2	427.4
Lesotho; South Africa	Maloti-Drakensberg Park	1	965.22
Madagascar	Tsingy de Bemaraha Reserve	1	776.84
Malawi	Lake Malawi National Park	1	73.55
Namibia	Namib Sand Sea	1	1,567.12
Niger	Air and Ténéré Natural Reserves	4	24,901.66
	W National Park of Niger	1	54.59
Senegal	Djoudj National Bird Sanctuary	1	210.22
South Africa	Cape Floral Region Protected Areas	1	645.63
	iSimangaliso Wetland Park	4	2,438.17
	Vredefort Dome	2	315.69

Source: WWF-UK (2015).

Other world examples (see Table 3. 2 above also Figure 3. 2 and Figure 3. 3) where mining is also posing a threat to cultural and natural heritage include:

- Larentz National Park in Indonesia, with the highest levels of biodiversity in South East Asia, where gold mining is taking place directly in the national park;

- The Cave of Hands (Cueva de las Manos) in Argentina, where gold mining is now taking place within the associated landscape, threatening outstanding panels of rock art in the Pinturas River ravine;
- Yellowstone National Park in the USA, where waste contamination, sewage leakages, alien species and gold mining, are all posing a threat to the park's ecology and wildlife;
- Kakadu National Park in Australia where uranium mining is taking place inside the park, posing a risk to the living heritage associated with indigenous people living there;
- Donana National Park in Spain which is directly exposed to the toxic metallic waste spill;
- Zhouloudian in China, where quarrying within the site precincts is leading to loss of important geological specimens.

A wide range of conservation measures including ongoing monitoring, the establishment of regulations to govern activities in the buffer zones and full stakeholder participation have been suggested or implemented to minimize threats to Outstanding Universal Values (OUVs) for which the World Heritage sites adjacent to the mining sites represent. The International Council on Mines and Minerals (ICMM) Sustainable Development Framework (2003) has committed member companies to respect legally designated protected areas and not to explore or mine in World Heritage sites. It further stipulates that all possible steps be taken to ensure that existing operations in World Heritage properties as well as existing and future operations adjacent to World Heritage properties are not incompatible with the OUVs for which these properties are listed and do not put the integrity of these properties at risk (ICMM 2003).

Other than mining development, many other African World Heritage sites also continue to be threatened by other various forms of economic development such as the construction of dams, highways, pipelines and expansion of urban areas (Kankpeyeng and DeCorse 2004; Arazi 2011). In the Sudan for example, vast stretches of the valuable cultural landscape have been under threat from the construction of the Merowe Dam, (Chirikure 2013). While Swaziland withdrew the Ngwenta Middle Stone Age Ochre Mines from the UNESCO World Heritage Site nomination list in favor of reviving industrial iron ore mining (Chirikure 2013; Pikirayi 2011).

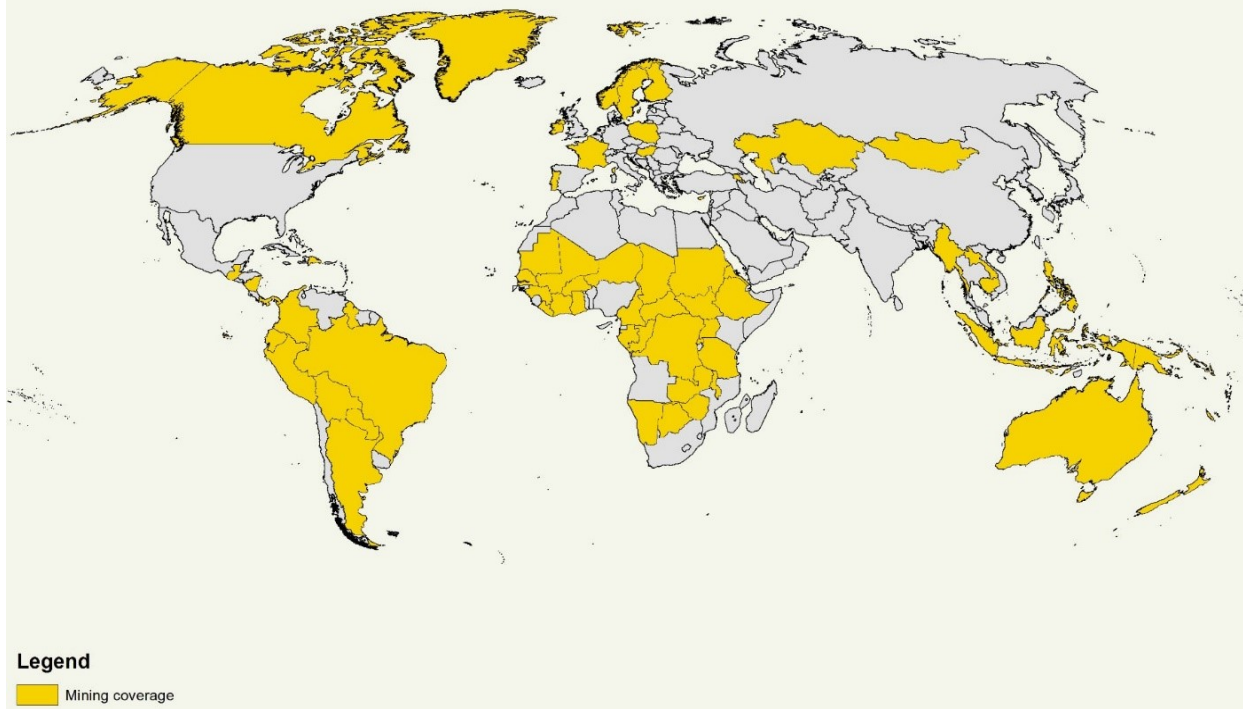


Figure 3. 2. A world map with mining concession data coverage.
Source: WWF-UK (2015).

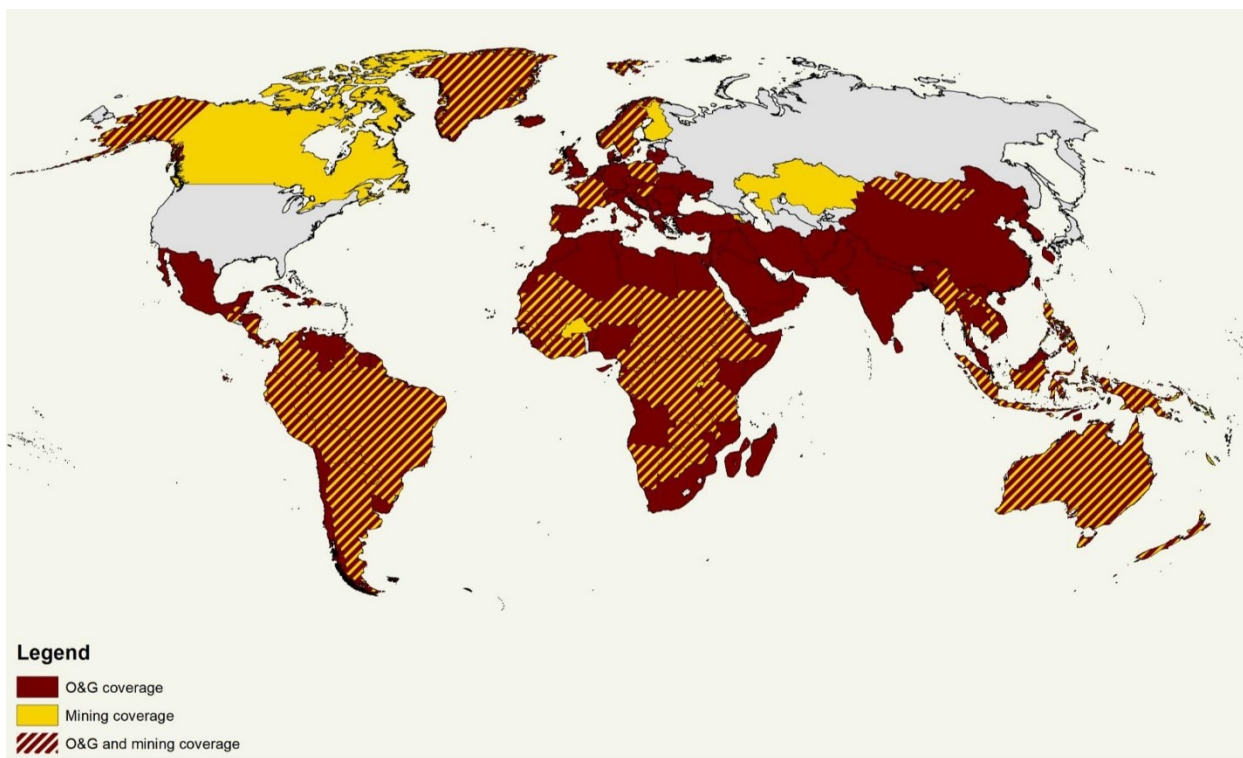


Figure 3. 3. A world map showing mining, and oil and gas concession data coverage.
Source: WWF-UK (2015).

3.5 Legal and Policy Frameworks

Most sub-Saharan African countries have several old and new sets of interlocking legislations that exert control over mining and related activities and their impacts on cultural landscapes. (See Table 3. 5). Many of these acts are now in the process of revision to reflect more clearly the principles embodied in their respective constitutions and the tenets of international treaties designed to minimize cultural landscape degradations. Inevitably, the changes in existing legislative frameworks in most of the sub-Saharan African countries are complicated by the fact that some pieces of legislation can be interpreted in ways which appear to conflict with the terms and conditions set out in other legislations (Ashton et al 2001). Similarly, there are situations where legislative requirements in neighboring countries differ from each other, thereby complicating the process of managing impacts on shared or trans-boundary cultural landscapes. Nevertheless, despite these differences, the legislative framework in each country seeks to promote the economic benefits to be gained from mining whilst reducing to a minimum the risks to human safety and the adverse consequences of environmental degradation. From an environmental perspective, most attention is focused on minimization of waste products and associated sources of pollution or contamination, and the rehabilitation of land surfaces that have previously been mined or used for the disposal of waste products (Wells et al 1996; Gurney et al 1996; Chenje 2000).

This attention to minimizing the adverse consequences of mining activities is a welcome development. In this context, it is also clear that many older mining operations started at a time when there was little or no explicit concern for the surrounding environment. Disposal of wastes was carried out in a manner designed solely to minimize costs, rather than to prevent pollution or facilitate rehabilitation. In many instances, old mines were simply abandoned and no attempt was made to rehabilitate the surface workings when the economic life of the ore body was exhausted. This situation now places enormous responsibility for rehabilitation on the respective governments, and is accompanied by a considerable economic burden (Fuggle & Rabie 1996; Chenje 2000).

In South Africa, for example, recent enabling legislation, particularly the Environmental Management Act (1998) provide specific guidelines that exert control on the ways in which mining and quarrying activities may be conducted (Ashton 1999). In many instances, the provisions of this Act (1998) complement and enhance components of the existing Mines and Minerals Act that

is designed to control mining activities. In most of the legislations in sub-Saharan African countries, it clearly stipulates that an environmental impact assessment (EIA) must be carried out before a mining license is granted for all new terrestrial and offshore mining activities. As part of this process, mining companies are legally required to consult widely with the affected public during the EIA and also to ensure that all the necessary licenses and permissions are acquired from relevant local, provincial or national authorities (Weaver & Caldwell 1999; see also Ashton et al 2001).

The South African situation is similar to most countries with established EIA legislation where virtually all mining activities are classified as "likely to significantly affect the environment" and require that a full-scale EIA is conducted before taking the decision to proceed (Ashton et al 2001). In some countries, this requirement relates to the size of a proposed mining or quarrying operation. Whilst the 'size limit' requirement for an EIA may be a useful and pragmatic approach, considerable caution is required in those cases where several "small" operations may be located in close proximity to one another and whose combined impacts may be very large. In such situations, it is useful to adopt a more "strategic" approach to the problem and thereby ensure that appropriate attention is paid to the likely cumulative impacts of several small operations (Ashton et al 2001). This process helps to eliminate instances of poor or inadequate planning and reduce the potential risks associated with future rehabilitation costs.

According to Ashton et al (2001), they suggested that sub-Saharan African countries should harmonize and rationalize their respective pieces of legislation relating to mining activities and control of environmental impacts, particularly those that relate to protected cultural landscapes. This would help to eliminate inconsistencies between countries and also to enhance a sense of shared or common purpose between the states.

A partial outlook of the relevant legislation for different sub-Saharan African countries states is given in Table 3. 5. In recent years, most of the sub-Saharan African countries member states have succeeded in drawing up and ratifying several treaties and protocols designed to improve inter-country relations and complement the approaches adopted in each country. A notable example in this regard is the 1972 Convention for the protection of natural and cultural World Heritage sites which encourage member states to have legislative and regulatory measures that ensures protection of sites against development and any change that might negatively impact their integrity,

authenticity and outstanding universal values of African World Heritage cultural landscapes (UNESCO 2016).

Table 3. 5. Legislations relating to mining activities and cultural landscapes

Country	Sector / Area	Laws or regulations
Angola	Mines and Minerals Heritage Resources	- Legislative Edict No. 3574 of 1965 - The Mining Code of 2011 - Presidential Decree 231/16 - Cultural Heritage Law No. 14/05 of 2005
Botswana	Environment Mines, Quarries and Works Heritage Resources	- National Conservation Strategy, 1990 - Mines, Quarries, Works and Machinery Act, No. 20 of 1973 - Monuments and Relics Act, No. 12 of 2001
Malawi	Environment Mines and Minerals Heritage Resources	- Environmental Management Act, No. 19 of 2017 - Mines and Minerals Act 1981 - Petroleum (Exploration and Production) Act 1983 - Explosives Act 1968 - Monuments and Relics Act of 1991
Mozambique	Environmental Land Use Mines and Minerals Heritage Resources	- General Environment Act, No 20 of 1997 - Land Act of 1979 - Mining Act, No 20 of 2008 - Law on Protection of Cultural Heritage, 1988
Namibia	Mines and Minerals Heritage Resources	- Minerals (Prospecting and Mining) Act, 1992 - Mines Regulations of 1993 - National Heritage Act, No 27 of 2004
South Africa	Environment Mines and Minerals Heritage Resources	- Environment Conservation Act of 73 of 1989 - National Environmental Management Act, 1998 - Environmental Laws Rationalization Act, 1997 - Minerals Act, No. 50 of 1991 - Mine Health and Safety Act, No 29 of 1996 - Mines and Works Act No. 27 of 1956 - Minerals and Energy laws Amendment Act, 1994 - National Heritage Resources Act, No. 25 of 1999 - National Heritage Council Act, No. of 1999 - World Heritage Convention Act, 1999
Swaziland	Environment Heritage Resources	- Environmental Management Act, No 15 of 2002 - Natural Resources Act, 1951 - National Trust Commission Act, No. 22 of 1973
Tanzania	Mines and Minerals	- Mining Act, 1979 - Petroleum Act, 1980

	Environment Heritage Resources	- National Environmental Management Act, 1983 - Antiquities Act, No. 22 of 1979
Zambia	Land Use and Environment Mines and Minerals Heritage Resources	- Environmental Protection and Pollution Control (Environmental Impact Assessment) Regulations 1997 - Natural Resources Conservation Act, 1970 - Petroleum Act, 1985 - Mines and Minerals Act, 1995 - Mining (Dumps) Regulations Act of 1995 - Mines and Minerals (Environmental) Regulations, 1997. - Mines and Minerals (Environmental Protection Fund), 1998 - National Heritage Conservation Commission Act, No. 13 of 1994
Zimbabwe	Natural Resources Mines and Minerals Heritage Resources	- Natural Resources Act, 1996 - Mines and Minerals Act, 1996 - National Museums and Monuments Act, 1972

3.6 Malawi and South African National Regulatory Measures on Cultural Landscapes

In Malawi, before any land altering development activity is undertaken, a cultural heritage impact assessment is required by the laws of the country. The Monuments and Relics Act of 1991 provides statutory protection against the threat of development on declared monuments, historical buildings and archaeological, paleontological, geological, anthropological, ethnological, and other heritage sites to enable their preservation for posterity and socio-economic development. Section 29 of the Monuments & Relics Act of 1991 (Cap. 29:01 Laws of Malawi) reads:

- 1) *A person in charge of any survey, excavation, exploration, construction or new development shall, at the earliest stages of planning for such activities, give notice to the Minister to enable, where necessary, rescue archaeology to be carried out (...)*
- 2) *(...) the cost of such work shall ... be borne by the person in charge of any survey, excavation, exploration, construction or other development.*

Besides the national heritage law, the Malawi Cultural Policy (2014) also provides statutory and legal mandate of ensuring that cultural heritage impact assessment is conducted before embarking on large-scale land altering development projects.

In South Africa, the National Environmental Act of 1998 and the National Heritage Resources Act of 1999 provides the same statutory regulatory measures that emphasize that development projects should be 'socially, culturally, environmentally and economically sustainable, and where disturbance is unavoidable, it should be mitigated to enhance the cultural and natural heritage'.

Although many sub-Saharan African countries have legislation requiring mitigation of environmental and social-cultural impacts of mining developments, the ability to enforce laws and monitor performance is largely lacking. The implementation of these legislations and policies is deficient mainly due to lack of political will. In Malawi and South Africa, for example, difficulty in implementing these laws stem from conflicting mandates amongst government agencies responsible for the decision making on the utilization of the resources of these cultural landscapes. Similarly, in other sub-Saharan African countries, for example in Guinea, a major dilemma facing policy-makers is balancing the role as advocates and beneficiary of mining projects with their mandate to protect the country's natural and cultural heritage resources for future generations (Hughes and Sullivan 1989:45).

In these countries, a lack of resources and staff means that many mines are not frequently inspected. Lack of funding, staffing, and training are also common constraints in many African countries (Maponga and Mutemererwa 1995). Most government institutions responsible for regulating mining development rely on mining companies to provide access and additional resources, eliminating the element of spontaneity required for auditing (Maponga and Mutemererwa 1995). Due to lack of available resources for monitoring the performance of mines, for example in most African countries, the regulatory authorities rely on mining company reports rather than conducting periodic site visits to determine compliance with standards set in the mining contract.

The degree to which mining contributes to economic development and wise use of natural resources depends in large part on the quality of these national regulations. Most African countries lack strong regulations and the ability to enforce the law as an important safeguard for ensuring that mining development projects do not result in the destruction of important natural and cultural heritage resources critical to ensuring the livelihoods of most cultural landscape communities.

3.7 International Policies on Mining and Heritage Conservation

In this last section, a general discussion has been provided as regards to the international policies on mining and heritage conservation. Particular emphasis has been put on the evaluation of the World Heritage Convention, International Council on Mining and Metals, (ICMM) and the World Conservation Union (IUCN) position statement as regards to their policies on mining in and around World Heritage properties.

3.7.1 The World Heritage Convention

The Operational Guidelines for the Implementation of the World Heritage Convention states that protection and management of World Heritage sites by countries should include legislative and regulatory measures that ensure their protection against development and change that might negatively impact their integrity, authenticity and outstanding universal value (UNESCO 2016). Member States to the World Heritage Convention are therefore requested to ensure effective implementation of these measures (Osti et al 2011). The World Heritage Committee, a decision making body of the World Heritage Convention, has been emphasizing that mining exploration and exploitation are incompatible with World Heritage status (UNESCO 2016). If the outstanding universal value of a heritage site has been affected by mining activities, a site can be placed on the World Heritage List in danger or if serious threats have been identified, they can be removed from the World Heritage List. Prior to removal, however, a site at risk or threatened by mining undergoes a review process by the World Heritage Committee, which makes recommendations on particular courses of action or intervention needing to be made in order to minimize or reverse the threat.

3.7.2 The IUCN and ICMM World Heritage Position Statement

Over the past decade, the International Council on Mining and Metals, (ICMM) and the World Conservation Union (IUCN) have engaged in successful dialogue around mining, biodiversity and other related issues. The key area of debate between conservation and mining has been on the IUCN's protected areas category of the management system. The consensus view of the conservation sector has been that mining should not take place in certain protected area management categories (I-IV) and in UNESCO World Heritage Sites, (IUCN 2015; UNESCO 2016). Protected areas are so valuable that conservationists hold that they deserve to be singled out for extra protection from destructive economic activities. ICMM also believes that there is a

need for a more objective landscape-based categorization system that is based on integrated landuse planning aimed at achieving sustainable development (ICMM 2012).

ICMM as well as other mining companies and international financial institutions that fund mining development activities have recognized the importance of conserving cultural and natural World Heritage sites and have committed not to undertake activities that would damage them, (Marton-Lefe`vre 2008). Similarly, IUCN has committed itself by coming up with a ‘World Heritage Advice Note’ that deter the exploration and exploitation of minerals in natural World Heritage sites, where most cultural landscapes are also categorized, (ICMM 2003; IUCN 2008). The IUCN has emphasized that mining projects that are located outside World Heritage properties should not, under any circumstances, have negative impacts on the outstanding universal values of these exceptional places. In addition to this, they have affirmed that boundary changes to these sites should not be used as an easy way of facilitating mining activities, (Marton-Lefe`vre 2008; IUCN 2008).

IUCN and ICMM also have a clear position on mineral resources and protected areas. This position statement states that all exploration and extraction of mineral resources in protected areas should be prohibited by law. If the projects are important to the economy of the country to the extent that it cannot be stopped such projects should undergo thorough and rigorous environmental and social impact assessment (ESIA) processes. The World Commission on Protected Areas (WCPA) has prepared this ‘position statement on mining and associated activities in relation to protected areas’, (IUCN 2008) which reflects IUCN’s position.

In applying its position, IUCN and WHC consider the following points:

1. Mineral exploration and exploitation within or affecting a World Heritage Site are incompatible with World Heritage status, and has considered that these activities can constitute a basis for inscription on the List of World Heritage in Danger, in accordance with Paragraph 180 of the Operational Guidelines to the Convention.
2. The World Heritage Committee’s position is in line with the International Council on Mining and Metals’ (ICMM) International Position Statement on Mining and Protected Areas, and the positions of industry leaders, and that of international investment companies.

3. In accordance with Paragraph 172 of the Operational Guidelines to the World Heritage Convention, all development projects which may affect the outstanding universal value of a World Heritage Site (including mineral and oil/gas exploration and exploitation projects and associated infrastructure) should be submitted by State Parties to the World Heritage Committee before a decision on their implementation is taken.
4. All proposals for mineral exploration and exploitation (including associated infrastructure) which may affect a World Heritage Site, but are located outside its boundaries, should be subjected to an appropriate and rigorous appraisal process, such as an environmental and social impact assessment (ESIA), prior to considering whether to grant consents and licenses. These appraisal processes should respect the highest international best-practice standards, including, but not limited to:
 - Specifically assessing the likely effects of the proposal(s) on the site's outstanding universal value, including direct, indirect and cumulative effects;
 - Identifying and evaluating alternatives, to determine the least damaging options;
 - Being publicly disclosed and subject to thorough public consultation; and
 - Proposing an environmental management plan detailing operating, monitoring and restoration conditions.
5. Boundary modifications to World Heritage Sites, as defined in the Operational Guidelines to the World Heritage Convention, should not be proposed for the purpose of facilitating mineral exploration and exploitation projects, and/or associated infrastructure. Any proposed changes to the boundaries of a World Heritage Site should be subjected to procedures at least as rigorous as those involved in the nomination of the site, as required under the Operational Guidelines to the WH Convention.

In spite of these international efforts to protect heritage sites including cultural landscapes that are at risk because of mining activities, global trends in mineral explorations and exploitations and demand suggest that future conflicts of interest between protected areas and areas to be used for mining activities will increase (Finer and Orta-Martínez, 2010). To mitigate the current and future environmental impacts of mineral extractions on cultural landscapes, there is need to thoroughly apply the integrated strategic management planning methodological framework that has been developed in this thesis, (details for the application of the proposed management planning methodological framework has been discussed in chapter 8 of this thesis).

3.7.3 The International Finance Corporation (IFC) Sustainability Framework

The International Finance Corporation (IFC) Performance Standards (PS) are an international benchmark for identifying and managing environmental and social risk and have been adopted by many organizations as a key component of their environmental and social-cultural risk management. In many African countries, the scope and intent of the IFC performance standards are addressed or partially addressed in the country's environmental and social regulatory framework. The IFC performance standards encompass eight topics of which PS7 and PS8 have direct relevance to heritage resources and in specific cultural landscapes under threat of mining activities, (See Table 3.6). The performance standard includes the following:

- i. PS 1 - Environmental and Social Assessment and Management System;
- ii. PS 2 - Labour and Working Conditions;
- iii. PS 3 - Pollution Prevention and Abatement;
- iv. PS 4 - Community Health, Safety and Security;
- v. PS 5 - Land Acquisition and Involuntary Resettlement;
- vi. PS 6 - Biodiversity Conservation and Sustainable Natural Resource Management;
- vii. PS 7 - Indigenous Peoples;
- viii. PS 8 - Cultural Heritage

Table 3. 6 below provides a listing of the relevant sections pertaining to cultural heritage.

Table 3. 6. IFC standards relevant to heritage resources and their management.

GUIDELINE	RELEVANT CHAPTER	DESCRIPTION OF THE REQUIREMENT
International Finance Corporations (IFC) Performance Standard	Standard (PS) 5 – Paragraph 3	Minimization and avoidance of impacts from mining project related activities.
	Standard (PS) 5 – Paragraph 10 (Community Engagement) (IFC 2012).	Engagement with affected communities and the disclosure of relevant information of the relocation process.
	Standard (PS) 5 – Paragraph 20	Respecting the social and cultural institutions of the displaced persons and any host communities.
	Standard (PS) 8 – Paragraph 9 (Consultation) (IFC 2012).	The need for consultation with affected communities to identify cultural

		heritage of importance and involve affected communities and involve the relevant national or local regulatory authorities in the decision-making processes.
	Standard (PS) 8 – Paragraph 12 (Removal of Non-Replicable Cultural Heritage) (IFC 2012).	The removal of cultural heritage must only be considered when no other alternative is available.

Source: adapted from the IFC (2012) Guidance Note 8.

The IFC’s Performance Standards offer a framework for understanding and managing environmental and social risks for high profile, complex, international or potentially high impact mining projects and other development projects. The financial institution is required to verify, as part of its environmental and social due diligence process, that the commercial developer complies with the IFC Performance Standards, (IFC 2012). To do so, the mining institution needs to be knowledgeable about the environmental and social laws of the country in which it operates and compare these regulatory requirements against those of the IFC Performance Standards to identify gaps. A good understanding of both sets of requirements, as well as potential gaps, ensure that the financial institution will effectively identify and assess the key environmental and social risks and impacts that might be associated with a financial transaction.

If non-compliances with the IFC Performance Standards are identified, and depending on the severity of the issue, the financial institution can require the developer to develop a corrective action plan for addressing the issue within a reasonable timeframe and stipulate this as a condition of the financial transaction with the developer (IFC 2012).

3.7.4 Equator Principles Management Framework

The Equator Principles (EP) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making, (EP 2013). This is also applicable in mining development projects in African cultural

landscapes. According to EP (2013) publication, it said that Equator Principles Financial Institutions (EPFI) commit to implementing the EP in their internal environmental and social policies, procedures and standards for financing projects and will not provide project finance or project-related corporate loans to projects where the client will not, or is unable to, comply with the EP. The EP has greatly increased the attention and focus on social/community standards and responsibility, including robust standards for indigenous peoples, labor standards, and consultation with locally affected communities within the project finance market. They have also promoted convergence around common environmental and social standards.

According to EP (2013) publication, the EP consists of 10 Principles, as follows:

- i. Principle 1: Review and categorisation
- ii. Principle 2: Environmental and social assessment
- iii. Principle 3: Applicable environmental and social standards
- iv. Principle 4: Environmental and social management system and equator principles action plan
- v. Principle 5: Stakeholder engagement
- vi. Principle 6: Grievance mechanism
- vii. Principle 7: Independent review: project finance
- viii. Principle 8: Covenants
- ix. Principle 9: Independent monitoring and reporting project finance
- x. Principle 10: Reporting and transparency client reporting requirements

3.8 Best Practices of Integrating Mining into Cultural Landscape Management

In this section, the practical aspects of mining and heritage conservation have been presented. These include some best practices and initiatives that have been implemented as regards to issues of mining and World Heritage management and conservation.

3.8.1. World Heritage and Mining (2000): Technical Workshop

In light of the ever-increasing demand for mineral resources, and resultant fact that mining activities often occur in and around protected areas and World Heritage Sites, a need was identified to have an open discussion on World Heritage and mining. In so doing, in September 2000, a technical workshop was organized by the IUCN and ICMM in cooperation with the World

Heritage Centre. This workshop was aimed at developing guidelines on the integration and harmonization of mining and World Heritage conservation. In this workshop, diverse case studies as best practices from Latin America, Africa, Asia, the Pacific and Europe were reviewed in order to inform the development of guiding principles and recommendations as regards to co-existence of mining development and in World Heritage sites. This workshop included representatives from the mining and conservation sectors as well as World Heritage site managers and protected area agencies from different States Parties. The World Heritage Committee, IUCN, and ICMM has a long history of dealing with issues related to mining and World Heritage sites, both existing and proposed (WHM 2000).

3.8.2. The ICMM Sustainable Development Framework (2003)

In the *ICMM Sustainable Development Framework*, the ICMM commits its member companies to submit and respect legally designated protected areas and not to explore or mine in World Heritage properties. It further stipulates that all possible steps be taken to ensure that existing operations in World Heritage properties as well as existing and future operations adjacent to World Heritage properties are not incompatible with the outstanding universal values for which these properties were listed and do not put the integrity of these properties at risk (ICMM 2003).

3.8.3. Conserving Cultural and Biological Diversity: the Role of Sacred Natural Sites and Cultural Landscapes (2006).

This guideline is based on the outcome of an international symposium on "*Conserving Cultural and Biological Diversity: The Role of Sacred Natural Sites*" which took place in Tokyo in 2005. The discussions focused on exploring the interrelationship between the natural and cultural diversity, and this event constituted one of the highlights of the UNESCO Programme on "*Reinforcing Linkages between Cultural Diversity and Biodiversity for Sustainable Development*" launched in 2004 as a concrete follow-up to the World Summit on Sustainable Development (Johannesburg 2002). Stakeholders from all over the world exchanged views on how to prevent adverse impacts on the traditional knowledge and lifestyles of indigenous and local communities. They expressed the view that sacred natural sites and cultural landscapes are expressions of traditional beliefs and land management systems of local and indigenous communities. They further claimed that understanding the links between nature and culture is important for safeguarding both biological and cultural diversity, (UNESCO 2006)

3.8.4. Sacred Natural Sites: Guidelines for Protected Area Managers (2008).

In order to ensure the adequate management and protection of natural sacred sites, and to address a wide range of pressures and threats, the IUCN Task Force on the Cultural and Spiritual Values of Protected Areas and UNESCO's Man and the Biosphere Programme developed guidelines to support the efforts of a wide spectrum of faith groups and indigenous and traditional peoples of the world for the long-term conservation of their sacred natural sites. These guidelines are the result of an international workshop held in Kunming, China in 2003, where they were extensively discussed. The guidelines were then revised at the World Parks Congress in South Africa in 2003, and at the International Symposium on "*Conserving Cultural and Biological Diversity: The Role of Sacred Natural Sites and Cultural Landscapes*", in Japan in 2005, (Wild and McLeod 2008).

3.8.5. Mining and Biodiversity: A Collection of Case Studies (2010)

Following its 2004 publication on mining and biodiversity, and leading up to the Convention on Biological Diversity's 10th conference of the parties, the ICMM compiled a short collection of recent case studies to demonstrate good practices in biodiversity. The purpose of the various case studies was to show how good practice, collaboration, and innovative thinking can advance biodiversity conservation in the context of mineral exploitation. In addition, the ICMM uses the 2010 publication to showcase how far the mining sector has come in conserving biodiversity, and also to impress upon its members how much more remains to be done to develop and implement sound biodiversity management methods so that it is ready to take on the increasing challenges that lie ahead. One particular issue that was highlighted was the fact that mining and conservation may not always be compatible with World Heritage conservation, as evidenced by ICMM members' commitment not to mine or explore in World Heritage Sites, (ICMM 2010).

3.8.6. Mainstreaming Biodiversity into Mining: A Guideline for Practitioners and Decision-Makers in the Mining Sector (2012)

Given the importance of healthy ecosystems in supporting human well-being on the one hand, and the economic benefits derived from the mining industry on the other, there is a need to guide where and how mining takes place in order to facilitate the sustainable development of Africa's mineral resources in a way that minimizes the impact of mining on the continent's biodiversity and ecosystem services. In light of the aforementioned, a guideline was developed to facilitate the integration of relevant biodiversity information into decision making in order to decide where

mining may take place and how best to avoid, minimize or remedy biodiversity impacts to support sustainable development. The main aim of the guideline is to assist the competent authorities in implementing and enforcing the law, and assists companies to comply with the law, implement good practice and reduce business risks, (DoA et al 2013).

Mining heritage as World Heritage

Mining is a global phenomenon. Its beginnings date back to early times, and it remains important to humanity in the present day. Across the world, there are a large number of historical and present-day mining areas, some of which are important and others of less relevance. The influences of mining on the economy, culture, society and landscape depend on numerous different factors. Each mining region therefore has its own special regional features.

The World Heritage List currently includes 27 sites connected to mining from different historical periods and of different raw materials, (refer to Appendix 3: for World Heritage List connected to mining around the world). These sites demonstrate the importance of mining for the development of humanity. Alongside individual industrial monuments and ensembles, these sites include mining towns, mining landscapes and industrial landscapes shaped by mining. The sites differ significantly from each other both thematically and in terms of their complexity. When compared with other World Heritage Sites typologies, mining cultural landscapes' outstanding value emanates from the broad spectrum of mining, industrial and cultural monuments and the associated cultural values, as well as the diversity of the raw materials extracted and processed.

3.9 Chapter Summary

This chapter, therefore, has provided a critical analysis of the impact of different phases of mining development on the attributes and values of cultural landscapes of sub-Saharan African countries. An overview of African World Heritage cultural landscapes and other protected areas which are under threat from mining activities has been presented. Legal and policy frameworks for the management of impacts attributable to mining operations in African cultural landscapes have been evaluated. This has been followed with specific examples of Malawi and South Africa regulatory measures on cultural landscapes, where the two case studies have been drawn from. A detailed description of the case studies has been discussed in chapter 5 of this thesis. In the last section of this chapter, a general discussion has been provided as regards to the international policies on

mining and heritage conservation. Particular emphasis has been put on the evaluation of the World Heritage Convention, IUCN and ICMM position statement as regards to their policies on mining in and around World Heritage properties. The chapter has concluded with a discussion on some of the practical aspects of mining and heritage conservation applicable in cultural landscapes. These included some best practices and initiatives that have been implemented as regards to issues of mining and World Heritage management and conservation.

In general, it has been observed that mining development projects have both positive and negative impact on most cultural landscapes and the communities around them. Mining contributes to economic growth, empowers communities through the creation of employment opportunities, and provision of social amenities. On the other hand, mining of mineral resources is unsustainable since it is based on the production of non-renewable resources from finite deposits. Unsustainable extraction of mineral resources is always associated with irreparable environmental and social impacts in most of the sub-Saharan African cultural landscapes.

In the next chapter 4, is the discussion of the methodological approaches that have been used to achieve the objectives of the research.

CHAPTER FOUR

4 RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents a detailed methodology for the research. The chapter begins with a description and justification for the selection of the case studies. This is followed by an explanation of the comparative approach that has been applied in the research. Thereafter, detailed methods have been presented and broadly discussed on how they have been applied to achieve specific objectives of the research. These include interviews, focus-group-discussions, observations, field site surveys and content analysis. The last part of the chapter is the presentation on the ethical issues considered in the research.

In this thesis, the triangulation methodological approach has been adopted, whereby qualitative research methods have been used and compared in order to see whether they corroborate with each other (Silverman 2005). The adoption of this method reduces the risk of invalidity and scientific inaccuracy which may result from the fact that each individual method has several drawbacks (Kirk and Miller 1986). (See also Table 4. 1 for advantages and disadvantages of different methods used).

As Ulrike Flick has pointed out, qualitative research methodology is inherently multi-method in focus (Flick 2002). Although objective reality can never be captured, the adoption of a multi-method approach secures an in-depth understanding of the phenomenon under investigation, (Denzin and Lincoln 2005). Therefore the triangulation approach allows the simultaneous exploration of different data sources which secures the validity of the data, (see also Atkinson and Delamont 2005). One of the reasons which necessitated the adoption of the triangulation approach in the selected case studies of two African cultural landscapes was the social-cultural sensitivity of the cultural practices within these landscapes, which often prevented local interview participants to reveal some secretive information regarding the traditional ritual practices happening within the landscapes. In this thesis, each research objective was addressed by a different research method with different sources of information, (see Table 4. 2

+++for the summary of research objectives, methods and data sources used).

Table 4. 1. Advantages and disadvantages of qualitative methods

Method	Advantages	Disadvantages
Face-to-face interviews	<ul style="list-style-type: none"> - Higher response rate than other methods - Questions can be clarified as necessary - Not dependent on reading skills - The sequence of questions is controlled by interviewer - Interviewer can motivate respondents - Open-ended questions more likely to be answered. 	<ul style="list-style-type: none"> - Increased potential for interviewer to influence respondent - Time-consuming - Respondents tend to provide socially desirable and exaggerated responses - Inappropriate for questions that use checklists and rating scales - Some responses may go unrecorded.
Telephone interviews	<ul style="list-style-type: none"> - Questions can be clarified - A good follow-up to face-to-face interviews - The sequence of questions is controlled. 	<ul style="list-style-type: none"> - Difficult to develop a rapport with the respondent - Questions must be brief and straightforward - More sensitive to inconsistent phrasing - Labor intensive - Inappropriate for questions using a checklist or rating scales as they are difficult to be read.
Group interviews (focus groups)	<ul style="list-style-type: none"> - Relatively inexpensive - Production of rich data - Stimulating for respondents and aid for recall - Flexible format. 	<ul style="list-style-type: none"> - The results cannot be generalized - A group can be dominated by one person - The interviewer must encourage unwilling respondents to participate - The interviewer must obtain responses from the entire group to ensure the fullest coverage of the topic.
Unstructured interviews	<ul style="list-style-type: none"> - Can provide in-depth qualitative data - Valuable for probing respondent's feelings. 	<ul style="list-style-type: none"> - The analysis is more difficult - Occasionally they may report on what they believe the interviewer wants to hear.

Electronic Interviewing	<ul style="list-style-type: none"> - Inexpensive and quick - Can reach 100% of some specialized populations - Better quality data in terms of item completion - More detailed responses to open-ended questions. 	<ul style="list-style-type: none"> - Respondents can easily manufacture fictional social realities without anyone knowing the difference. - More time consuming - Responses are more cryptic and less in depth.
Mail surveys	<ul style="list-style-type: none"> - Respondent has more time to complete - Respondents are more comfortable answering personal questions - A good follow up to face-to-face interviews. 	<ul style="list-style-type: none"> - Chance of a low response rate - Some questions may not be understood - Longer implementation process - Questions may be incorrectly answered - Questions may be incomplete - Open-ended questions are often skipped.
Partial self-administered questionnaires	<ul style="list-style-type: none"> - Allows control over questionnaire distribution - A staff member can ensure the completion - It is partially anonymous. 	<ul style="list-style-type: none"> - Respondent is free to answer questions out of sequence.
Semi-structured interviews	<ul style="list-style-type: none"> - The interviewer can substitute words that may be more easily understood. 	<ul style="list-style-type: none"> - The analysis is more complex.

Source: Adapted from Korn (1990); Denzin and Lincoln (2005); Diamond (1999); Fontana and Frey (2005).

Table 4. 2. Summary of research objectives, methods and data sources

Research Objectives	Methods Used	Data Sources
To examine the existing cultural landscape management theories and concepts.	Document Analysis and Critical Analysis	Literature / Publications, websites.
To document the extent of the impact of mining development on cultural and natural heritage resources of cultural landscapes.	Field Site Surveys	Personal site visits

To understand the local people's views and perceptions on the impact of mining activities on African cultural landscapes.	Face-to-face Interviews, Structured Interviews and Focus Group Discussions, Observation	Personal site visits / Personal experience, Newspaper articles
To assess the effectiveness of strategic management planning framework on protection and management of cultural landscapes threatened by mining development.	Qualitative Content Analysis; Thematic Analysis.	Literature / Publications, websites.

4.2 Methods

4.2.1 Selection of Case Studies

From a methodological point of view, this thesis aims to fulfill two main epistemological questions. The first question is what can be learned from two case studies and the second question is on what these case studies can teach about the whole field of cultural landscapes, (Stake 2005). In view of these questions, the thesis analyses and compares two case studies in order to extract conclusions on the impact of mining development projects in African cultural landscapes.

Following Stake (2005) classification of case studies, the thesis combines the method of multiple or collective cases with the use of an intrinsic case study (Stake 2005:445). An intrinsic case study is of intrinsic interest in the sense that it has particularities which make it of interest of study, (ibid). A multiple or collective case study is an instrumental case study, the examination of which aims to provide insight into a specific issue and redraw generalization which can be extended to several cases, (ibid 446). In this thesis, two case studies have been studied jointly in order to investigate and compare the impact of mining development projects on the preservation and management of cultural landscapes in sub-Saharan African countries.

The intrinsic case study in this thesis is Mulanje Mountain cultural landscape in Malawi, (see chapter 5 for more descriptive details of this case study). The main reason for selecting this cultural landscape as a core case study is the fact that it fulfills the selection criteria of opportunity to learn

and the accessibility to data. It also fulfills the basic requirements for optimizing understanding of the case study which is the experiential knowledge and the study of the context and activities associated with this case study (Stake 2005). Experiential knowledge has been provided by personal participation and experience working with the Malawi Department of Culture to develop the management plan and conservation projects for the landscape in the last decade.

The other case study of Mapungubwe cultural landscape in South Africa has been used to provide and compare further issues related to the implementation of the existing management planning framework for the protection and safeguarding of outstanding universal values of the World Heritage cultural landscape which is being threatened by on-going mining activities. Evaluation of the integration of the UNESCO strategic 5Cs (credibility, conservation, capacity building, communication and community involvement), within the existing management planning framework, in light of the on-going mining activities within the World Heritage cultural landscape has been carried out. The main criteria for selecting this second comparative case study was also the accessibility and the opportunity to learn, (Stake 2005). The notion of accessibility is closely related to the opportunity to learn. That may mean taking the one most accessible or the one we can spend the most time with. This criterion is one important for a qualitative researcher than the criterion of representativity. As Stake (2005) mentions, sometimes it is better to learn a great deal from an atypical case than a little from a seemingly typical case (ibid).

Therefore, the selection of case studies for evaluating the impact of mining development was based on the availability of information regarding cultural landscapes' conservation and management challenges emanating from mining exploitation and exploration activities. The selection of the second case study was considered important since the critical issues under investigations have been compared. The current operational management planning framework for Mapungubwe World Heritage cultural landscape has been critically reviewed. The issues drawn from this critical review has been used to develop a strategic management planning methodological framework which has been applied to Mulanje Mountain cultural landscape. As Stake (2005) implies 'populations of cases can be represented poorly by single cases or samples of very few cases, and such samples of cases can provide questionable grounds for advancing grand generalization'.

A further selection criterion was the extent to which the case studies illuminated a wide range of issues under investigation, in order to allow a broad examination of negative impacts of mining development projects on the attributes and values of cultural landscapes in sub-Saharan Africa. Views and perceptions of local people especially on their understanding of mining issues and World Heritage status of their areas have been analyzed and compared.

4.2.2 Comparative Case Study Approach

Comparative case studies cover two or more cases in a way that produces more generalized knowledge about key questions under investigation. This assesses and evaluates how and why particular programmes and policies work or fail to work in these comparable case studies. Comparative case studies are undertaken over time and emphasize comparison within and across contexts, (Goodrick 2014). In this research, comparative case study as an approach was selected in order to understand and explain the success or failure for the implementation of the management planning framework in Mapungubwe cultural landscape, which led to the development of an integrated management planning methodological framework which has been applied to a comparable case study of Mulanje Mountain cultural landscape.

Comparative case studies approach involved the analysis and synthesis of the similarities, differences and patterns across Mapungubwe cultural landscape and Mulanje Mountain cultural landscape. As Goodrick (2014) also elaborated, comparative case studies often incorporate both qualitative and quantitative data. He emphasized that, given the focus on generating a good understanding of the cases and case context, data collection methods such field visits, observations, interviews and document analysis is often used.

While the strategies used in data collection for single and comparative case studies are similar, comparative case studies require more extensive conceptual, analytic and synthesizing work. The synthesis across cases extends beyond the comparison of similarities and differences to using these similarities and differences to support or refute propositions as to why an intervention succeeds or fails, (Goodrick 2014). While some degree of comparison is at the heart of any design in which multiple cases are used, the distinguishing feature of comparative case studies is the emphasis on examining causality – the extent to which the intervention caused the results, particularly outcomes and impacts. For the case studies selected in this research, investigations dwelled on the analysis

of the UNESCO 5Cs and evaluation of the effectiveness in the implementation of the management planning framework for Mapungubwe cultural landscape, and hence to use the results to draw a best practice which has been tailored in the proposed management planning methodological framework for Mulanje Mountain cultural landscape. A description of the similarities and differences between the two selected cultural landscapes was done in order to generate a holistic view of these cultural landscapes. (See Table 4. 3 below on similarities and differences between Mapungubwe cultural landscape and Mulanje Mountain cultural landscape and the actions taken). More details about the descriptions of these cultural landscapes have been provided in chapter 5 of this thesis.

Table 4. 3. Similarities and differences between Mapungubwe and Mulanje Mountain Cultural Landscapes

	Mupungubwe Cultural Landscape	Mulanje Mountain Cultural Landscape.
Similarities and Differences	<ul style="list-style-type: none"> - Cultural Landscape - On-going mining operations - Operational Management Planning Framework available - UNESCO WHS since 2003 	<ul style="list-style-type: none"> - Cultural Landscape - Planned mining operations - No Management Planning Framework - UNESCO WH Tentative list since 2000.
Comparative Approach / Actions	<ul style="list-style-type: none"> - Reviewed and evaluated the implementation of the Management Planning Framework - Reviewed the effectiveness of strategic impact assessment. 	<ul style="list-style-type: none"> - Reviewed the draft management plan - Reviewed the Nomination dossier - Conducted the rapid impact assessment.

4.2.3 Document Analysis

Historical sources particularly written documents such as academic discourse, legal and administrative publications, and official guidelines provide valuable insights in understanding various issues of heritage studies, (Baxter 2009; Soderland 2009; and Beck 2006). Scholarly

constructions, narratives, as well as images and connotations on cultural landscapes impacted by development projects, are some of the issues that have been revealed by analyzing the literature. As several authors have noted (Baxter, 2009; Soderland, 2009; Waterton et. al 2006), document analysis – analyzing written documents for heritage research, constitutes an important methodology for problematizing, identifying and unpacking issues of the heritage studies as a discipline of study. On the account of this, both published and unpublished documents were consulted and reviewed for the purpose of gaining insights into the subject under investigation. Some of the documents related to heritage management planning in cases of development projects which has been critically reviewed included site management plans, periodic reports, reactive monitoring reports, and other numerous scientific publications.

4.2.4 Interviews

The scientific accuracy and validity of interview data have often been questioned and the subjectivity of data has often been emphasized, since interviewing is inextricably and unavoidably historically, politically, and contextually bound (Fontana and Frey 2005). An interviewer is a person, historically and contextually located, carrying unavoidable conscious motives, desires feelings, and biases, (Sheurich 1995). Interviewing is also a social interaction context and therefore is influenced by this context, (Fontana and Frey 2005). Furthermore, the setting in which the interview takes place, the language and culture of the participants, the ways in which an interviewer presents him/herself and the necessity to gain trust affect to a great extent the outcome of the interview.

However, subjectivity which is unavoidable does not render data collected to be scientifically invalid. Qualitative data collected through interviews can provide researchers with valuable data in so far as their accuracy is corroborated by data collected from other sources. In Addition, subjectivity in the social science and humanistic field where the focal point is the ‘man’ and his/her perceptions, behaviors and attitudes is unavoidable. A degree of subjectivity inheres even in quantitative methods since the design of the questionnaire and the coding of the answers depends to a great extent on the analyst’s point of view.

In the case of Mulanje Mountain cultural landscape, the majority of the interviews conducted included semi-structured with open-ended questions, which occasionally were transformed into

unstructured interviews and discussions during the dialogue process. The latter was necessary either because some participants were not willing to answer some questions or because they were so passionate about the topic, which led them to discuss different issues, interesting but irrelevant to the main questions asked.

Structured interviews were used in the case where I was exploring the perceptions and views of local communities on the impact of mining activities on the cultural and natural heritage resources within the protected cultural landscapes, (detailed results has been presented in chapter 6 of this thesis). Some of the interview focus areas was regarding the level of awareness of Mulanje Mountain cultural landscape as a landscape of cultural importance; levels of awareness on proposition by the Malawi government to inscribe Mulanje Mountain cultural landscape as a UNESCO World Heritage site; levels of awareness on plans by the Malawi Government to explore and exploit mineral resources from the Mulanje Mountain; and seeking opinion from the local people given a chance to choose between cultural heritage preservation and mineral resources exploitation within the cultural landscape; and finally a list of some significant heritage typologies were presented in the questionnaire to list in order of importance which heritage resources they would like to see protected in case if mining development projects will go ahead. In order to acquire these information, different forms of interviews were conducted with different types of stakeholder groups. (See appendix 1 for the interview guiding questions). The interview questionnaire comprised of pre-established questions with a set of response categories (Fontana and Frey 2005).

Unstructured interviews were conducted with government officials from the Departments of Culture, Mines and Geological Surveys, Forestry, Environmental Affairs and Mulanje Mountain Conservation Trust (MMCT). Their personal views have been included in this thesis but their anonymity has been retained. An in-depth interview is one of the commonly used methods in heritage studies, especially when investigating aspects of people’s perceptions of cultural heritage assets (Jones 2004). A total of 108 people representing various stakeholder groups participated in this research. (See Table 4. 4 below for a total number of stakeholders interviewed).

Table 4. 4. Number of stakeholders interviewed

Participants interviewed		Number
	Local Chiefs	20

Local Community Members	Local Community Members	60
Public Officials	Departments of Environmental Affairs; Geology and Mines; Forestry; Antiquities; Museums; Arts and Crafts and Tourism.	14
Civil Society Organisations	Society of Malawi; Mulanje Mountain Conservation Trust and Friends of Mulanje Mountain Trust.	6
Business Community	Info Mulanje Tourist Office; Tour Guides Association and Accommodation Providers	8
Total of participants		108

4.2.5 Focus Group Discussions

In addition to the interviews, focus group discussions was also used. This method of data collection was used to explore and understand the feelings of the local community members as regards to two different proposals by the Malawi government to explore and exploit the mineral resources within Mulanje mountain cultural landscape at the same time to develop conservation and management initiatives through the inscription of the landscape as a World Heritage site. I also wanted to explore the communication flow between the management authorities of the site and local community members in different aspects like conservation, management, and protection of the natural and cultural heritage resources of the cultural landscapes. The specific reason for carrying out these focused group discussions was to understand how the local stakeholders' respond to different issues raised as regards to proposals for mining development and cultural landscape conservation. Most of the views raised during these focus group discussions have been taken into consideration in the proposed management planning methodological framework that has been developed and discussed in chapter 8. Such deliberations have helped to understand and appreciate how individuals of different groups perceive issues to do with the utilization of the resources of the landscapes in comparison with presenting the same issues as individuals. In order to better understand how different local groups view and perceive the issues under investigation, as a moderator of the discussions, I managed to provide a fairly informal setting to avoid being more intrusive and obtrusive.

A total of five focus-group-discussions were conducted in the two periods of field visits in five specific areas of Mulanje Mountain cultural landscape. The involved groups were selected based on the local knowledge of the area and the subject matter which was being discussed. The group discussion members actively participated in the deliberations regarding the protection and use of the natural and cultural heritage resources of the landscape. This formed an important basis in understanding the levels of awareness of the local people and how they perceive different cultural values of the landscape.

4.2.6 Observations

Observation has been characterized as the ‘fundamental base of all research methods’ in the social and behavioral sciences, (Adler and Adler 1994) and as a ‘mainstay of ethnographic enterprise’ (Werner and Schoepfle 1987). In the case of one of my main case studies, Mulanje Mountain cultural landscape, participant and unobtrusive observation constituted a useful methodological technique for assessing the attitudes of the local inhabitants while deliberating about the proposed mining development project. During the period of field visits, critical deliberations amongst the local elders, business community and the civil society member groups on the pros and cons of allowing mining development in some parts of Mulanje Mountain were observed. This was very significant to cross-tabulate and checking the validity of the data already collected through the structured interviews and other sources.

4.2.7 Field Site Surveys

A field site survey was carried with the assistance of four local surveyors which were first trained on how to locate areas of archaeological and cultural heritage importance within the landscape. The survey area covered the culturally sensitive areas which could be negatively impacted by the planned mining development projects. The random method of conducting site surveys was employed for areas unknown to have cultural heritage properties. Areas with poor accessibility were surveyed in a random manner giving attention to places with better visibility. The survey involved screening of the surface area, natural gullies cut by rivers, eroded pedestrian pathways, caves and rock shelters, groves and sacred areas. In most of these areas, cultural artifacts such as pottery, lithic and iron slugs were observed.

4.2.8 Qualitative Content Analysis

Content analysis is defined as a ‘research technique for making replicable and valid inferences from texts to the contexts of their use’ (Krippendorff 2004). Content analysis is one of the numerous methods used to analyze text data but of the few that claims to be either quantitative or qualitative methods. Described by Hsieh and Shannon (2005), as ‘a family of analytical approaches’, content analysis varies from a systematic counting of word frequencies, as used in quantitative content analysis, to a method for the interpretation of text data on the identification of patterns or themes across data, as used in qualitative content analysis.

Both approaches use a process of coding and pattern identification. However, quantitative content analysis reduces texts to a unit-by-variable matrix and analyses that matrix quantitatively to test hypotheses (Ryan and Bernard 2003). While content analysis is concerned with the interpretation of meaning from text data based either on codes derived from the data, (Hsieh and Shannon 2005). Therefore, a qualitative content analysis approach was adopted for the analysis of the management planning framework for Mapungubwe cultural landscape. The site management plan was adopted as a primary source of evidence because it represents a principal instrument guiding the conservation and management of the landscape (Rodwell 2002; Wilson and Boyle 2006).

The management plan establishes aims, objectives, management structures and actions for a specific period of time. Progress against goals established in the management plan forms the basis of ongoing national and World Heritage reporting requirements. The plan is also integral to the World Heritage nomination and evaluation process. As such, the management plan has a long-term impact on how the site is conceived and managed. Evidence from the management plan analysis was corroborated with evidence from the physical surveys and interviews to assess variations between planning and implementation strategies.

As the primary data was the text-based management planning framework, a qualitative and directed content analysis approach was considered appropriate. The qualitative content analysis uses a systematic classification process of coding and identifying themes to interpret the content of the text data. A directed approach is used to validate or extend an existing theoretical framework (Hsieh and Shannon 2005). A directed approach uses existing prior research to identify key concepts as initial coding categories. This is followed by the development of operational

definitions for each coding category. The data are gathered and coded with predetermined codes. The directed approach followed in this thesis is compared in Table 4. 5 to the two major alternatives, conventional content analysis, and summative content analysis.

Table 4. 5. Different approaches to content analysis

Type	Starting Point	Timing of codes or keywords	Source of codes or keywords
Conventional	Observation	Codes are defined during data analysis.	Codes are derived from the data.
Directed	Theory	Codes are defined before and during data analysis.	Codes are derived from theory or prior research.
Summative	Keywords	Keywords are identified before and during data analysis.	Keywords are derived from researcher interest or literature.

Source: adapted from Hsieh and Shannon (2005).

Following Strauss and Corbin (1990), the thesis started the data analysis process with an evaluation of the success and effectiveness in achieving the five strategic dimensions in implementing the UNESCO’s strategic action plan of 2012-2022. These commonly known as 5Cs, includes credibility, conservation, capacity building, communication and community involvement, (UNESCO 2016). These five dimensions and other strategic planning dimensions formed the conceptual categories for open coding.

The second stage of data analysis involved the identification of dimensions for each conceptual category. The seven coding dimensions adopted was as follows:

- *Situation Analysis dimension* was used to assess the extent that influences on the management planning framework of Mapungubwe cultural landscape were identified as a starting point in the planning process (Viljoen and Dann 2003). This includes internal influences such as the state of the cultural landscape values and attributes and the skill base of staff and external influences such as trends in legal and policy frameworks. The situation analysis dimension responds to the need to define a social problem and establish a holistic understanding of the influences impacting on a problem domain.

- The *strategic orientation* was used to evaluate the extent that the planning process was either long-term or holistic (Viljoen and Dann 2003). Using the understanding generated in the situation analysis dimensions, strategic dimension should establish a goal-oriented approach toward achieving a collective vision. In terms of a problem of mining development, a strategic orientation provided a framework to assess the dynamic nature of a problem domain and bring together the resources to impact on a problem in the most effective way.
- The *credibility dimension* was used to evaluate the extent at which the dissemination and promotion of the core principles of the World Heritage Convention such as outstanding universal value, integrity, and authenticity were integrated into the management planning framework of Mapungubwe cultural landscape.
- The *conservation dimension* was used to evaluate the conservation measures that has been integrated in the management planning framework of Mapungubwe World Heritage cultural landscape, including considerations on whether the outstanding universal value of the cultural landscape, including conditions of integrity and authenticity, were being sustained or enhanced since the landscape's inscription on the World Heritage List.
- The *communication dimension* was used to establish the extent at which the management planning framework of Mapungubwe World Heritage cultural landscape integrated communication strategies into a strategic vision of the cultural landscape.
- The *capacity building dimension* was used to determine the extent to which the management planning framework of Mapungubwe World Heritage cultural landscape has integrated the issues of capacity building in the course of the planning period and beyond.
- The *community involvement dimension* was used to evaluate the extent to which management planning system at the Mapungubwe World Heritage cultural landscape was designed to support community involvement aspects.

In the third stage of the data analysis process, the seven open coding dimensions were used as the framework for the development of an axial coding instrument. Strauss and Corbin (1990) described axial coding as putting 'data back together in new ways after open coding, by making connections between categories'. The axial coding instrument was based on an instrument constructed by Simpson (2001) and later adapted by Ruhanen (2004) and Landorf (2009). Simpson's instrument was developed to assess the extent that the principles of sustainable development had been

integrated into nineteen New Zealand tourism management plans. The instrument had been subject to considerable efforts to reduce bias in its construction, including the use of an expert panel of independent reviewers and statistical analysis to verify reliability and validity. Simpson's instrument was modified to accommodate the adoption of this thesis on issues of sustainable utilization of the natural and cultural resources found in African cultural landscapes. Therefore, a coding instrument was developed and used in the review of the Mapungubwe World Heritage cultural landscape management planning framework. This final coding instrument that has been developed and used in the analysis is as shown in Table 4. 6 below, and detailed results of the analysis have been presented in chapter 7 of this thesis.

Table 4. 6. The final coding instrument used in the analysis

Coding Dimension	Coding Items
Situation Analysis	Description of tangible heritage
	Description of intangible heritage
	Description of land use pattern
	Identification of demographics
	Identification of economic character
	Identification of economic benefits
	Identification of tourism activities
	Identification of tourism capacity
Strategic Orientation	Long-term orientation
	Identification of economic goals
	Identification of environmental goals
	Identification of social goals
	Identification of heritage goals
	Identification of strategic alternatives
	Objectives supporting goals
	Objectives based on capacity
	Equitable objectives
Credibility	National Inventory available
	Site Database available

	Institutional capacity
	Governance structures
	Collaboration and Cooperation
	Boundary modifications
	Changes to existing criteria
	Transboundary re-nomination
Conservation	Strategy for sustainable management
	Institutional management system
	Allocation of resources
	Delineated boundaries
	Involvement of stakeholders
	Policy and regulatory measures
	Institutional coordination mechanism
	Monitoring and assessing impacts
	Responsibilities of stakeholders
	Linkages
Communication	Effective information-sharing
	Awareness-raising programmes
	Communication mechanisms
	Systematic dialogue
	Communication strategies
	On-site awareness
	Dialogue amongst stakeholders
	Assessment of communication strategies
	Integration of communication strategies
Capacity Building	Programmes to develop the capacity
	Strengthen existing networks
	Identification of targeted audience
	Capacity building needs of the property
	Use of periodic reporting processes

Community Involvement Dimension	Mutual understanding and collaboration
	Strategies for increasing awareness
	Inclusive participatory approaches
	Roles of different community groups
	On-site conflict resolution strategies
	Community participation strategies
	Communities common interest

The fourth stage started with a review of the management planning framework for Mapungubwe World Heritage cultural landscape noting its structure, methodology, and stakeholder involvement. Following the process suggested by Miles and Huberman (1994), a draft version of the instrument was then used to code the management plan for the cultural landscape.

4.2.9 Thematic Analysis

Thematic analysis is defined by Braun and Clarke (2006) as a ‘method for identifying, analyzing and reporting patterns (themes) within data’ and a theme is described as capturing something ‘important’ about the data in relation to the research question.

A theoretical approach to thematic analysis uses prior research to identify concepts as initial coding categories (Braun and Clarke 2006). The thematic analysis undertaken in this thesis relied on the qualitative content analysis of strategic dimensions and coding dimensions as discussed above. The coding dimensions were used, firstly, to generate the semi-structured interview questions and, secondly, as the initial codes for the interview data analysis. Each interview commenced with an outline of the research project. This was followed by a general question about the participant’s background and how they came into their current position. The semi-structured interview questions that have been used for Site Managers of Mapungubwe are shown in Table 4. 7 below.

Table 4. 7. Semi-structured interview questions

Coding Dimension	Interview Questions
Situation Analysis	1. Do you use analytical tools such as SWOT Analysis, Cost-Benefit Analysis or Investment Appraisal to support decision-making?

Strategic Orientation	<p>2. What is the funding levels from government, the private sector, and other income generating activities?</p> <p>3. Do you see any change in the future on funding levels, if so why?</p> <p>4. Describe the monitoring and performance appraisal system used to assess the implementation of the management plan?</p>
Credibility	<p>5. Is the cultural landscape well documented and systematized?</p>
Conservation	<p>6. How do conservation authorities use results of periodic reporting exercises to plan for conservation activities?</p> <p>7. What steps have the conservation authorities made to integrate the protection of the cultural landscape into wider national programmes?</p>
Communication	<p>8. How do conservation authorities ensure that World Heritage status of Mapungubwe cultural landscape is being adequately communicated and promoted to the general public?</p>
Capacity Building	<p>9. What measures should be put in place to ensure that there is effective capacity building in Mapungubwe World Heritage cultural landscape?</p>
Community Involvement	<p>10. Do Mapungubwe World Heritage site management authorities have plans to cooperate with local communities in making decisions about the landscape?</p> <p>11. What strategies have been developed by the management authorities to enhance the collaboration with local communities?</p>

The primary difference between the qualitative content analysis applied to the management plan and the thematic analysis applied to the interviews was that the thematic analysis allowed for a stronger and more flexible process of iteration between theory and emerging themes. The stages of data analysis used in this thesis are compared for qualitative content analysis and thematic analysis in Table 4. 8.

Table 4. 8. Comparative stages of content analysis and thematic analysis

Directed content analysis stages	Thematic analysis stages
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<p>1. Familiarization with the literature. Defining conceptual dimensions and operational definitions from existing theory and prior research.</p>	<p>1. Familiarization with the data. Transcribing the data, checking the data for accuracy and noting down initial themes.</p>
<p>2. Construct coding dimensions. Extracting component elements of each conceptual dimension and constructing coding dimensions.</p>	<p>2. Generate initial codes Coding of interesting features systematically across the data set and collating the data.</p>
<p>3. Generate initial codes Collating the criteria relevant to each coding dimension from literature and developing a coding instrument.</p>	<p>3. Search for themes Collating codes into potential themes and gathering all data relevant to each potential theme.</p>
<p>4. Refine coding instrument Checking if the coding instrument works in relation to a representative sample of the data set and refining the specifics of coding items.</p>	<p>4. Review themes Checking if the themes work in relation to the coded extracts and the entire data set, generating a thematic map of the analysis.</p>
<p>5. Apply coding instrument Apply the coding instrument across the data set, reporting.</p>	<p>5. Define themes Ongoing analysis to refine the specifics of each theme.</p>

(Source: Adapted from Braun and Clarke 2006; Hsieh and Shannon 2005).

4.3 Triangulation

Triangulation is a method used to increase the credibility and validity of research findings, (Cohen 2000). Triangulation strengthens a study through the convergence of multiple sources of evidence to support any given finding. Yin (1994) notes that case study conclusions are more convincing and accurate if they are corroborated by several sources of data. Denzin and Lincoln (2003) contend that the logic of triangulation is based on the premise that no single method adequately solves the problem of rival causal theories.

Three types of triangulation have been used in order to increase the credibility and validity of the research findings. These include data triangulation whereby data was collected in different times of the year, covering both Mulanje District in Malawi and Mapungubwe District of South Africa, purposefully focusing on local communities, heritage practitioners and decision-makers in the mining industry. Investigator triangulation was also applied which involved the use of several research assistants from heritage institutions and graduate students who supported in collecting multiple datasets addressing specific objectives of the study. Lastly methodological triangulation was also used which promoted the use of several data collection methods.

Several data sets and methodological approaches were used and included exploratory interviews with key participants comprising of local community members, public officials, civil society organization and business community, (n=108); document analysis, focus-group discussions, observations, field site surveys, content analysis, to explore a range of experiences and perceptions on mining and cultural landscape issues. This triangulation approach encouraged the use of several methods to collect data using multiple research assistants with varied expertise and local knowledge.

Phase one of the study focused on understanding the context of the study and included defining the cases studies, desk research, preliminary interviews with key informants and the collection of literature and specific policies. The second phase involved defining of the methodological approaches, designing the research strategy and fine-tuning the research questions, case-study analysis and attributes mapping. The final phase included community meetings to provide feedback on findings and development of parameters for impact evaluation. Data were coded and thematically analyzed. The observations of local communities during discussions on options either for mining or conservation of the landscape identified the complexities of the decision-making process related to the topic under study. The observations were supplemented by the interviews and focus groups. Each research method exposed one aspect of the issue under investigation. This multimethod and multidisciplinary collaborative research was insightful. It permitted cross-validation, and facilitated exploration of issues related to the integration of mining development issues in the management and planning framework of the African World Heritage Cultural Landscapes.

4.4 Ethical Considerations

It has been claimed that ‘any method decision is an ethics decision’ (Denzin and Lincoln 2003). In this particular thesis, each selected method raised several ethical considerations regarding its use. One of the main ethical considerations that was encountered was the dilemma on whether to reveal my professional identity as an employee of Malawi Department of Museums and Monuments, an institution which is responsible for the advancement of inscribing Mulanje Mountain cultural landscape as a World Heritage Site, when discussing with the local community members and other stakeholders, or as a university researcher studying the case of Mulanje cultural landscape. This raises the following ethical dilemma: what is ethically and scientifically right for a researcher? Is it ethical for a researcher to conceal his/her identity in order to gain invaluable and more accurate data or should he/she sacrifice the accuracy of the data by revealing his/her identity? A further ethical issue emerged from the ethical obligation to retain the anonymity of the interviewees. Therefore, the opinions of the interviewees were referred to as anonymous personal communications.

4.5 Chapter Summary

This chapter has illustrated the methodologies used in the research. The selection of the case studies has been justified. The chapter demonstrated the use of case studies as an effective research strategy in the investigation of contemporary and inter-related phenomena in changing cultural landscapes which are threatened by modern development especially mining. A case study research strategy is concerned with providing a detailed description of a bounded system. Case studies allow the specifics of a case to be examined, revealing the complexity and detail within a case and allowing comparisons across multiple case studies, (Landorf 2009). For the investigation of the impact of mining development on the cultural attributes and significant values of African World Heritage cultural landscapes, a case study research strategy was combined with other research methodologies. These research methods have been presented and broadly discussed how they have been applied to achieve specific objectives of the research. These include interviews, focus-group-discussions, observations, field site surveys content analysis and thematic analysis.

In the next chapter 5, detailed analysis of the two case studies of Mulanje Mountain cultural landscape of Malawi and Mapungubwe cultural landscape of South Africa will be presented in detail.

CHAPTER FIVE

5 CASE STUDIES: MULANJE MOUNTAIN AND MAPUNGUBWE CULTURAL LANDSCAPES

5.1 Introduction

This chapter provides an overview of the two case studies that have been used to collect data for the research. This includes Mulanje Mountain Cultural Landscape in Malawi, a site on the UNESCO World Heritage Tentative List, and Mapungubwe Cultural Landscape in South Africa, a site listed as a UNESCO World Heritage cultural landscape. The information that has been provided below is based on a desk research and field work that was carried out between 2016 – 2018 field seasons. Firstly, a general background of Mulanje Mountain and Mapungubwe cultural landscapes has been provided. This background information has been contextualized in terms of their location, geology, climatic conditions, local flora and fauna, and the general socio-cultural characteristics of the landscapes. Thereafter, an overview of the attributes and significance of the landscapes has been provided. This is in terms of the tangible and intangible heritage of the landscapes and the associated intangible socio-cultural values. The last part of this chapter contains an outlook of some of the factors affecting the conservation and management of these cultural landscapes with a detailed discussion of the mining threat in each of the case studies.

5.2 Case Study I: Mulanje Mountain Cultural Landscape, Malawi

5.2.1 Location of Mulanje Mountain Cultural Landscape

Mulanje Mountain Cultural Landscape is situated in the southern part of Malawi. Malawi is a landlocked country located in Southern Africa, between the latitude 9⁰22' and 17⁰7' south and longitudes 32⁰40' and 35⁰55' east. Malawi is bordered to the north and northeast by the United Republic of Tanzania, to the west by the Republic of Zambia and to the southwest and east by Mozambique. The total area of the country is approximately 118,483km² of which 94,275km² is the land and 24,208km² is water, (Kaunda 2013). The topography comprises of plateaus between 750m and 1,350m above sea level, highland elevations rising to over 2,440m in the Nyika Plateau

in the north of the country and to over 3,000m on Mulanje Mountain, in the south of the country. See Figure 5. 1 showing map of Malawi and bordering countries.

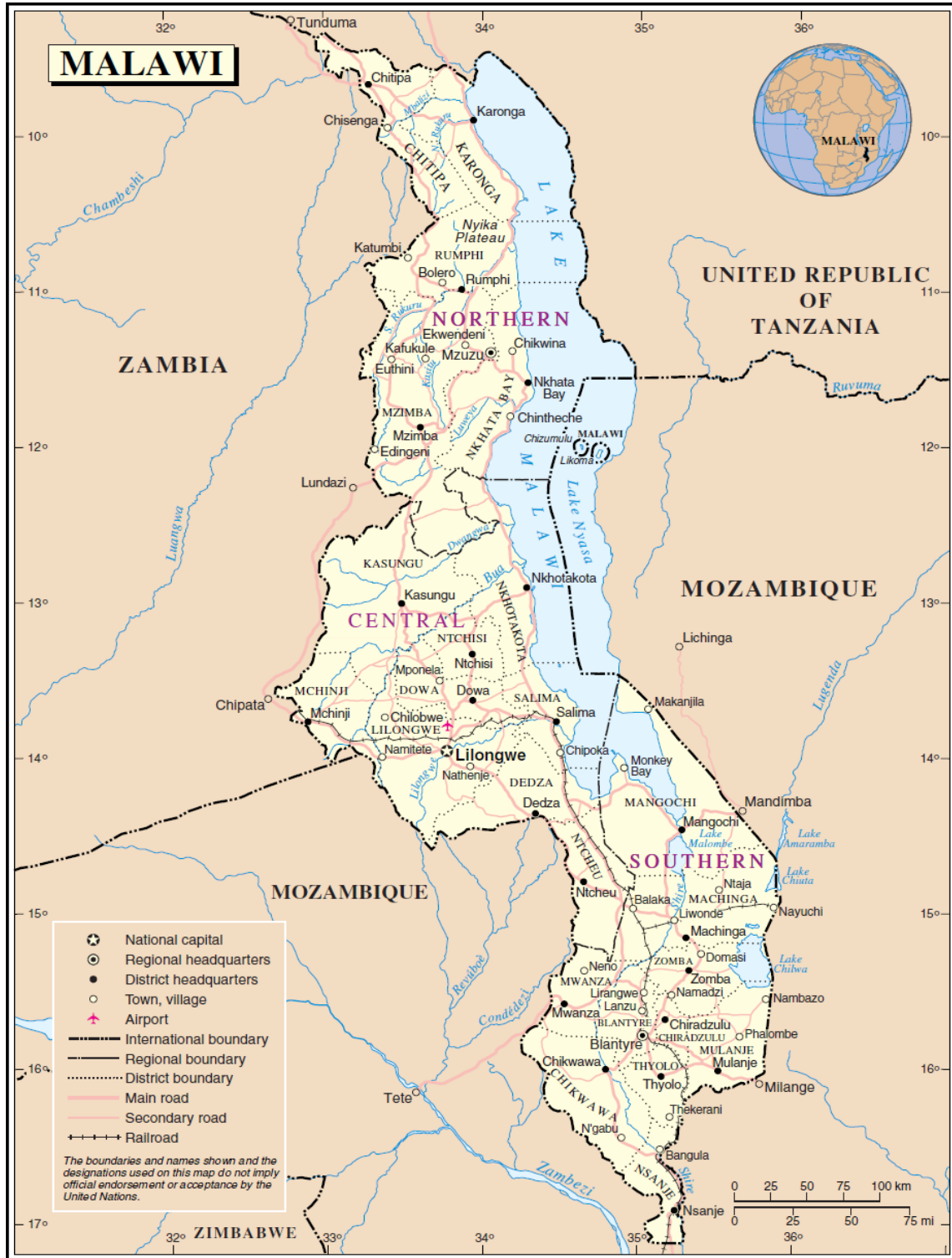


Figure 5. 1. Map of Malawi and bordering countries. Source: UNEP Riso (2013).

Malawi has an estimated population of 17 million people (GoM 2015). Approximately 85% of the population lives in the rural area but it is anticipated that this figure will decrease due rapid urbanization as the country had an annual urban population growth rate of 5.5% in 2010 making it one of Africa's fastest urbanizing nations, (Brown 2011).

Malawi's major exports include food, live animals, beverages, and tobacco whilst imports include petroleum products, fertilizers, machinery and transport equipment, and manufactured goods, (UNDATA 2013). Agriculture is the backbone of Malawi's economy, accounting to 34% of Gross Domestic Product (GDP) and employing about 80% of the country population. However, agriculture productivity is noted to be developing slowly and operating below its capacity due to the dependence on small-scale farming systems that are characterized by low input use, over-reliance on rain-fed agriculture, inadequate access to agriculture credit, inadequate access to output and input markets, and failures in technology development and transfer. This is further exacerbated by climate change effects such as erratic rains and droughts, (GoM 2007).

Malawi has traditionally been considered as an agro-based rather than mineral-based economy because of the policies that the government pursued since attaining independence in 1964. As a result, there was a lack of mining culture, little technical capacity and inadequate foreign and local investment which contributed to the slow development of the mining industry, (Mines and Minerals Policy 2013). Mining is expected to surpass the contribution of agriculture to GDP which is currently at 35%. This will be a gradual process considering that the mineral sector contribution to GDP is currently at 10%, (ibid.). Malawi has a variety of known mineral resources that include uranium, heavy mineral sands, strontinite, rare earth minerals, phosphate, bauxite, gypsum, vermiculite, precious and semiprecious stones, limestone, dimension stone, silica sands, sulphides, and coal. There is also a potential for the discovery of other metallic minerals and high-value metals including gold, platinum group minerals, and diamonds, (ibid.). Most of these mineral resources are located in the cultural landscapes of historic and cultural importance to the local communities. This has necessitated the development of an integrated management planning methodological framework proposed in this thesis for the proper exploration and extraction of these mineral resources so that they should not destroy the cultural and natural heritage resources of local, national and international importance.

Mulanje Mountain cultural landscape is located in the tea-growing districts of Mulanje and Phalombe Districts. The landscape is between latitudes of 15°50' - 16°03' south and longitudes of 35°30' - 35°47' east.

showing a map locating the Mulanje Mountain cultural landscape in Malawi).

The area proposed to be a World Heritage Cultural landscape covers a core zone of approximately 642.5 km² surrounded by a buffer zone of 851 km², (MMCL, 2013). (See

Figure 5. 2 of a map of the proposed landscape to be designated as a UNESCO World Heritage Landscape).

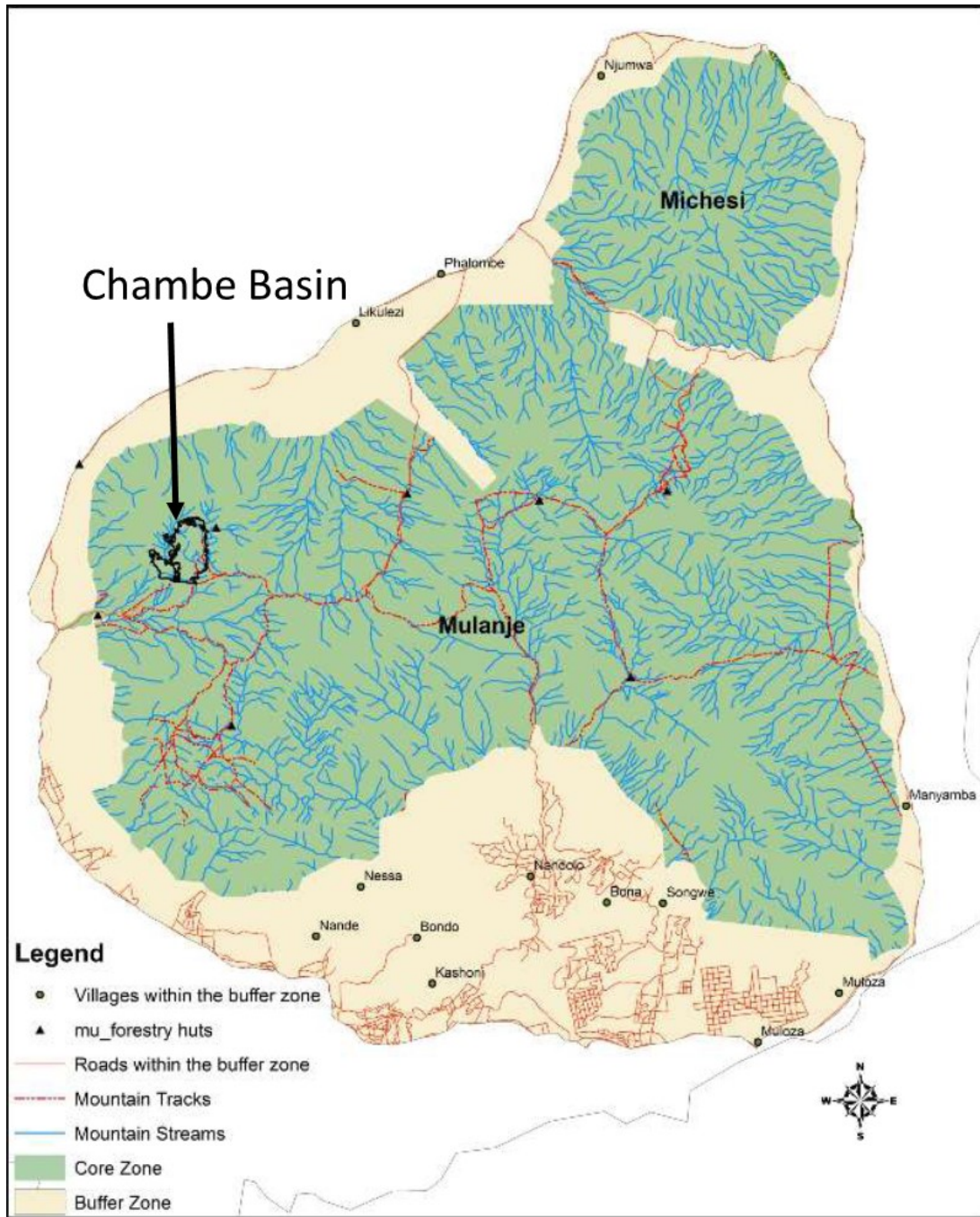


Figure 5. 2. Map of proposed core and buffer zone of Mulanje World Heritage area.
 Source: MMCL WHS nomination dossier (2014).

This core zone coincides with the Mount Mulanje Man and Biosphere (MAB) Reserve designated in the year 2000 and a protected Mulanje Mountain Forest Reserve, which was gazetted by Malawi government in 1927. This, therefore, offers an established boundary as a protected forest reserve managed by the Malawi Government Department of Forestry and

biosphere reserve under UNESCO MAB Programme. The core zone embraces all the site attributes and outstanding cultural and natural values which need to be protected by the proposed management planning framework. (See

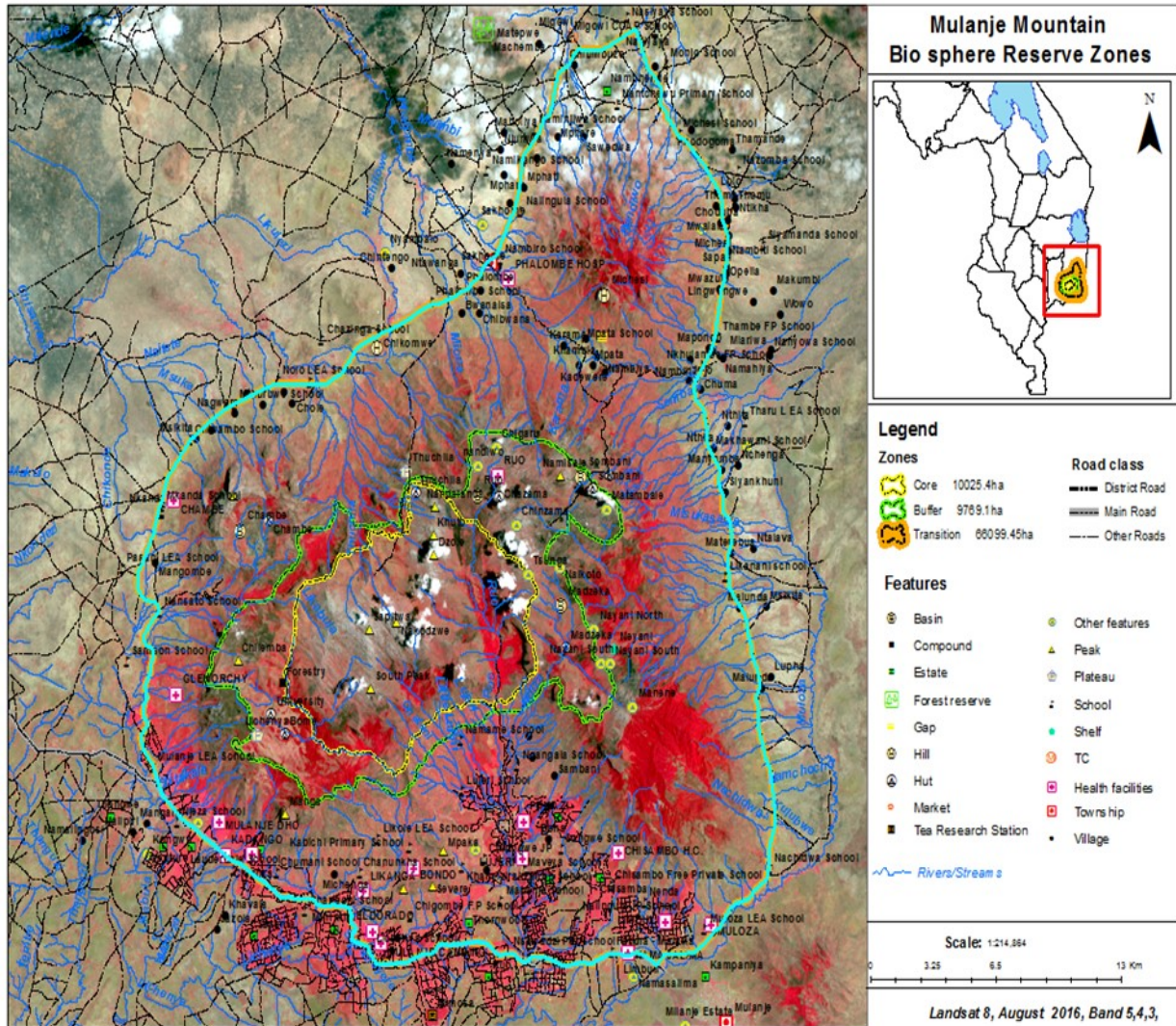


Figure 5. 3 below of map of the protected forest reserve and zones of biosphere reserve).

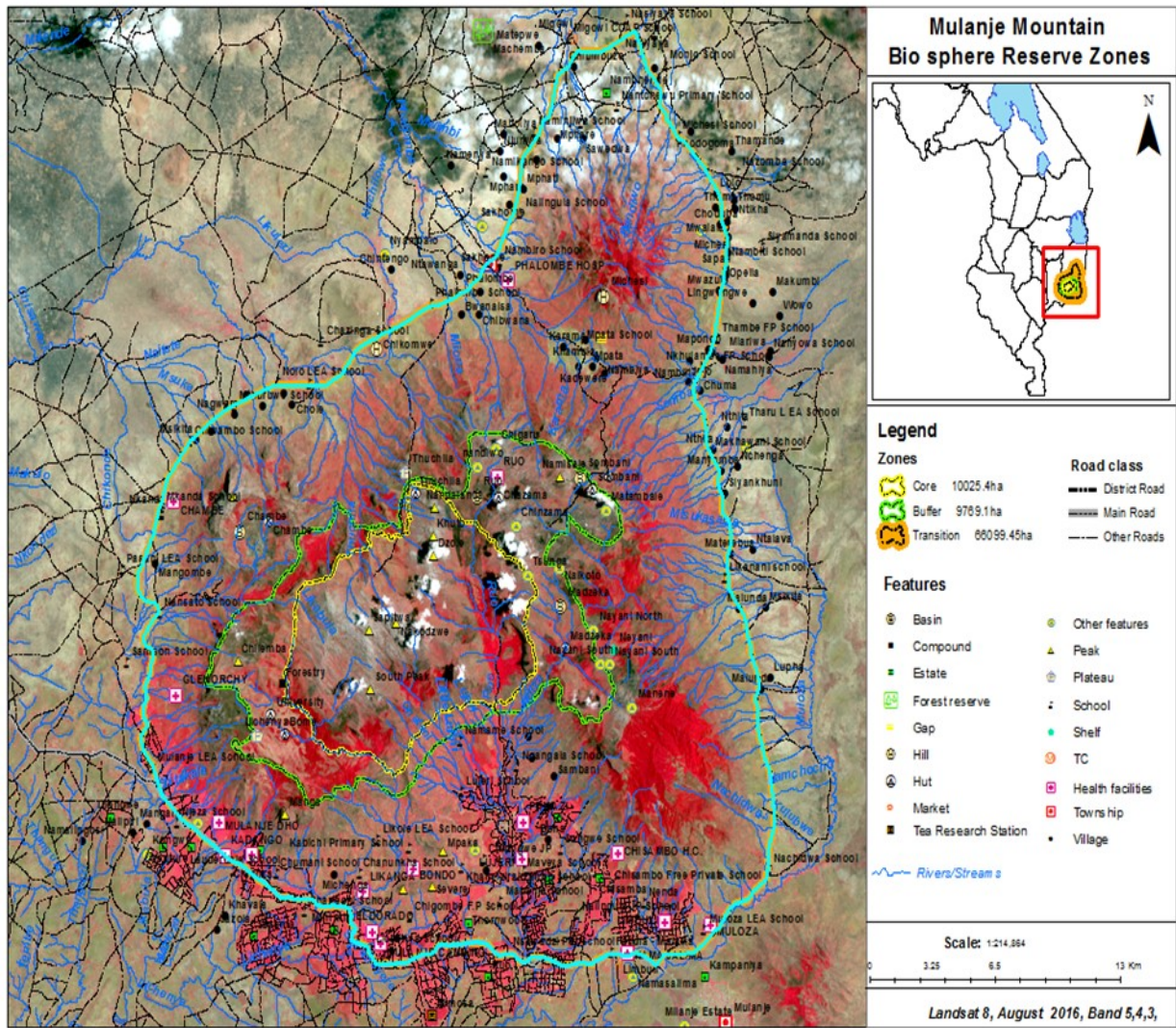


Figure 5. 3. Map of core zone, buffer zone and transition zone of Mount Mulanje Biosphere Reserve and protected Forest Reserve
Source: Mount Mulanje Biosphere Reserve Integrated Management Plan 2018).

5.2.2 The Physical Environment

The landscape falls within the broad belt of Miombo woodlands that stretches across south-central Africa, from Angola in the west to Tanzania in the east, specifically in the Central Zambesian Miombo Woodlands eco-region, (White 1965). It also forms part of an Afro-montane Regional Centre of Endemism, of approximately 700 km long, stretching from Sierra Leone in the west, east to the Ethiopian Highlands, and then another stretch of approximately 7000 km south along the central and eastern parts of Africa to the Cape. These mountains have been divided into regional systems. Those in the Mulanje Mountain Cultural Landscape belong to Region VI, the Ulunguru-

Underneath these steep outer cliffs is a series of discontinuous plateaus, some 1100m above the plains, with rolling grasslands of up to 2 km wide that have developed on the shallow soils consisting of partially fragmented rock, usually on steep slopes. This weathered landscape is intersected by deep, forested ravines and gullies with a myriad of streams, waterfalls, and pools. One of the large upland valleys of the massive acts as the source of Malawi's second largest river, the Ruo. It has spectacular waterfalls, the highest of which fall over 150m, making it one of the highest uninterrupted drops in Africa.

To the north of Mulanje is Michese Mountain which is also part of the proposed core zone of the World Heritage cultural landscape, and it is separated from the Mulanje massif by a broad saddle of some 2km. It is also known as the Fort Lister Gap, based on the historic Fort which is located at this gap. Michese Mountain has a remarkable dome-shaped peak, which rises some 2300m with numerous narrow gorges that had been incised around its bulge.

5.2.2.2. Climate and Rainfall

Like most of southern Africa, Malawi has a single rainy season. The summer begins in September, which is followed by a cool season that lasts from May to August. Moisture-laden air from the Mozambique Channel spills up against Mulanje, generating spells of mist, drizzle, and rain known locally as *Chiperone*, mainly occurring along the mountain peaks and steep southeast-facing slopes. The effect of the *Chiperone* rains extends well beyond the southern foot of the Mulanje Mountain cultural landscape.

The mean annual temperature of the plateau falls below 15⁰C. Night frosts occur between June and September, and it occasionally snows on *Sapitwa*, the highest point of the mountain. The rainfall of the region is unpredictable, and fires often burn deep into the forest during prolonged dry seasons. Annually, the mean rainfall measures between 1600mm – 2000mm.

5.2.2.3 Flora and Fauna

Mulanje has acted as a habitat for various tropical biota during the periods of world glaciation, when lowland climates were much drier and cooler than at present, (Davis et al 1994). The combination of geology, climatic conditions and vegetation further created a unique environment with a complex mosaic of habitats. Vegetation patterns change up slopes of Mulanje, reflecting the influences of different temperature and rainfall patterns at each level. Plant scientists have

carried out extensive and a very varied range of research of the flora on the Mulanje forest reserve, (White, et. al 2001; Chapman 1994). Currently, the list of Mulanje's higher plants contains over 1100 species. There is a large, well-documented orchid flora on Mulanje which includes six endemics. There are also six endemic grass species and three endemic sedge species as well. The dominant endemic tree species on Mulanje is the Cedar, (*Widdringtonia whytei*) (White, et. al 2001; Chapman 1994).

The fauna of the Mulanje Mountain cultural landscape includes the mammals, birds, reptiles, amphibians, fish, and invertebrates. The number of larger mammals on Mulanje has always been low. (ibid.) There is a high level of endemism on the bird of the Afro-montane archipelago as a whole (140 species) and to the Usambara – Mulanje system (56 species). Thirty – eight of these 140s species are found in Malawi and 22 on Mulanje. Several reptile species like lizards, chameleons, and snakes are either endemic species or subspecies to Mulanje Mountain, (ibid.). There are at least 74 species and subspecies of amphibians like frogs and toads on Mulanje mountain cultural landscape, (ibid.) Mulanje fish fauna consists of seven species recorded above Zoa falls on the Upper Ruo River, five of which occur nowhere else in Malawi. The invertebrates species number is estimated to range from 25,000 – 30,000 (White et. al 2001).

Socio-economic characteristics

The district of Mulanje has a population of approximately 430,000 people and covers an area of about 2,056km². Its key industries are agriculture, including tea-growing, and forestry. Currently, an estimated 63% of the total land area around the Mulanje Mountain cultural landscape is used for agriculture. Of this, 70% is used for subsistence and 30% for commercial farming, (NORAD 2009).

A NORAD (2009) socio-economic baseline study in the central and southern districts of Malawi, gives the average household size in the district as five, with up to 33% being female-headed. Most of the houses are vernacular traditional houses with mud walls and grass-thatched roofs. Households in Mulanje commonly depends on agriculture, with agricultural production limited to small plot sizes of average 0.2 ha. Agriculture provides about 70% of household incomes. Poverty and low levels of socio-economic development are key factors driving unsustainable resource use in the region.

5.2.3 Cultural Heritage of Mulanje Mountain Cultural Landscape

5.2.3.1 Intangible Heritage

Mulanje Mountain cultural landscape is a living and vibrant landscape with deep roots in the traditions of local people who live within and around it. These are the *Mang'anja (Nyanja)*, *Yao* and *Lhomwe* cultural tribal groups of people. The cultural landscape serves as a potent symbol of Malawi's cultural values and belief systems. The mountain and its socio-cultural attributes live in the minds of the local communities within and around it. This has inspired the religious thought, legend, art, and literature in the region.

The richness of the intangible heritage within the landscape has been attributed to the following two factors; the physical nature of the place and its association with danger and; the botanical diversity that includes many plant species that are used as medicinal herbal plants for traditional healing. These factors have determined the way the mountain is regarded and have given rise to traditions which have a strong belief system. The following practices and traditions are of particular importance to Mulanje:

- Traditional ceremonies which are undertaken before the journey onto the mountain, like the singing of traditional songs, traditional praying, and libations; and,
- Telling of the stories of the disappearance of people who treat the mountain or the ancestors who reside there without the requisite respect.

Oral narratives have shown that the Mountain is associated with the '*Abatwa*¹' who are amongst the earliest occupants of the Mountain and the landscape. Among other uses, the mountain is also used for traditional girls' initiation rituals called *Chinamwali* by the Lhomwe, Mang'anja and Chewa tribes.

Table 5. 1 below summarizes the attributes that convey the site values, and some of the traditional practices and belief systems, according to the oral interviews conducted in the area.

Table 5. 1. Cultural Significance of Mount Mulanje Cultural Landscape

Intangible cultural heritage domains	Cultural Significance
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¹ *Abatwa*, also known as *Akafula* are commonly described as short-statured hunter-gatherers, whom the Bantu speaking communities encountered when they settled in what is now Malawi during the third century A.A (Rangeley, 1963).

<p>Oral traditions- Disappearance of people</p>	<ul style="list-style-type: none"> - The landscape is associated with the disappearance, and sometimes with the reappearance of people. - Visitors to the mountain, both domestic and international do from time to time disappear without trace on the mountain. - The belief that those who vanished have been taken by the ancestors of <i>Abatwa</i>. - Disappearance is associated with the failure to adhere to the code of the mountain
<p>Social practices, rituals, and festive events - Ceremonies associated with a journey on the Mountain.</p>	<ul style="list-style-type: none"> - Traditional songs and prayers are done before climbing the mountain. - Dancing rituals and prayers done by sprinkling maize meal on a <i>Mpoza</i> tree, associated with rainmaking.
<p>Oral traditions - Assistance or favors from the spirits.</p>	<ul style="list-style-type: none"> - Believed that ancestors who lived on the mountain help people to carry their loads, gathering resources; rewarding food and drinks.
<p>Oral traditions and expressions - The snake that moves the Earth.</p>	<ul style="list-style-type: none"> - The spirit snake, <i>Napolo</i>, manifests as a mythical serpent that lives under mountains and is associated with landslides, earthquakes, and floods. It is a common concept in much of sub-Saharan Africa, (Schoffeleers 1991). - Believed that it causes tremors and heavy rains and thunderstorms when it is moving underground between Mulanje and Michese mountains.
<p>Knowledge and practices concerning nature and the universe. – creator and sustainer</p>	<ul style="list-style-type: none"> - The landscape associated with water, rivers, clouds and the natural cycle. - The mountain as a powerful rainmaker, and a place of rain making ceremonies which is turned to in times of drought. - Dziwe la Nkhalamba sacred pool at the foot of the mountain is particularly significant to the local people, a place where communal rain rituals took place up to the early 20th century. - Music and dances form an integral part of invocation of spiritual realm’s ability to sustain life.

	<ul style="list-style-type: none"> - Tchopa dancing ceremony is a form of communion with ancestral spirits to intercede with high god in times of drought, war, diseases or thanks-giving.
Traditional knowledge systems- A Place of power	<ul style="list-style-type: none"> - A place from which herbal medicine has great power than elsewhere else. - The power of the mountain.
TANGIBLE CULTURAL HERITAGE DOMAINS	ATTRIBUTES THAT CONVEY THE VALUES
Rich Archaeological Sites	<ul style="list-style-type: none"> - The occurrence of the Middle Stone Age flakes on the mountain suggests the oldest human occupation (or visitation) of Mulanje which dates to about 250,000 to 20,000 years ago. - Evidence from the Later Stone Age is more abundant.
Unique architectural heritage	<ul style="list-style-type: none"> - The historic colonial buildings and other structures related to slavery shows unique construction technology and thus worthy important to protect them. - The use of stones in the construction of Fort Lister for example contributes to the architectural value of the site. - The architecture of Fort Lister also helps one easily link the activities that took place in this site with similar structures like Fort Mangochi and with other forts in different parts of the country.

At Mulanje, these traditions have laid the foundation for a far wider belief system through combining with the landmark qualities of the Mountain and in so doing creating a place that is central to a belief system in which the Mountain, protected by those who use it, in turn, becomes their protector and benefactor. The Mountain has become more than a normal place but a place of power. It is able to make rain; it is able to heal, and it is able to move the earth. In generally speaking, it is a place to turn to in order to resolve or hold responsible for many of life's problems. The belief

systems attached to the Mulanje mountain is one that is shared by all the cultural communities that live around the mountain and its power is well-known all-over southern Africa and even beyond, where its mystic qualities and in particular the power of its medicines and reputation of its healers extends.

5.2.3.2 Tangible Heritage

The Mulanje mountain cultural landscape is also endowed with very rich tangible heritage. In this thesis, the results of the tangible heritage of Mulanje has been presented based on the literature review, archival research, local interviews and the field reconnaissance which was conducted.

Archaeological Sites

The landscape contains a number of archaeological sites of Stone Age and Iron Age period, which have a direct link with the earliest inhabitants of the landscape and the intangible values of the mountain today. An Early Iron Age Site at Skyline Archaeological site with concentrations of the *Nkope-type* pottery was dated to the quarter of the first millennium A.D (Robinson 1977). There is also a number of undocumented and documented rock art sites and rock-shelters of historic and cultural importance to the local people. The well-known one is called *Machemba* rock art site, a rock-shelter with ancient rock paintings of red geometric styles, situated close to a small stream on the south of the Machemba hill. Another notable cultural heritage feature of tangible value is the sacred pool and waterfall called *Dziwe la Nkhalamba* – situated on the foot of the Mulanje Mountain. This sacred pool is highly revered by the local people because it is believed to be inhabited by the *Abatwa* and their ancestors. Most rain-making traditional rituals took place at this sacred pool and waterfall. It features frequently in the local mythical stories, as a place where people have disappeared. Around the pool, there is still evidence of the shrines. The landscape is also endowed with iron smelting furnaces. For instance, at a place known as *Likhubula*, there is an iron smelting furnace that is linked to traditional religious-spiritual activities. There are also numerous caves within and around the landscape, commonly known as ‘holy caves’. For example, a notable one is the one situated at *Nambirira*, which is used for religious purposes up to this day.

Historical and Architectural Sites

The area within and around Mulanje Mountain cultural landscape contains a large number of historical, colonial and postcolonial cultural heritage sites of local and national importance. These include old colonial mansions, estates and tea factories; the timber plantation and an old boma;

Fort Lister and the remnants of Fort Anderson; the Old Church of Scotland mission site and cemetery, the Mulanje CCAP Mission, Providence Industrial Mission, the Chisitu Catholic Mission, the Hole Family mission; the gravesite of the national hero John Chilembwe; old traditional villages that played an important part in the pre-colonial and colonial history, and which also contain graves of old chiefs and their wives; grave sites on the plateau and the Phalombe Disaster Memorial.

Collectively, these cultural heritage resources provide an overview of the history of Mulanje Mountain cultural landscape. Within the landscape, there is a strong association between the slave trade and its suppression. This mostly is reflected by historic features and architectural monuments like Fort Lister, Old Fort Anderson, the Old Church of Scotland Mission and Chief Nkanda, Matipwili, Chikumbu, Nyerezera and Mthiramanja memorial graves. Arab slave traders and their local associates used a route from *Liwonde* to *Zomba* past Mulanje to Quelimane before sailing to the Kilwa slave market in Tanzania, (Curry 1920). The forts in Mulanje were built to control and block such routes and the missions also were important in the suppression of the slave trade.

5.2.3.3 Natural Heritage

The natural heritage in Mulanje Mountain cultural landscape, in particular, botanical diversity, is important with regard to the manner in which it supports the belief systems associated with the Mountain. Most notable is the existence of an important traditional healing system which depends upon plants harvested from the mountain and the cultural values as a whole. The mountain on its own as a natural feature, other than merely being a vehicle that carries the traditional and cultural values, it has monumental qualities that have contributed greatly to the rise and maintenance of the intangible values through the traditional belief systems accrued to it.

5.2.4 Significance and Values of the Landscape

The most significant aspect of Mulanje mountain cultural landscape is the intangible values which are closely associated with the tangible nature of the mountain. The mountain's monumental qualities have contributed highly to the preservation of the intangible values of the mountain. Its associated belief systems have created a sacred landscape that demands its users follow a strict code of behavior that is both designed to protect them when visiting the mountain and to protect the resources of the mountain which sustain the communities that live in and around the landscape.

The mountain, therefore, is an exceptional example of a system where the needs of man and nature are combined into a system of mutual benefit with the resulting system providing the rules that have protected the mountain and eco-system in the past and today.

The Mulanje cultural landscape, by the writing of this thesis, was being nominated as a UNESCO World Heritage Site based on three selection criteria listed in the Operational Guidelines for the implementation of the natural and cultural World Heritage sites, namely criterion IV, V and VI, (UNESCO 2016).

Criterion IV stipulates that the heritage property should be ‘...*an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates a significant stage in human history*’. This criterion fits well with the Mulanje Mountain cultural landscape because it reflects a significant stage in human history and the transitions that show adaptation overtime. It reflects a traditional belief system that is inextricably linked to the mountain which together forms a landscape. The traditions and belief system that define this landscape have undergone changes over the past centuries through exposure to the slave trade, the colonial period that followed and the introduction of Christianity.

In criterion V, which requires that a heritage property should be ‘...*an outstanding example of the traditional human settlement, land-use, or sea-use which is a representative of a culture (or cultures) or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change*’. Mulanje Mountain cultural landscape fits well with this criterion because it is surrounded by human settlements where people practice both modern and traditional agriculture. The modern tea plantations are restricted to the southern section of the buffer zone around the mountain. Local people still practice the traditional form of African pastoralism and agriculture, especially in the buffer zone. They also extract a range of traditional resources from the mountain, notably medical plants, which feeds a wide range of trade networks.

For criterion VI, it requires that the heritage property should be “...*directly or tangibly associated with event or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance*’. The Mulanje cultural landscape is closely associated with the *Abatwa*, the short people. These are the earliest hunter-gatherers who lived in the landscape before the *Bantu* agriculturalist. Similarly, the traditional healers, herbalists and spirit mediums, guided

by spirit dreams, are able to access and use the potency of the mountain to the benefit of the people. The place is also associated with a great snake (*Napolo*) which became destructive if not properly treated. The snake is said to cause earthquakes, landslides, and floods that erase villages from the mountain slopes.

Integrity and Authenticity

The Mulanje mountain cultural landscape encompasses the whole mountain, the areas in which cultural practices take place and all the major associative sites. The proposed buffer zone includes some of the villages where the local people live. The rock structures that make up the landscape are intact, and various conservation efforts have been put in place to maintain the integrity of the physical and cultural landscape. The preservation of the authenticity and integrity of the landscape is the responsibility of the various institutions of the Malawi Government like Department of Forestry, Department of Environmental Affairs, Department of Museums and Monuments, among others.

However, development pressure is the main factor threatening the integrity of the cultural landscape. This need to be carefully planned and managed. Traditional roles are changing under the impact of international culture, thereby also changing the mechanisms that have so long supported appreciation of the Mountain. Intangible heritage of this kind is inherently vulnerable, and future action will be needed to record and document what is there, and to make local people aware of the international value of the cultural landscape as part of global culture. Similarly, conservation efforts will have to maintain the standards needed to ensure that the resources of the Mulanje Mountain are protected from exploitation by outsiders who do not understand the traditions that govern the place.

5.2.5 Factors affecting the Mulanje Cultural Landscape

There are a number of factors affecting the conservation and management of the Mulanje Mountain cultural landscape. These include the following: mining, resource extraction, human encroachment and agriculture, fires and natural disasters. However, this thesis has only focused and researched in detail the effect of mining development on the protection and management of sub-Saharan cultural landscapes.

i. Resource Extraction

Some 12% of the total land area around Mulanje is residential, with an average density of 208 people per square kilometer. These are generally subsistence livelihood villages dependent on smallholder farming. The population growth rate is high. There is also overexploitation of indigenous trees in the forest leading to deforestation in other areas. Hunting and illegal poaching in and around the mountain is also a challenge.

ii. Human encroachment and agriculture

There is some concern about incidents where local inhabitants cross the forest boundaries, cultivating several hectares of land inside the forest and thereby impacting on the biodiversity. Land cleared for subsistence agriculture generally does not sustain farming for more than two consecutive years, and erosion takes place once the encroacher has been removed or the land is abandoned. Agricultural interventions also introduce invasive alien plants and animal species to the mountain. A significant amount of land around Mulanje Mountain cultural landscape is also used for commercial tea plantations, which has permanently transformed the ecosystem, but which provide work opportunities in a commercial sector and reduces pressure on protected areas.

iii. Fires and Natural Disasters

Uncontrolled burning is also one of the challenges threatening the conservation and management of the Mulanje Mountain cultural landscape. Over the past 10 years, the incidence of fire has increased, due partly to inadequate capacity by the forestry department. In 1991, the famous Phalombe disaster took place. A landslide came down from the source of Phalombe and other rivers from the Mulanje and Michese mountains and swept away a number of villages and properties.

iv. Mining Development

The area in which Mulanje Mountain is situated is geologically rich in mineral resources such as bauxite and Rare Earth metals. In developing countries such as Malawi, exploitation of these mineral resources contributes to economic growth, uplifts and empowers communities through the creation of employment opportunities, and provides social amenities such as schools, hospitals and safe drinking water as part of the corporate social responsibilities. In as much as mining development projects have these positive potential benefits, unsustainable extraction of the mineral resources has the potential to harm cultural attributes and outstanding values in most cultural landscapes.

Exclusive property licenses were issued by Malawi Government to some of the mining companies to carry out exploration activities in an area of approximately 1050km² for bauxite and Rare Earth Elements (REE) in Lichenya and Linje plateaus and Chambe basin of Mulanje Massif, (Malunga 1998; Aitken 1964). (Refer Figure 5.4 for a map showing exploration areas). This mountain has historically been subject to various mineral prospecting activities as it is widely believed to contain large deposits of bauxite and high value of heavy Rare Earth metals, (Malunga 1998; Malunga et al 1991).

There is an estimation of about 28 million tonnes of bauxite deposits in Mulanje Mountain and it has been a subject of a number of feasibility studies and environmental discussions, (MET-CHEM, Canada Inc. 1994; Austroplan 1990; LONRHO Malawi 1973). Mulanje bauxite is a residual product which has resulted from the weathering of syeno-granitic rocks that form Mulanje massif. Six extensive bauxitic areas have been identified, but the best deposits are found on Lichenya and Linje plateau, on top of the Mulanje Mountain, (see figure 5.4). The bauxite deposits exist in form of lenses which are located on the plateau at an elevation between 1800 and 2000 meters above sea level. According to the feasibility studies conducted by MET-CHEM (1994). The proposed mining output has been set at 580,000 tonnes of bauxite on the dry season to produce 200,000 metric tonnes of alumina per year to meet an annual production of 100,000 metric tonnes of aluminium. The processing methods will be employed to produce alumina and aluminium.

This scale of mining operations will impact negatively on the heritage resources of the Mulanje Mountain cultural landscape, and the social-cultural values of the local communities around it. While, in purely economic terms, mining appear to be viable, however, the environmental repercussions of the mining developmental initiatives will have irreparable and damaging effects on the attributes and values of the cultural landscape. Advocates of mining still argue in favor of the mining projects, and on the other hand, ecologists and environmentalists still put up a gallant fight to stop this proposal.

5.3 Case Study II: Mapungubwe Cultural Landscape, South Africa

5.3.1 Location of Mapungubwe Cultural Landscape

The Mapungubwe cultural landscape is situated in the physiographic region known as the Lowveld in an ancient valley that includes the confluence of the Limpopo and Shashe rivers on

the border between South Africa in the south, Zimbabwe in the north east and Botswana in the west. (See

for a map showing all World Heritage Sites in South Africa and the location of Mapungubwe Cultural Landscape in Limpopo province, northern part of South Africa).

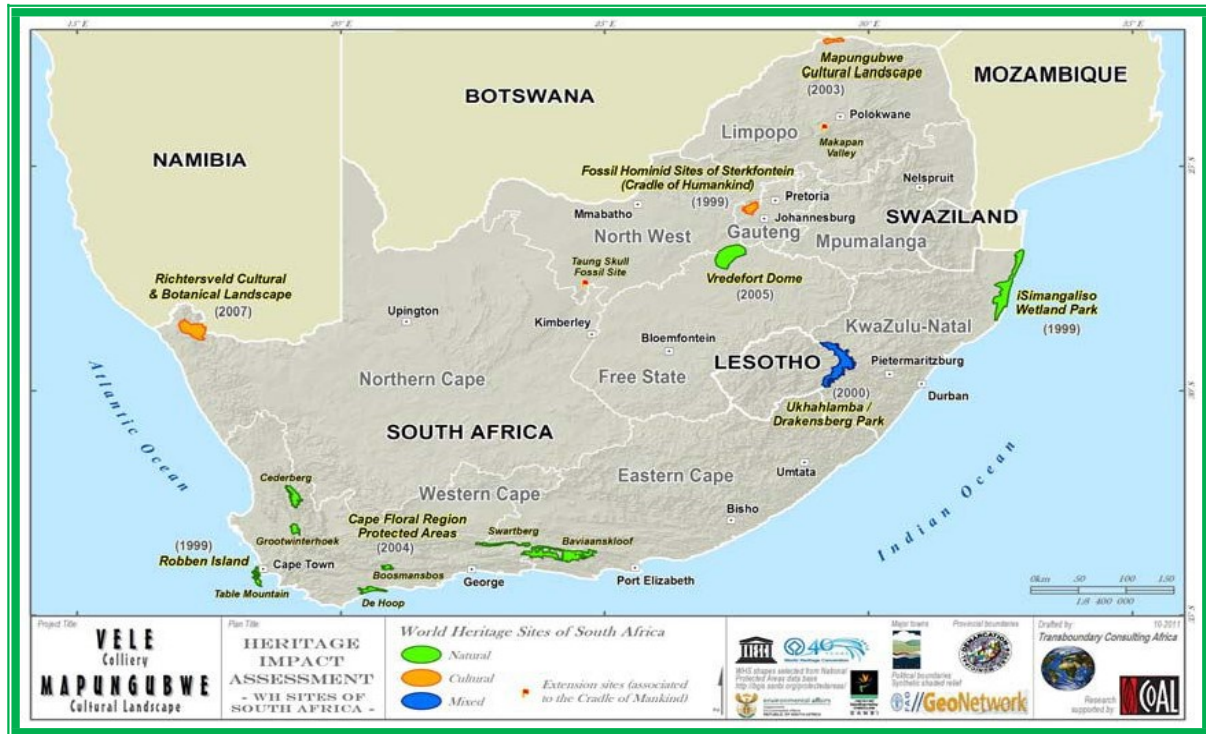


Figure 5. 5. World Heritage Sites in South Africa and years of inscription on World Heritage List and location of Mapungubwe Cultural Landscape. Source: HIA (2012)

The landscape was listed as a UNESCO World Heritage Site in 2003. The landscape has a core zone of approximately 28,186 hectares which stretches from the point drift in the west for about 35km to Schroda in the east and stretches from the Limpopo River in the north to the tarred road

linking Point Drift and Musina in the south. (See also

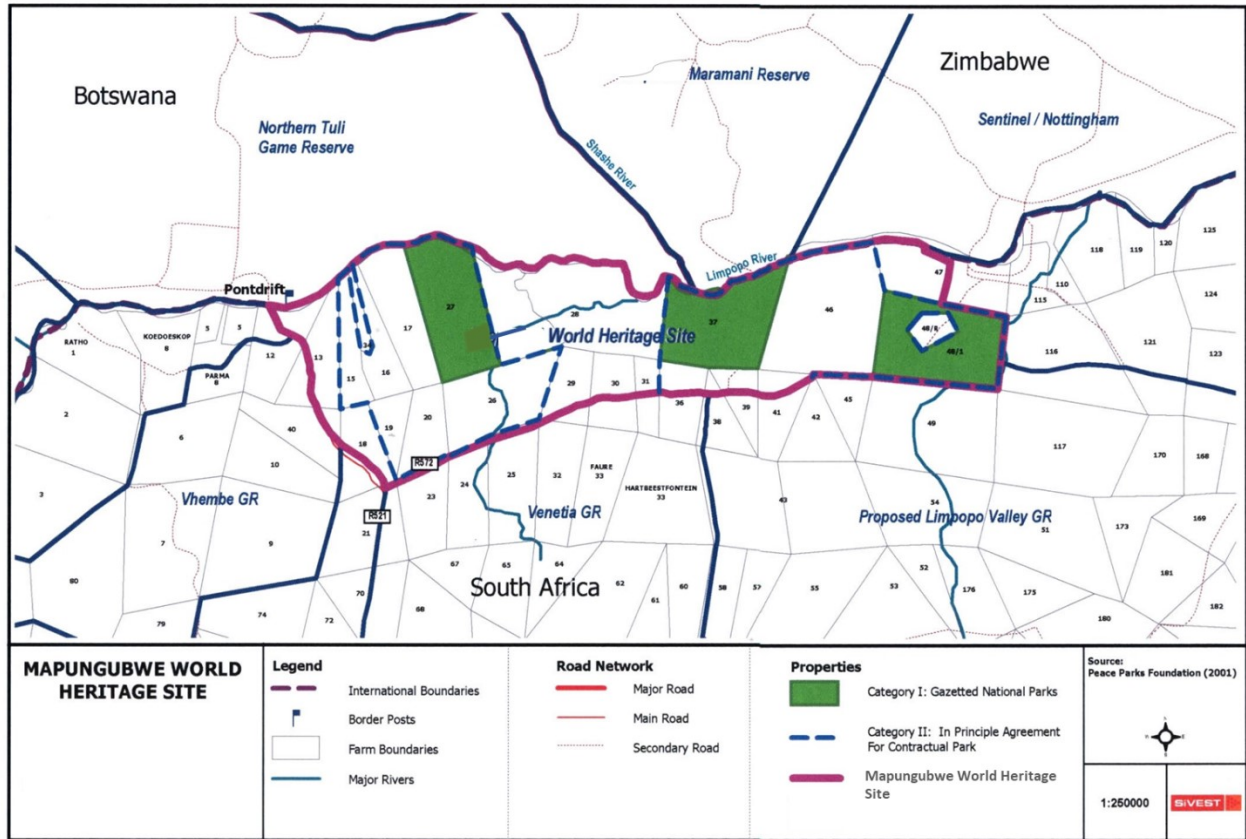


Figure 5. 6 and Figure 5.8. showing location of Mapungubwe cultural landscape and its core and buffer zone respectively).

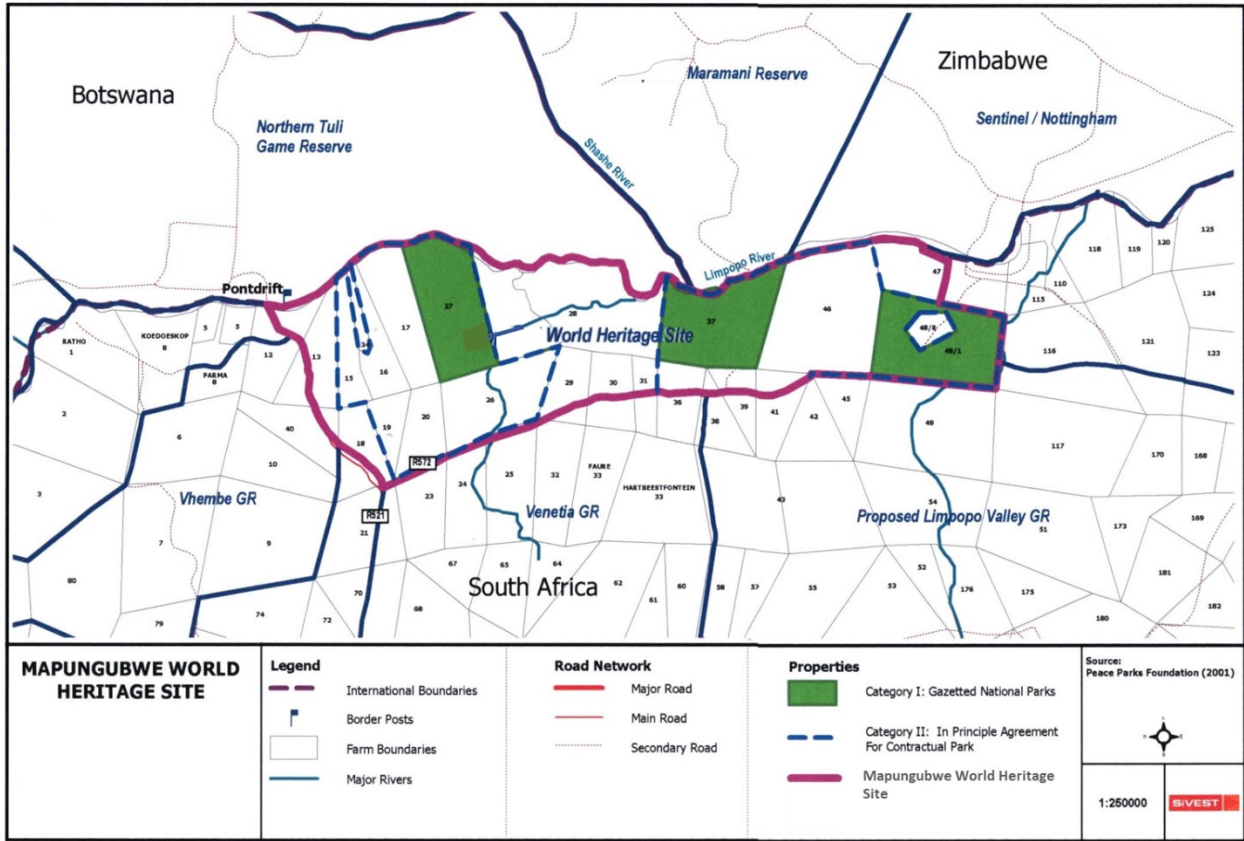


Figure 5. 6. Map of Mapungubwe Cultural Landscape WHS.
Source: HIA (2012)

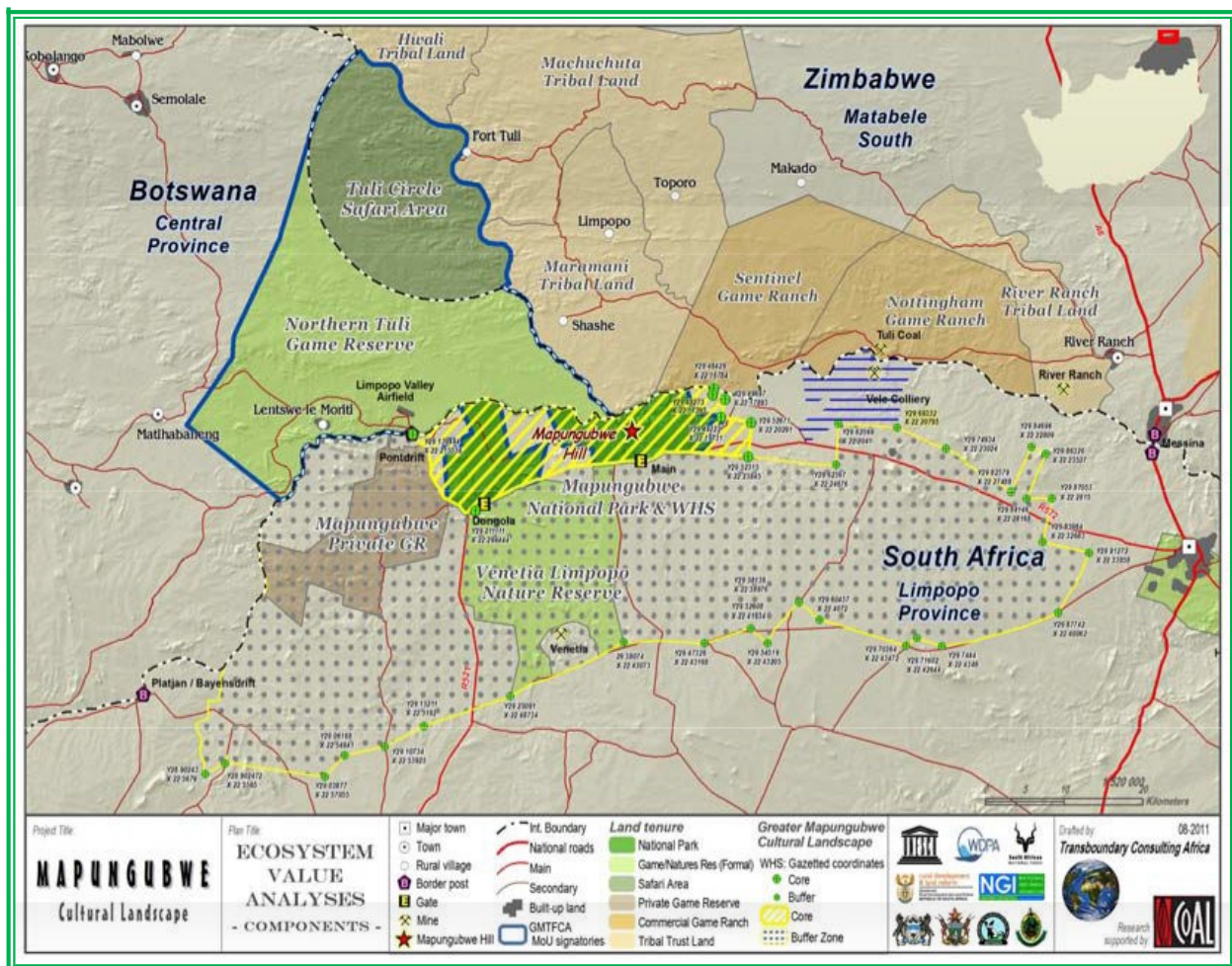


Figure 5. 8. Map of Mapungubwe Cultural Landscape WHS, illustrating the core and buffer zone. Source: HIA (2012)

This landscape is well known for its tangible and intangible traces of the powerful indigenous kingdom in southern Africa that evolved between AD 900 and 1300. The people whose culture shaped and was shaped by this landscape laid the foundation for subsequent southern African class-based societies and settlement patterns, including those at Great Zimbabwe and Khami in Zimbabwe (Kuman et al 2007).

The kingdom flourished as a result of new and ideological values which was brought about by the participation of the Indian Ocean trade networks along the east coast of Africa, combined with the rich natural resources and ideal climatic conditions that allowed sustainable agriculture for a large population, (Tiley 2006). Fundamental social adjustments to the consequences of accumulated wealth in products such as gold, ivory, glass beads and cotton cloth, were reflected in the social

and physical separation of the elite class and sacred leader on the top of Mapungubwe Hill, with commoners on the plains below. The power of the ruling class is still evident from their distinctive hilltop graves and grave goods such as golden rhinoceros.

Over 400 archaeological sites in the core of the area contain tangible evidence of the evolution of this indigenous kingdom, (Huffman 1984). It had its roots in changes that began when early Iron farming people migrated southwards from West Africa between 350 and 600 AD and came into contact with San hunter-gatherers. Three main phases of subsequent development are recognized in the Mapungubwe cultural landscape.

The first phase, known as *Zhizo*, lasted from about AD 900 -1020 and is best preserved at the site of *Schroda*. The second phase, known as *Leopard's Kopje* dated about AD 1020 – 1220. The most elaborate settlement during the third phase was on the Mapungubwe Hill and the adjacent southern terrace and dated from AD 1220 – 1300, (Kuman et al 2007; Huffman 1984). The power of the kingdom ended abruptly with the onset of the Little Ice at the end of the 13th century. Resultant drought made it no longer possible to sustain the growing population and the power base for trade shifted to Great Zimbabwe, (Calabrese 1998). Some of the cultural practices of the present day Shona and Venda peoples originated during this historical process.

At the height of its importance, between AD 1220 and 1300, the Mapungubwe cultural landscape sustained a population of at least 9000 people, (Van Doornum 2005). Regular flooding of the Limpopo River provided silt and water for crops. Grazing lands enabled stock to be kept. Elephants were hunted for their ivory and other animals for their hides, while several steep-sided hills were used as ritual sites for rain-making. At least one of them, Mapungubwe Hill, was gradually modified over the years by the addition of tonnes of soil carried to the hilltop to provide the foundations for the elite homesteads and burial grounds. The sites retained much of their original integrity as well as the intangible values with which they were imbued more than 700 years ago, (Calabrese 2000).

5.3.2 The Physical Environment

Topology and Geology of the Area

Geologically, the core area of the Mapungubwe cultural landscape is centered on a relatively isolated outcrop of sandstone hills, underlain by red mudstones and intruded by dolerite dykes. The formation is part of the Karoo System. The sandstones are up to 300m thick in some places. They are strategically correlated with the Clarens Sandstone Formation, formally known as Cave Sandstone, that formed during the Triassic period between 225 and 190 million years ago and they contain fossils of that time period, (Kent 1980). The sandstones have been used in Mapungubwe cultural landscape as ideal surfaces for rock paintings. The dolerites are intrusive and date to between the late Triassic and Cretaceous period. Most of the land in the core area is between 500 and 630m above sea level.

Mapungubwe cultural landscape comprises an attractive semi-arid landscape with variation in geology, including extremely old Archaean rocks, metamorphic of intermediate age, karoo sandstone/conglomerate uplands that are about 200million years old, and recent alluvium and sands, (Kent 1980). The elevation is generally low with the highest point at 626m. Kimberlites of about 100 million years old are found in the region, and a large diamond exists at Venetia, about 50km south of the park boundary. Coal reserves have been identified in the park and on neighboring properties. A limited range of fossils is associated with the karoo and kimberlite formations. A variety of soils are present, with large areas characterized by sandy, lime-rich soils generally deeper than 750 mm. This region is linked to one of the oldest known geological features in the world. The landscape is surrounded by the terrain of the Archaean granulite-grade rocks of the central zone of the Limpopo belt, believed to have developed during the collision of the Kaapvaal craton and the Zimbabwe craton 2700 million years ago, (McCarthy and Rubidge 2005).

Vegetation

Vegetation on the soils derived from the mudstones and sandstones is classified as Mopane Veld, a Savanna Bushveld dominated by the shrub *Colophospermum mopane*. The mopane trees grow to a full height of 6 meters when it is established on deep sandy soils, but in most of the Mapungubwe cultural landscapes, its growth is stunted by shallow soils and limited water. Along the Kalompe River, there are numerous tall Mopane trees in the deep alluvial soils, together with a variety of acacias and other trees such as *Marula* and baobab (*Adansonia digitata*), riverine species and grasses.

Climate and Rainfall

The climate of the Mapungubwe landscape is sub-tropical with rare frost and mean daily temperatures of about 17°C in winter and 25°C in summer. Rain falls mainly in summer but is erratic both seasonally and from year to year and ranges from 350 to 500mm per annum. Part of the reason for the low rainfall is that the landscape lies at a low altitude of less than 500m above sea level and is in the rain shadow of the higher and more extensive Southpansberg range to the south and east.

5.3.3 Cultural Heritage of Mapungubwe Cultural Landscape

Human settlement in the Mapungubwe cultural landscape has a long history and extends beyond the boundaries of the park into Botswana and Zimbabwe. The earliest archaeological sites date back more than a million years with evidence of earlier Stone Age tools made by the ancestors of the modern humans found within the landscape. Several sites have been excavated (Pollarolo and Kuman 2009). In addition, there are sites dating to the Middle Stone Age and Later Stone Age as well (Hall and Smith 2000). These Stone Age people were all hunter-gatherers who lived both within rock shelters and out in the open. Within the last few thousand years, the San people made numerous rock paintings that illustrate animals such as giraffe, elephant and rhinos, (Eastwood and Cnoops 1999; Eastwood 1999). Archaeological excavations in several rock shelters indicate that ancestors of the San people occupied the landscape for nearly 13,000 years (Van Doornum 2005) moving away only after interaction with the incoming of Iron Age farmers for several hundred years between 900 and 1300 AD (Hall and Smith 2000).

Archaeological research between the 1930s and the present has provided much evidence for the most significant period of human settlement in the Mapungubwe cultural landscape, when it was the centre of the first known powerful indigenous kingdom in southern Africa, established by cultural ancestors of many of the peoples living in present-day Limpopo province, (Huffman et al 2000; Calabrese 2000). Evidence of this occupation and history is preserved in hundreds of archaeological sites in South Africa, Botswana and Zimbabwe (Huffman 2000). Wealth accrued by its leaders, through trade from the Indian Ocean network (Wood 2000), resulted in social organisations changing in a situation in which the ruling elite lived separately from commoners. Due to a combination of political and climate change, the people of the kingdom dispersed after AD 1300, with the center of regional power shifting to Great Zimbabwe, north of the Limpopo

River (Smith 2005). The wealth of Mapungubwe was realized in the 1930s when extensive archaeological research uncovered valuable artifacts on the sacred hill, (Tiley 2006). More recent research at several related sites has uncovered the extensive historical importance of the wider region (Carruthers 2006).

Pre-colonial land-use included usage of different landscape positions in the Earlier Stone Age (river terraces) (Pollarolo and Kuman 2009), Middle Stone Age (talus slopes, that is slopes covered with loose rock) and Later Stone Age (caves) by hunter-gatherers, and within the last 2000 years by Khoi herders (Hall and Smith 2000). Early Bantu-speaking farmers kept livestock and grew crops on the lower-lying ground with better soils, while hilltops were favored by the elite and were considered important for rain-making (Huffman et al 2000).

According to the Nomination Dossier which was submitted to UNESCO in 2002, (UNESCO document 1099 of 2002) the Mapungubwe comprises of the following:

- Remains of palaces dating to the Mapungubwe period, AD 1200 to 1300;
- Archaeological remains testifying the beginnings of Mapungubwe dating from 300 to 1200 AD, represented by *Zhizo* and *Leopard's Kopje* cultures or communities.
- Remains of early settlement attributed to the Stone Age, the Early Iron Age and Rock Art traditions in the area;
- Natural landscape surrounding the built remains;
- An intangible heritage which comprises of Mapungubwe Hill itself which is associated with sacredness, beliefs, customs and traditions of local communities;
- A living heritage that is associated with continuing traditions of rainmaking, participation by local communities in reburial ceremonies; and
- Landscape sharing and interaction between farmers and hunter-gatherers.

5.3.4 The significance of the Landscape

The Mapungubwe Cultural Landscape has been inscribed on the UNESCO World Heritage Site as a cultural landscape based on the following UNESCO World Heritage inscription criteria II, III, IV and V. The criterion II states that a heritage property should ‘...*exhibits an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture, or technology, monumental arts, town-planning or landscape*

design'. The Mapungubwe cultural landscape contains authentic evidence for an important interchange of human values that led to cultural and social changes in Southern Africa between AD 900 and 1300. These values are reflected in evidence for international trade in the Indian Ocean network that created wealth in the community, causing ideological adjustments and changes in architecture and town-planning. The archaeological evidence shows a shift from a 'central cattle pattern' town layout to a pattern influenced by an elite class with sacred leadership in which the king was secluded on the top of the Mapungubwe Hill.

The second criterion III which states that a heritage property should, '*...bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which has expired*'. For Mapungubwe cultural landscape, until its demise at the end of the thirteenth century, it was the most important inland settlement in the sub-continent. The cultural landscape contains a wealth of information in archaeological sites that record the development of the kingdom from relatively small settlements based on a central cattle kraal to a capital with separate areas for the elite and commoners. High-status burials containing several unique gold leaf items that once covered wooded sculptures, as well as thousands of gold beads, provide the earliest physical evidence of substantial gold working in the sub-continent. Another important significance of the Mapungubwe cultural landscape is the sacred rain making rituals, which remained an important intangible heritage of the local people.

A third criterion IV used states that a cultural heritage property should be '*...an outstanding example of a type of architecture and technological ensemble and landscape which illustrates a significant stage in human history*'. The landscape is significant in relation to its context in international trade, combined with ideal climatic conditions for agriculture, which have effectively changed the human settlement and cultural traditions which led to the establishment of a sacred leadership. It is the only geologically defined cultural landscape in the region that includes such a full set of successive stages in the early history of this process. Hunter-gatherer and herder rock paintings record some of the ideological and economic changes and new metaphors of power that arose when Iron Age farmers settled in their territory in the first millennium AD.

A final criterion V which was used for the inscription of the Mapungubwe cultural landscape as a World Heritage Site states that, a cultural heritage property should, '*...be an outstanding example*

of a traditional human settlement and land-use pattern which is representative of a culture or human interaction with the environment that became vulnerable under the impact of irreversible change'. The Mapungubwe cultural landscape records the sequence of spatial changes that reflect the evolution of class distinction and sacred leadership. These are the only places where exotic trade and non-utilitarian items have been found in large quantities. The combination of accumulated wealth from trade, annual renewal of agricultural soil on the floodplain, population growth during a period of favorable climate, and a landscape that lent itself to the spatial expression of class distinction allowed a complex society to evolve.

According to World Heritage cultural landscapes' categories as presented in the UNESCO operational guidelines for the implementation of World Heritage properties, (UNESCO 2016), the Mapungubwe cultural landscape falls under the 'organically evolved landscape' that has resulted from an initial social, economic, administrative and religious imperative and developed by association with and in response to its natural environment. Such landscapes reflect the process of evolution in their form and component features. The Mapungubwe cultural landscape also falls into the sub-category of a relict (fossil) landscape in which an evolutionary process came to an end at some-time in the past, either abruptly or over a period of time. Its significant distinguishing features are, however, still visible in material form. The landscape also fits well as an associative cultural landscape, by virtue of the powerful religious, artistic and cultural associations of the cultural elements of the landscape rather than material cultural evidence, which may be insignificant or even absent.

The Mapungubwe cultural landscape evolved in response to the social imperatives that required a regional population of sufficient size to enable a hierarchy of settlements to develop that would maintain political control and a critical mass for the exchange of goods; subsistence imperatives that utilized ideal climatic, hydrological and geomorphological conditions to develop agricultural production and sustain the largest population living in the area. It also evolved in response to the economic, administrative and religious imperatives that drove the internal trade in hides, ivory, gold, and cotton; and maintaining the hierarchy of elite sacred leaders and commoners.

Attributes Mapping

The ICOMOS Guidance on Impact Assessments (2010), emphasizes the need to identify, define and list the attributes that convey the Outstanding Universal Values, (OUVs). This makes it easy to evaluate the impact of mining on these attributes individually and collectively. (See Table 5. 2 below for the list of attributes in Mapungubwe cultural landscape).

Table 5. 2. List of attributes in Mapungubwe cultural landscape.

Criterion	List of Attributes that convey the OUV
II-MCL has evidence of interchange of human values.	<ul style="list-style-type: none"> - The Limpopo River was important for local and international trade. - Individual Iron Age sites of archaeological importance, and an ensemble of sites, collectively demonstrate interactions that led to far-reaching social and cultural developments. - Rock Art, hunter-gatherer and Iron Age sites that demonstrate landscape sharing between farmers and hunter-gatherer peoples. - Archaeological objects that are a testimony of local, regional and international interaction. - Intangible values and living traditions associated with contemporary communities.
III – MCL contain remains that are a testimony to the growth and subsequent decline of Mapungubwe which at its height was the largest kingdom in the African subcontinent.	<ul style="list-style-type: none"> - Collectively, the archaeological heritage sites of Mapungubwe demonstrate interactions that led to the rise and decline of Mapungubwe floodplains of the Limpopo River anchored the agriculture that sustained the state individual Khami, Venda, Sotho-Tswana and recent sites that show cultural succession in the MCL area.
IV - Establishment of Mapungubwe as a powerful state trading through the East African ports with Arabia and India was a	<ul style="list-style-type: none"> - The Limpopo River was significant for local and international trade. - Individual local and exotic objects that are testimony to the global, regional and international trade.

significant stage in the history of the sub-continent.	<ul style="list-style-type: none"> - The Limpopo flood plains host elephants which were hunted for ivory. - Natural landscape, rivers, valleys, and mountains.
V – The remains in the Mapungubwe cultural landscape graphically illustrate the impact of climate change and record the growth and then decline of the kingdom of Mapungubwe as a clear record of a culture that became vulnerable to irreversible change.	<ul style="list-style-type: none"> - The ensemble of archaeological heritage sites, collectively, demonstrates the interactions that led to the rise and decline of Mapungubwe. - Floodplains of the Limpopo River anchored the agriculture that sustained the state.

5.3.5 Factors affecting the Mapungubwe Cultural Landscape

There are a number of factors affecting the conservation and management of the Mapungubwe cultural landscape. These include the following: infrastructure development, intensive agriculture, natural disasters, and mining. However, the effect of mining development had been emphasized in this thesis.

i. Infrastructure Development

Infrastructure development is one of the major factors that cause the destruction of the archaeological sites. The removal of topsoil during access road construction, mining and other earth removing events destroys the heritage sites. In the MCL, there has been an increase in game farming in the recent years. Game view trails expose top soil thus placing sites at risk. The construction of infrastructure for tourism also exposes the soil. Open cast mining and other developments produce dust which affects the rock art sites around the landscape.

ii. Intensive Agriculture

The Shansi-Limpopo area is well-known for large-scale, intensive commercial agriculture which has an effect of destroying the heritage sites. There is still some mechanized agriculture within the Mapungubwe cultural landscape. There is also citrus plantations inside Vele Colliery. Activities involving mechanized agriculture generate considerable dust whose effect on the rock art has so far not been quantified.

iii. Natural Disasters

Rainfall is one of the major threat to the integrity of the Mapungubwe cultural landscape. Although the middle Limpopo region receives little rainfall, occasionally it gets large amounts of rainfall which cause considerable gully erosion and which create badlands. Rainfall washes away the top soil, disturbing archaeological remains, and their associated contexts. The soil erosion caused by rainfall exposes artifacts making it easier for them to be looted. Periodic flooding has also been happening in the middle-Limpopo during the last and current century, and it is thought that some sites within the Limpopo floodplain have been buried under sediment. Uncontrolled vegetation growth causes the destruction of sites. Tree roots grow through archaeological contexts thereby disturbing them by moving artifacts, features, and structures. Natural and human-induced fires have also destroyed ground cover thereby exposing sites to conditions that promote erosion. All sites located in areas with grass and woodland are under threat of fire.

iv. Mining Development

Mining potential in Mapungubwe cultural landscape is due to rich mineral deposits primarily coal and diamonds. The South African Department of Mineral Resources has provided some mining companies' exploration rights as the quality of the coal found in the region is high. Mining projects supported by the regional and national government on the South African portion of the cultural World Heritage landscape of Mapungubwe has recently caused a huge controversy as they negatively affect the landscape (Carruthers 2006). There are two mines in the greater Mapungubwe landscape, namely the Vele Colliery and Venetia Mine. Vele Mine is currently not operational whilst the plant is modified in order to produce different coking and thermal coal products. Venetia diamond mine is in operational. These mining operations have different negative effects on the protection and management of the cultural landscape.

Venetia Diamond Mine

The Venetia diamond mine is situated on a 3000 hectares stretch of land in the Vhembe District of Limpopo province. It is located approximately 25km south of the core of the Mapungubwe World Heritage Cultural Landscape. The mine was commissioned in 1992, and the World Heritage listing was done in 2003, hence it took into consideration the existence of Venetia Mine and its associated operational auxiliary infrastructure and asset that were there (MMCL 2003).

Venetia Mine is currently operating as an open pit diamond mine and has been since 1992. To ensure the sustainability of the mine and to optimize the extraction of the diamondiferous kimberlite ore, the mine has been converted to an underground operation. This 'expansion' is more accurately defined as a change in mining method from the conventional open-pit mining method to an underground mining method. Due to the depth of the current open pit, and the fact that it will be un-economical to mine at a depth exceeding 400m, a decision was made to change the mining method to an underground operation. It was reported that this change in mining method will not increase the size of the current disturbed mining footprint and will have a significant impact on the reduction in the amount of waste rock that is generated from mining. The stripping ratio of the underground mine is estimated to be 50 tonnes of ore to 1 tonne of waste, which is significantly less waste than the open pit mining methods.

The underground mining method requires certain infrastructure to be constructed to access the diamond bearing ore underground. The development site for the underground infrastructure was chosen due to its proximity to the open pit and the main kimberlite resources. The current disturbed mining area equates to 2200 hectares and the underground development site is approximately 27 hectares. The underground site has been constructed in a previously disturbed area and consisted of vertical shafts and a decline shaft. Once the ore is mined underground, it is brought to the surface where it is treated through the current treatment plant, and both mineral residue facilities handle the coarse and fine residues without exceeding the current mine boundaries.

A number of feasibility studies have been carried out as part of the requirement by the South African government before embarking on any new development outside the already issued operational licenses. These studies comprised of; Concept studies in 2008, a Pre-feasibility study in 2009 and Feasibility studies in 2010. As part of the feasibility studies, Environmental Impact Assessment (EIA) studies and Environmental Management Programme (EMP) studies were also conducted and these included the required specialist studies on the biophysical and socioeconomic conditions of the study area and stakeholder engagement and public participation. As part of the EIA and EMP authorization for the underground mining project, a Heritage Impact Assessment study was also undertaken. Subsequent to the submission of the different reports, relevant environmental authorizations were issued.

It has also been noted that the Venetia Mine owns and operates various infrastructures related to the pumping and conveyance of water to the mine within the Mapungubwe World Heritage Cultural Landscape. With the change in mining method, there have been no further requirements for the increase in water consumption at the mine, therefore, the current infrastructure within the Mapungubwe cultural landscape is servicing the underground mine as well. The main consumer of water on the mine is the treatment plant, where the kimberlite ore is crushed and washed to liberate the diamonds, the underground mine is using the same treatment plant thus no increase of water was required.

Vele Colliery Coal Mine

An Australian company, Coal of Africa Limited (CoAL) has recently been given a go-ahead to begin construction of an opencast and underground coal mine called the Vele coal mine. The mine is located 5.6 km to the east of the Mapungubwe Cultural Landscape (MCL) World Heritage Site and bordering directly with the World Heritage Site buffer zone. As indicated in the Vele Mine's Environmental Management Programme (EMP), 50% of the mine's west pit will overlap the viewshed protection area around the Mapungubwe Cultural Landscape.

5.4 Chapter Summary

This chapter has provided an overview of the two World Heritage cultural landscapes case studies that have been used in the research in order to generate data for the thesis. This includes Mulanje Mountain Cultural Landscape in Malawi, a site on the UNESCO World Heritage Tentative List, and Mapungubwe Cultural Landscape in South Africa, a site listed as a UNESCO World Heritage cultural landscape. A general background of Mulanje Mountain and Mapungubwe cultural landscapes has been provided. This is in terms of their historical, geographical, and social-cultural background of the two landscapes. Thereafter, an overview of the attributes and significance of the landscapes has been discussed and compared between the two cultural landscapes. This is in terms of the cultural heritage attributes of the landscapes and the associated intangible values attached. The last part of the chapter has presented some of the factors affecting the conservation and management of each cultural landscapes with a detailed discussion of the mining development as a specific threat being investigated and affecting the conservation and management of cultural landscapes in most parts of sub-Saharan African countries.

The information generated from the analysis of the case studies has been a basis for the development of the integrated management planning methodological framework that has been suggested in this thesis, (see chapter 8 for a detailed discussion). This has helped to contextualize the landscape and assess the interaction which is there between the local communities and the natural environment.

The next chapter to follow will present the detailed results of the field research carried out in Mulanje Mountain and Mapungubwe cultural landscapes, investigating the perceptions of local people and other stakeholders on issues concerning mining, conservation, and management of cultural landscapes. The focus was on understanding how local people and other stakeholders perceive issues of mining and heritage conservation in cultural landscapes.

CHAPTER SIX

6 PERCEPTIONS OF LOCAL PEOPLE AND OTHER STAKEHOLDERS ON PROTECTION OF CULTURAL LANDSCAPES

6.1 Introduction

In this chapter, perceptions of local people and other stakeholders on issues concerning mining and management of cultural landscapes have been presented. The focus has been on an understanding of how local people and other stakeholders perceive issues of mining and heritage conservation in cultural landscapes. Specific areas of investigation included examination of levels of awareness from different types of stakeholders on issues concerning protection of cultural landscapes which are at risk of mining development; local people's involvement on decision-making on issues to do with management of cultural landscapes; identification of different types of stakeholders and their role in the conservation and management of different aspects of cultural landscapes; and an assessment of conflicting interests among different stakeholders on the utilization of resources of cultural landscapes. Therefore, this chapter has broadly been organized in three parts. The first part has discussed the general perception of local people, followed by an identification of key stakeholders and their views on mining and cultural landscape. The final part has discussed community involvement as a key aspect in cultural landscape management and possible conflicting interests among stakeholders.

6.2 Valuing Cultural Landscapes from Local People's Perspective

In Chapter 5 of this thesis, a detailed review of the attributes and values of Mulanje and Mapungubwe cultural landscapes has been discussed. Further to understanding key aspects of the landscapes, a participatory ethnographic research was carried out among local people and other stakeholders. The aim was to solicit their views and perceptions in order to understand and properly plan the effective use and management of cultural landscapes. According to the general views of local people, it has been observed that not all aspects and features of cultural landscapes are significant to them. Various community groups and other stakeholders value the landscape differently.

However, almost all local people interviewed in Mulanje and Mapungubwe cultural landscapes, respect their cultural landscapes and the ancestral spirits which they believe are residing there. They consider the surrounding spaces and the landscapes in general as their homes. To them home refers to the broader landscapes which they have a traditional territorial claim and it gives them an identity as a community with strong socio-cultural values closely linked to the surrounding environment. Therefore the proposed management planning framework in this thesis has integrated this traditional viewpoint as a crucial aspect in order to safeguard the local cultural identity in times of mining development. Any mining development project that will not integrate these community perceptions will be in conflict and interference with some of the socio-cultural values associated with these cultural landscapes.

The research has therefore revealed that most of the local people who participated in the interviews and focus group discussions had negative views about mining in and or around cultural landscapes, arguing that their ancestors will not be happy and it will desecrate the sacredness of these landscapes. However, there were other individuals from the local groups who argue that mining is important because it provides job opportunities within their rural communities.

6.3 Stakeholders Identification and Consultations.

Stakeholder identification is key before implementing the proposed management planning framework in cultural landscapes. Determining who will be stakeholder representatives is very important when planning for mining development initiatives in cultural landscapes. Ideally, each stakeholder groups should be allowed to determine their own representatives, and efforts must be made to ensure that representatives of all groups are included, (Phoya 2018). During the research, some of the relevant stakeholders concerned with mining development and conservation of cultural landscapes were engaged and consulted. This was considered an important process to ensure that a wide range of stakeholders had inputs in the integrated strategic planning methodological framework that has been developed through this research.

Most African cultural landscapes are living heritage sites with multiple stakeholders. Identifying these different stakeholders with a stake in the management and utilization of the resources of cultural landscapes was one of the tasks of this research project. In this thesis, the concept of stakeholder has been broadly defined as anyone associated with cultural landscapes or issues

related to it, (Smith 2009). Under this broad definition, the concept of stakeholder encompass any person, group or organisations with one of the following characteristics: has an interest or concern or stake in the situation, issue, or will be fundamentally affected by outcomes of the mining on cultural landscapes; has power or authority, or may otherwise be needed to implement any outcome or solution as regards to mining and heritage conservation; may try to undermine the mining development projects or landscape conservation issues if not meaningfully involved; or has resources to contribute to the mining development process and cultural landscape conservation programmes, (Smith 2009).

In this research, some of these stakeholders have been identified and representatives interviewed in order to understand their perceptions and views on the proper management of the landscapes in times of mining development projects. Different stakeholders attribute different interests, values, and identities which are considered important to them. In order to clearly articulate and incorporate the views and ideas of all stakeholders who participated in the research, a combined focus-group-discussions and interviews were used to collect relevant data from the targeted case studies. Four levels of stakeholder groups were identified and consulted (see Table 6. 1). These include government agencies, mining companies, and local communities, especially those with land claims in the area, non-governmental organizations and civil society groups. It has been observed that all these stakeholders have different perceptions, interests, values, and belief systems as regards to utilization of the natural and cultural resources of the targeted landscapes. According to Jawahar and McLaughlin (2001), they have defined stakeholder engagement as a process in which individuals, groups, organizations, and associations are actively involved in setting goals, formulating and evaluating policies and planning and implementing the programs concerning cultural landscapes.

One of the challenges encountered in the identification of stakeholders was mainly on choosing legitimate stakeholders with a direct stake on issues of cultural landscapes. Therefore a stakeholder situational analysis was conducted in order to identify and select the right stakeholders to be interviewed. Careful consideration of the identification was done to avoid leaving out core stakeholders or including stakeholders perceived as illegitimate on issues to do with mining and cultural heritage protection. The stakeholder engagement process has been integrated into the management framework which has been discussed in detail in chapter 7. The framework has

proposed an approach of inclusivity in order to increase legitimacy in the implementation of development projects in cultural landscapes. It has suggested the representation of each of the stakeholder groups who are able to stand up for the needs and concerns of the cultural landscapes.

The Table 6. 1 below summarizes some of the stakeholders that have been identified and consulted and their responsibilities. During the consultation processes, the main focus of discussions has been on soliciting views from individuals on impacts of mining development programmes on the attributes and values of cultural landscapes and suggesting management measures to mitigate the adverse impacts of mining activities.

Table 6. 1. Stakeholders identified, consulted and their responsibilities.

Stakeholders	Responsibilities
<p>Government Agencies and public institutions in Malawi and South Africa.</p> <p>Consulted agencies in Mulanje: Departments of Mines and Geological Surveys, Environmental Affairs, Museum and Monuments, Forestry, Tourism, and Local Government.</p> <p>Consulted agencies in Mapungubwe: SAHRA, SANParks, National Museums and Monuments of Zimbabwe, National Museums and Art Gallery of Botswana, National Heritage Council and Parks and Wildlife Authority of Zimbabwe.</p>	<p>- These are government institutions with a mandate to regulate the exploitation of mineral resources in Malawi and South Africa respectively. They both have a mission to promote ecologically sustainable development and use of natural resources to promote the economic and social development of their respective countries.</p> <p>- The mandate of these departments is to ensure that the environmental assets are conserved, valued, sustainably used, protected and continually enhanced. In addition, they promote the conservation and sustainable use of natural resources to contribute to economic growth and poverty alleviation of the concerned countries.</p>
<p>Mining Companies.</p> <p>Consulted agencies in Mapungubwe: Limpopo Coal Company (Vele Colliery) and Venetia Diamond Mine.</p>	<p>These institutions are mandated to ensure that there is a balance between sustainable mining development and heritage protection within these cultural landscapes.</p>

<p>Non-governmental and civil society organisations.</p> <p>Consulted groups in Malawi: Society of Malawi; Mulanje Mountain Conservation Trust and Friends of Mulanje Mountain Trust.</p> <p>Consulted groups in South Africa: Endangered Wildlife Trust, Peace Parks Foundation, Mapungubwe Action Group, Wilderness Foundation South Africa, World Wide Fund for Nature South Africa, Birdlife South Africa, Association of Southern African Professional Archaeologists (ASAPA), ICOMOS South Africa, and Africa World Heritage Fund.</p>	<p>They are mandated for providing advocacy and awareness on the conservation and sustainable utilization of the natural and cultural heritage resources of the landscapes.</p>
<p>Local Community Members.</p> <p>Consulted groups in Mulanje: Local chiefs and local people from of Lohmwe, Yao and Mang'anja tribal groups.</p> <p>Consulted groups in Mapungubwe: Local chiefs and local people of Machetes, the Tshivulas, Leshibas and Venda communities.</p>	<p>They are mandated for management and conservation of traditional knowledge systems to sustain the cultural landscapes.</p>

6.4 Stakeholder Views.

Different views were generated from stakeholder groups who participated in the interviews. Generally, the majority of the stakeholders consulted were of the view that there is need to provide detailed information in advance on how the cultural attributes and values of the cultural landscapes would be protected in the long term from the negative impacts of the proposed and on-going

mining operations in the two cultural landscapes. The feedback generated from these consultation processes has helped to develop a strategic management planning methodological framework which has been suggested in this thesis. The subsequent paragraphs below summarize the various viewpoints from the key stakeholders identified above.

6.4.1 Government Institutions

The views from government officials who participated in the research stressed on the need to ensure that local communities are fully and meaningfully involved in the protection of the cultural landscapes and other activities associated with the mining development. Majority of these public officials also felt that the most effective way to manage elements of cultural landscapes was to relate them to a broader landscape and not treat them as individual elements. They also emphasized the need to have a clear buffer zone determined by a full participation of all concerned stakeholders. Some officials from SAHRA also highlighted the need for clear policies to regulate development given that some mining licenses were granted for areas lying next to heritage places such as Leokwe Hill. While one government official interviewed, said that there is a management committee responsible for overseeing the operations of the mining development around Mapungubwe. Membership of this committee includes community leaders as representatives.

6.4.2 Mining Agencies

Responding to the interview questionnaire, most of the officials working with mining companies emphasized on the need to balance heritage conservation and economic development. In the case of Mapungubwe cultural landscape, they indicated that a memorandum of understanding has been signed between the South African government and mining companies committing to sound heritage conservation and environmental stewardship. An environmental management committee comprising of various stakeholders from the local communities, action groups and government institutions have also been established.

6.4.3 Civil Society and Non-Governmental Organisations

The members of the civil society and non-governmental organizations who participated in the research emphasized on the importance of a sound and sustainable heritage stewardship. They also pointed out that large-scale infrastructural development like mining usually has negative impacts on the spirits of the cultural landscapes. Most of them agreed that working together for a common cause is more constructive than fighting. They also reiterated on the issues of restrictive and

ineffective regulations, whereby most of the laws used are outdated and they do not take into consideration the traditional management systems. In general, almost all of them acknowledged that these cultural landscapes are important places to the local community and humanity in general. In Mulanje Mountain cultural landscape, for example, the interview responses from some members of the civil society organizations revealed that at some point in time they took a court injunction restraining further mineral exploratory activities within the mountain due to the concern of the mining exploration activities on the environment. The main concerns raised were on issues of water pollution, destruction of trees, issues of dust and destruction of the cultural values and heritage resources.

6.4.4 Local Community Members

Most of the local people who were interviewed expressed their concern about the development of large-scale mining activities in Mapungubwe and Mulanje cultural landscapes. The landowners in different villages felt that they have not been fully involved in the developments and mining activities around these cultural landscapes, hence they requested to be actively involved as well. Other groups lauded the employment opportunities associated with mining but emphasized that their culture and traditional values need to be preserved as well. They also lamented that allowing mining to proceed in most part of the landscapes will limit them access to their ancestral heritage. Some of the local communities also commented that active heritage protection will assist in reviving their indigenous knowledge systems which also helps to protect the environment through traditional laws. There were, however, some community members who were not sure of how they could contribute to a process led by government institutions. They feel that as owners and custodians of cultural landscapes, they should lead and decide what development programmes are sustainable for their areas. In Mapungubwe cultural landscape, for example, the local community members who were against mining development activities expressed concern on how they were forcibly removed from the land and denied access to different parts of the landscape which is associated with their ancestors. They also expressed concern of monopoly and imbalances in the appropriation of benefits from the proceeds of the mining. While others claimed that some government officials have been supporting the expansion of mining activities in the area because of personal benefits compromising with the conservation of the traditional values and sacredness of the area.

6.5 Stakeholder’s Levels of Awareness in Mulanje

Results of the interviews and focus group discussions conducted in Mulanje Mountain cultural landscape has revealed that most of the local people and other stakeholders are aware of the importance of the cultural landscape in its totality and the various cultural and natural features within it. They know and appreciate the cultural and natural features of the landscape in terms of their historical background, socio-cultural characteristics, and its associated socio-cultural values. From the summarized results in

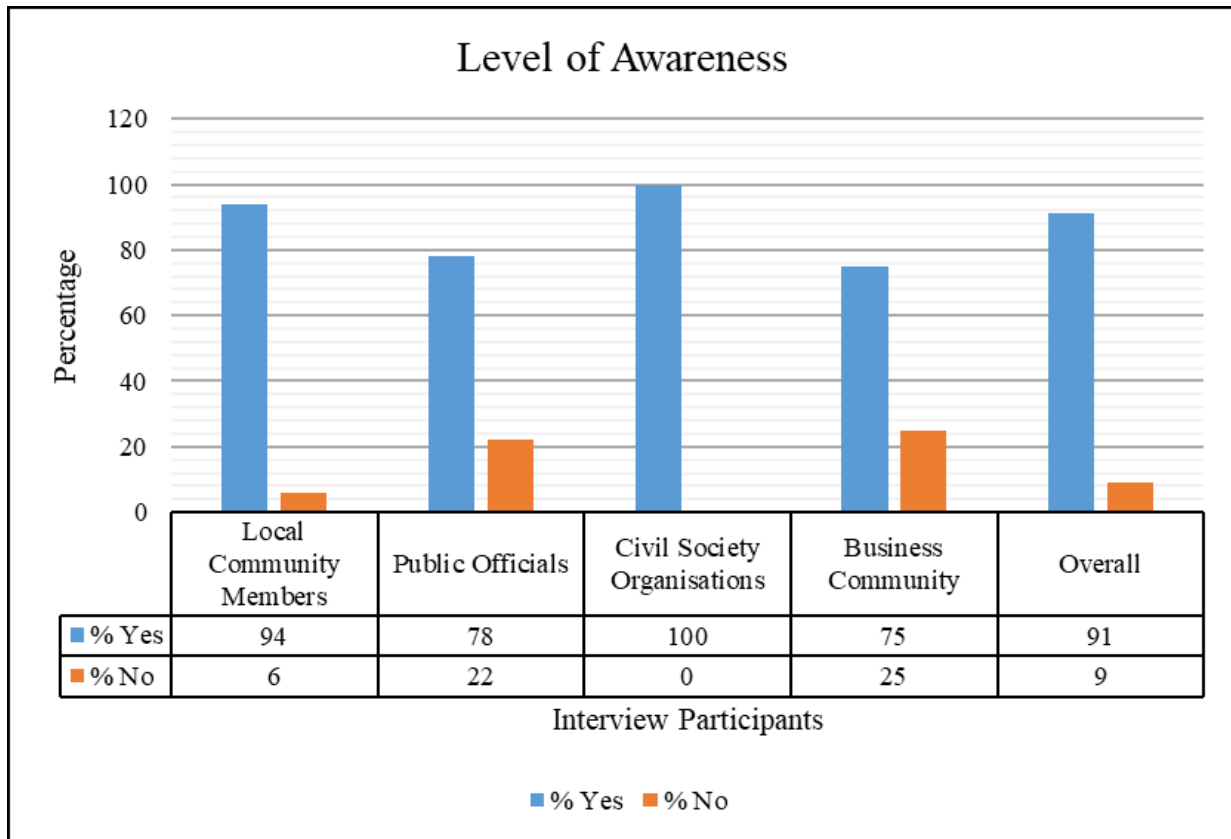


Figure 6. 1 below, it shows that over 90% of the local community members, civil society organizations, government personnel and business community members who participated in the research indicated high levels of awareness about the importance of Mulanje mountain cultural landscape and the significance of its associated values.

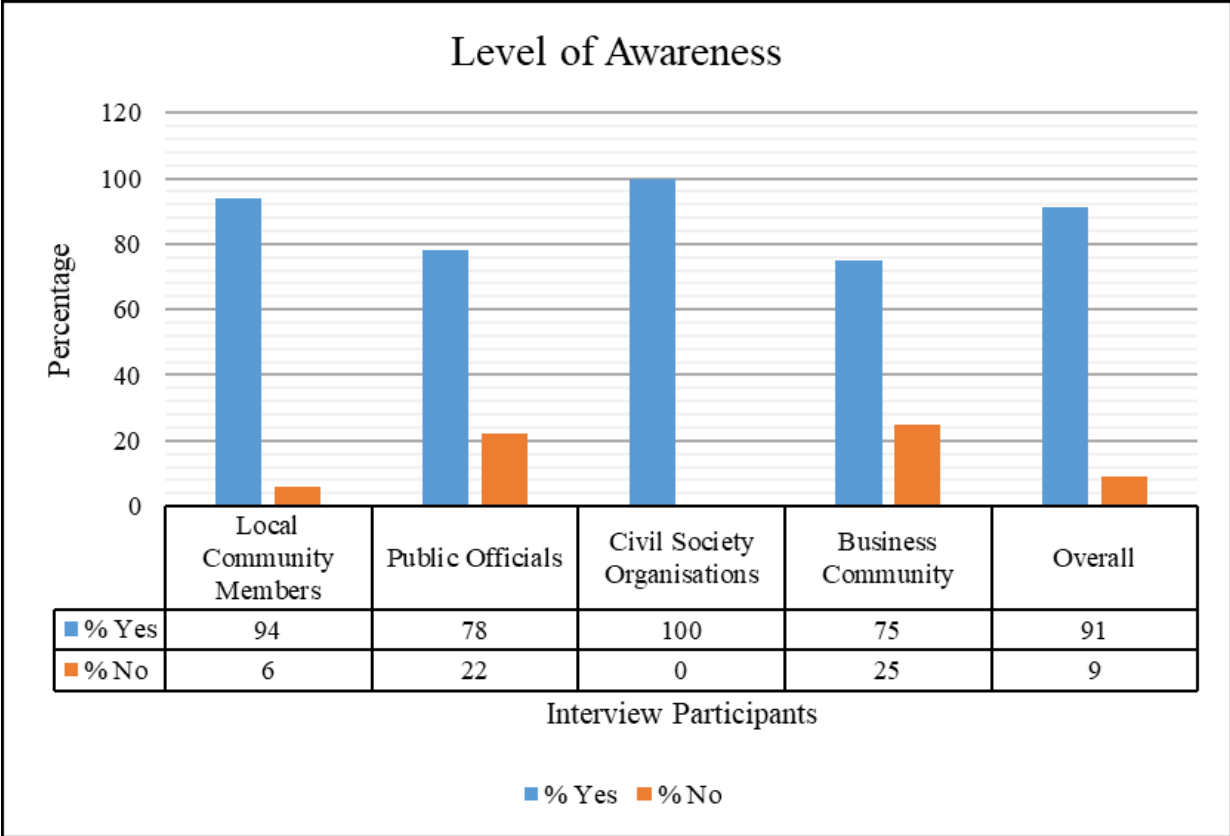


Figure 6. 1. Levels of awareness on the cultural importance of the landscape.

From this chart, it is apparent how the local people and various stakeholders acknowledge the importance of safeguarding and preserving the attributes of the landscape for posterity. The high levels of awareness are also attributable to some other reasons including the history and socio-cultural values of the cultural landscape, the past and present uses of various cultural and natural resources of the area and the general popularity of the area, especially its mythology and intangible associations.

Another area of inquiry was related to levels of awareness on whether the local community members and other stakeholders are aware on government’s plans to inscribe Mulanje Mountain cultural landscape as a UNESCO World Heritage site. In this aspect, the levels of awareness varied amongst the different stakeholders, (see Figure 6. 2).

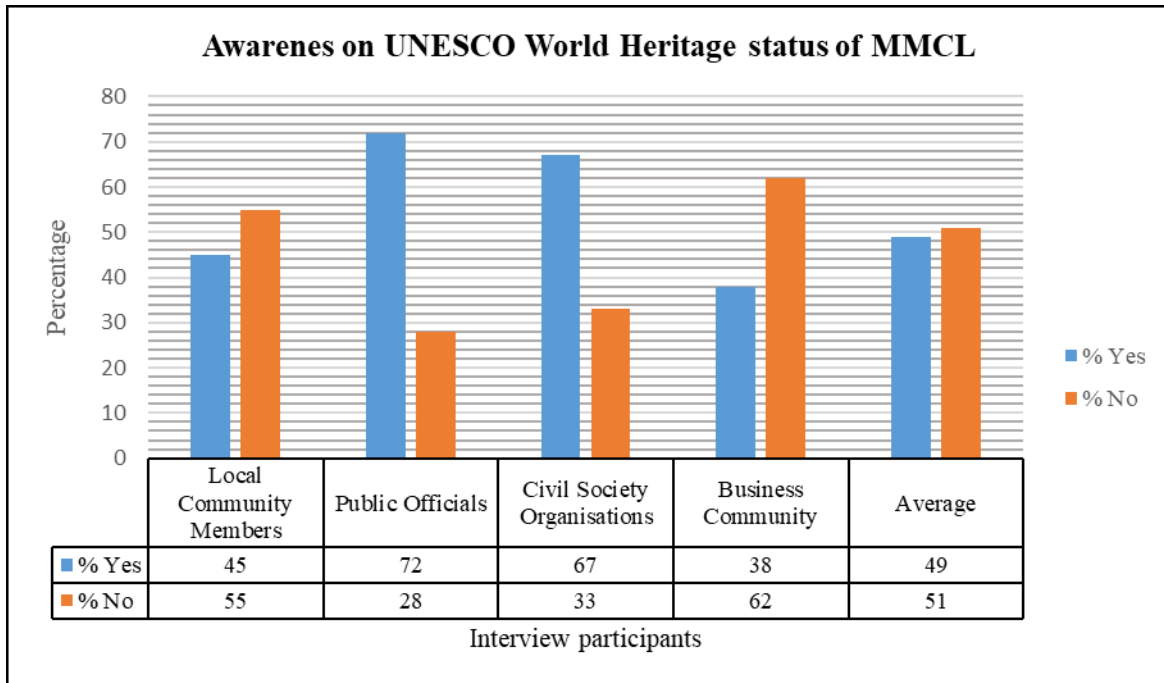


Figure 6. 2. Level of awareness on the World Heritage status of MMCL

From this chart, it clearly indicates that the majority of the local people and business community, representing 55% and 62% respectively, have no idea of government’s plans, especially the Malawi Department of Museums and Monuments’ proposal and plans to inscribe the site as a World Heritage site. This indicates that there has been little awareness and consultation meetings with the local community groups and business community on initiatives of Malawi as a state party to UNESCO to inscribe Mulanje Mountain as World Heritage site. This is contrary with the public officials and civil society organizations research participants, whom majority responded that they are aware of this proposal. About 72% of the participants representing different government institutions and about 67% of civil society organizations have indicated that they are aware of the application Malawi government has been making to UNESCO World Heritage Centre for the landscape to be inscribed because of its outstanding universal values to humanity. This clearly shows that the plans of inscribing the landscape have been a top-down approach, whereby the relevant governmental institutions have been making plans at the departmental and ministerial levels without adequate consultations from the majority of the local communities whom they are the custodians and guardians of this cultural landscape.

On levels of awareness as regards to proposals from the Department of Mines under the Malawi Ministry of Energy and Mines to explore and later mine the bauxite and rare earth metals mineral

resources within the mountain, according to the research participants, it showed that the majority of the stakeholders are aware of these plans, (see Figure 6. 3).

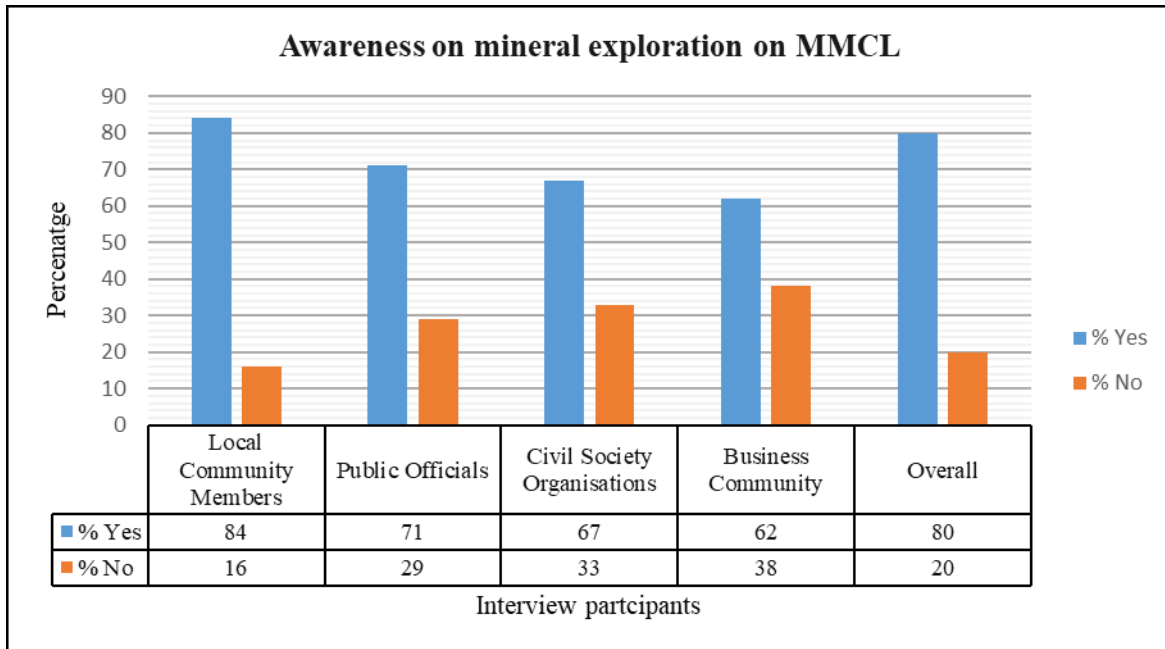


Figure 6. 3. Levels of awareness on mineral exploration activities in MMCL

Based on this chart, it shows that over 80% of the local community members interviewed said they are aware of the mining proposals Malawi government has been initiating for the past 4-5 decades. They alleged that this has not been put forward because of the resentments and resistant the local communities has been putting forward to the government restraining these plans. Other stakeholders with vested interests in the affairs of the mountain like civil society organizations, business community and officials from public institution also said they are aware of on-going exploration activities in the mountain. According to a questionnaire administered to these stakeholder groups, it showed that 71% of the research participants from the government institutions, 67% from the civil society organizations, and 62% from the business community indicated that they are aware of this mining plans. This overall high level of awareness was due to the controversies the issue of mining bauxite and rare earth mineral resources from the mountain has brought for the past years, considering the mountain’s cultural and natural significance. The issue of mining within the mountain has been publicly being covered in media and different forums, and it is always a hot discussion with varying conflicting views on whether to go for

mining due to its economic gains or preserve the biodiversity and cultural diversity of the mountain for future generations to appreciate.

Another area which was explored further was on making a choice, given two scenarios, between preservation of the attributes and values of the landscapes or allow mining of the mineral resources within the mountain to go ahead. (See Figure 6. 4 on the details of the responses).

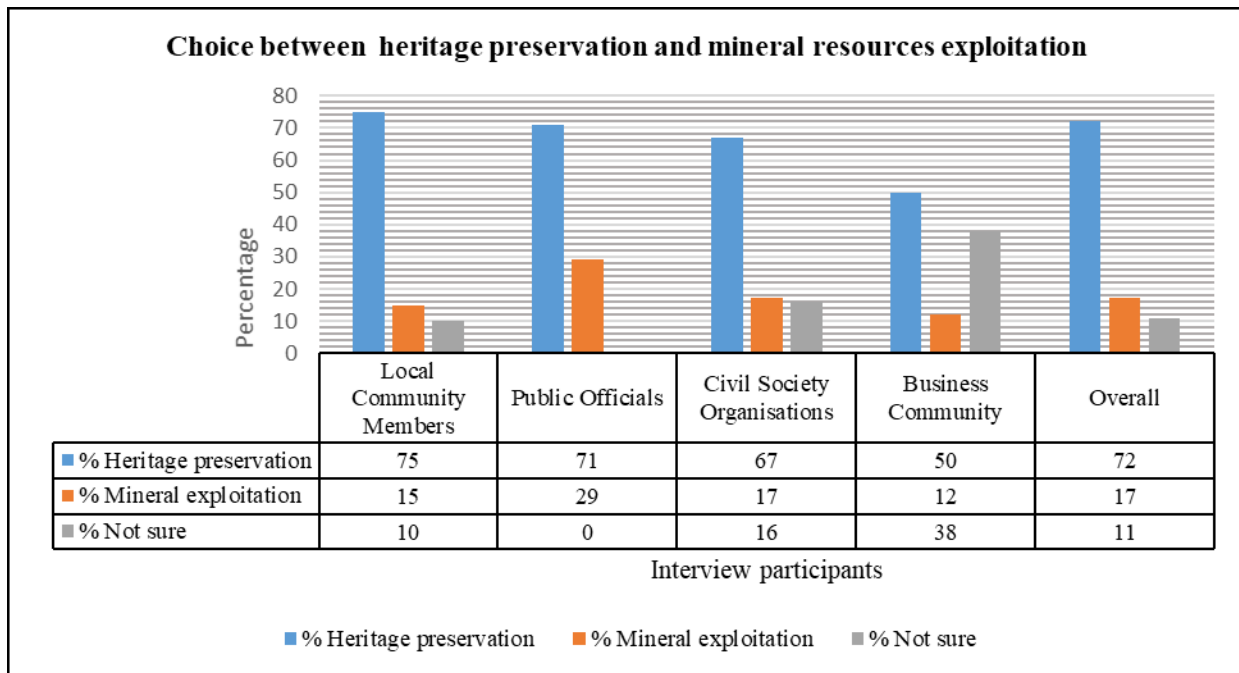


Figure 6. 4. Two scenarios on landscape preservation or exploitation of mineral resources

From this chat, after given a scenario to choose between the two, the majority of the interview participants chose heritage preservation, with an overall 72% of total research participants interviewed. While a small number of interview participants chose mineral exploitation because of economic gains, representing a small number of 17% and a negligible number of the interviewees were not sure whether to choose mining or heritage preservation, representing 11%. This nature of responses shows how the majority of the stakeholders value the significance of the cultural landscape at the national and local level. Many of them would like to see the landscape and its natural and cultural resources maintained and preserved. While a few number of individuals support mining because of job opportunities mining will bring thereby uplifting socio-economic standards of the communities.

A final area of inquiry was on soliciting views of stakeholders who participated in the interviews as regards to their preference, given a chance to prioritize the type of heritage they would like to see protected in case of mining development in Mulanje Mountain cultural landscape (see Figure 6. 5 for the summary of the responses).

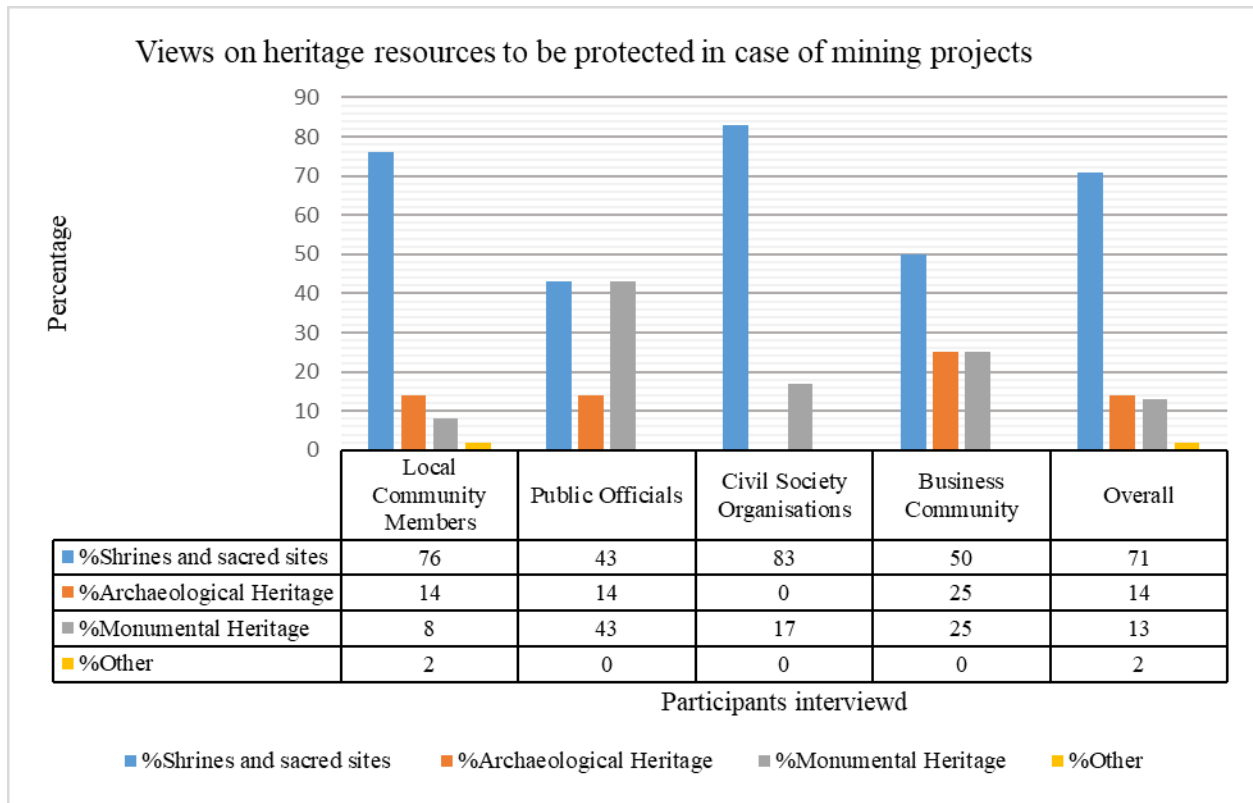


Figure 6. 5. Prioritization of cultural heritage resources to be protected in case of mining

The interview participants were given a list of heritage typologies in which to choose from and rank them in order of individual priority. These ranged from shrines and sacred sites, rock art sites, archaeological heritage, historic forts, monumental heritage, and natural heritage. Interestingly, by analysis of the chart above, (Figure 6. 5), it shows that majority of participants, both local communities, public officials, individuals from the civil society organisations and participants from the business community specified that they would like to see sacred sites and their intangible aspects well protected in case of mining development, with an overall representation of 71%. Only 14% of the total participants preferred archaeological heritage to be protected and 13% chose monumental heritage as their preferred heritage to be given priority in terms of protection measures. This high rate of preference on the protection of sacred sites and its intangible aspects shows that the majority of people respect the values and belief systems the mountain has over the

years. Most of the people are symbolically connected to the landscape through these traditional sacred sites, therefore, if they can be lost through mining, they feel that part of their heritage has been lost as well.

6.6 Discussion of Local People and other Stakeholders Perceptions

A synthesis of all the information gathered was done to generalize and identify the impact of mining development projects on the integrity of cultural landscapes. A number of interview recordings, questionnaires, and field notes were analyzed and interpreted to highlight the impact of proposed and on-going mining activities in the case studies. Particular importance was attached to the analysis of all conservation reports and management plans of the two case studies in order to understand the trends and extent of impacts on the values and attributes that convey the significance of these landscapes.

According to the local people interviewed, the majority of them associated mining activities with negativities. These included its contributions to land degradation, deforestation, and destruction of cultures and community values. While some community members interviewed have associated mining with strange illnesses and some with even deaths in the communities with environmental pollution from mining activities, particularly the seepage of poisonous chemicals into water bodies, (Hayford 2008). Other people interviewed also feel that the corresponding damage of mining operations to the cultural landscape and the environment in general and its effects on the local communities far outweigh the benefits derived from it.

There has also been a general concern as regards the widespread tension between mining companies which has been given mining licenses in the cultural landscape and the local people over the destruction of the trees in Mulanje Mountain itself and the general disregard of the rights of the local people by most mining companies. This is similar in other African cultural landscapes that have been destroyed, for example in Ghana, the mining communities complained that most of the mining companies do not employ local people, and they prefer labor from the other areas (Nyamekye 2012). However, it has been reported that it is the local people that bear the brunt of their activities, for example, mining activities, particularly surface mining, has resulted in the alienation of large tracts of land from communities, depriving poor and marginalized communities of their land surface rights, and as a result depriving many communities of their sources of

livelihood (Akabzaa 2009). Other local people's views were based on their experiences from what happened in other mining sites. They raised concern that mining companies do not pay adequate compensation to affected local communities for them to relocate to other areas and uplift their standard of living. There was also a mention of noise pollution which will affect the ancestral spirits in the Mulanje Mountain. This will be caused by blasting of the rocks in the mountain. Many people also mentioned the cracks in the local buildings and houses because of the rock blasting.

The views gathered in Mapungubwe were also similar to those of Mulanje. Here, it was revealed that an opposition group consisting of local community members, local landowners, non-governmental and civil society organizations had objected all industrial mining activities in that part of the very sensitive Limpopo Valley without an approved Integrated Regional Development Plan. The group lodged an appeal to address the serious shortcomings of the Environmental Management Programme (EMP) which was prepared by Vele Coal mine. The appeal attempted to prevent further damage to this environmentally sensitive and culturally important environment for all South Africans. According to the opposing group, they noted serious flaws in the application, which included inadequate consultations with the local communities around the area about the mining and its impact on the environment as stipulated by law.

It was observed that the Environmental Management Plan (EMP) which was developed failed to take into account the mine's location within a sensitive cultural landscape. It failed to recognize the cumulative impacts that future developments will have on the area. Among others:

- The EMP lacked information regarding the heritage resources and paleontological remains at risk of destruction in the area; it failed to consider the rock art in the area and other heritage sites.
- There were no definite commitments towards rehabilitation for biodiversity and the EMP made wrong assumptions about the possibility of rehabilitation of ecosystems and species. It made no reference to invertebrate species and hardly any to reptiles and amphibians.
- The true impact of dust was absent from the EMP and it did not factor in the impact of night-time mining. At the same time, the EMP did not consider the full extent of the negative visual impacts of mining.

- Mapungubwe cultural landscape as a World Heritage site offers a significant source of income through ecotourism and farming which cannot be replaced by the alleged benefits of mining.

The opposing group also noted that occasionally mining companies indicate misleading employment figures, for example, figures such as 30,000 job opportunities to be rolled out by mining operation often do not come to fruition. The facts are, as quoted from the Vele Mine's Environment Management Plan, the mine will employ 826 permanent employees resulting in an impact on the direct livelihood of approximately 1495 people. After 29 years (being the approximate lifespan of a coal mine), the employment opportunities will end.

Whilst, in the tourism sector at least 700 permanent jobs currently existed in the core of the Mapungubwe Transfrontier Conservation Area (TFCA) and the conservative estimated direct jobs to be created within the TFCA over the next 15 years amounts to 3,904 direct jobs. These employment opportunities are sustainable and the environment will continue to contribute towards the GDP of the country for the benefit of future generations.

Some interview respondents mentioned that the destruction of the cultural landscape through the coal mining operation will be permanent. Even if it will be rehabilitated, it will not be transformed back to its original form. It is also impossible to fully rehabilitate any disturbed area 100% and certainly, with the resources set aside by most mining companies to do this, there was clearly no intention to even try in some cases. In addition, they emphasized that, once water has been used up, it cannot be re-created. Once the dust has affected the ancient rock paintings, they cannot be revived. Once heritage sites have been destroyed, they cannot be re-created. Therefore, the term 'rehabilitation' is usually thrown around without full appreciation for what this means or what it entails.

The interviews respondents also cited other examples on the negative impact of mining operations in South Africa related to waste management issues, for instance, the acid mine drainage crisis which is currently facing Gauteng, as an evidence of how decisions taken for the sake of 'development' are ill-informed in terms of the long-term consequences. They said they cannot afford to keep making these same errors when faced with new development plans that clearly benefit a few over the short term as opposed to many over the long term. They have indicated that

they are not against mining but certain areas should not be sacrificed for short-term gains at the cost of a sustainable future.

In addition to waste management issues, they also said that mines also pose environmental and social challenges due to potential disruptions to ecosystems and local communities. Mining requires access to land and natural resources, such as water, which may compete with other land uses (Ashton et al 2001). Although the size of most mining operations is small compared to other land uses, for example, industrial agriculture and forestry, mining companies are limited by the location of economically viable reserves, some of which may overlap with sensitive ecosystems or traditional indigenous community lands.

Although mineral exports may make up a significant share of a country's exports, mineral development does not always boost a country's economic growth and may, in some cases, contribute to increased poverty (Sideri and Johns 1980; Auty 1990; Ross 2001; Gelb et al 1988). The reasons for the lack of economic growth in mineral dependent states are not entirely conclusive (Ross 1999). However, low levels of employment in the sector, use of mostly imported technology, high market volatility of minerals, competition with agricultural sectors, and institutional corruption and mismanagement may be contributing factors (Sideri and Johns 1990; Gelb et al 1988; Auty 1990). In addition, lack of full cost accounting result in overestimating the benefits of subsidies offered to the mining sector is not taken into account.

6.6.1. Conflicting Interests on Use and Management of Cultural Landscapes

One of the notable challenges mentioned during the field research was the lack of community involvement and conflicting interests on issues to do with management, use and protection of the natural and cultural heritage resources of the landscape. Generally, almost all of the stakeholders interviewed agreed on the conflicting regulations and other aspects, for example, the traditional management systems against laws and contemporary management systems. The decisions made in cultural landscapes often favor the economic interests of most governments instead of affected local communities, which in most cases result in conflicts. These conflicting interests and contentions have been noted in all the cultural landscapes which were investigated.

Although there have been promises of job opportunities and national economic growth through these mining plans, however, based on other experiences from some mining projects, most

interview participants pointed out that the benefits of mining are not always equitably shared, and local communities near mining sites are the ones who suffer most. In some cases, mining has provided jobs in an otherwise economically marginal area (Redwood 1998). However, typically these jobs are limited in number and duration. In addition, communities that came to depend on mining to sustain their economies are especially vulnerable to negative social impacts especially when the mines close. According to a study by Kuyek and Coumans (2003) on mining communities, they reported that mining tends to raise wage levels, leading to the displacement of some community residents and existing businesses and elevated expectations. Mining may also trigger indirect negative social impacts, such as alcoholism, prostitution, and sexually transmitted diseases, (Miranda et al 1998)

As discussed above, the management and protection of cultural landscapes involve multiple stakeholders, such as government institutions, local communities, civil society organizations, developers and associated business enterprises. According to Friedman and Miles (2002) on their publication on developing stakeholder theory, they assert that these parties usually have conflicting interests which hinder sustainable development in case of most cultural landscapes. The conflicts between various stakeholders about the utilization of the various resources of the landscapes and about the issue of resource equity often have a direct effect on the sustainable management of cultural landscapes.

As observed from the interaction amongst the various stakeholders who participated in the research, it was noted that almost all of them had different perspectives and perceptions about the significance of cultural landscapes and the attributes and values they convey. These differences usually lead to tension. Some disagreements among stakeholders involve utilization of resources of the landscape and disagreements on which values of cultural landscapes to be preserved and recognized (Myers et al. 2009).

Mayers et al (2009) suggested some of the issues that lead to tensions in cultural landscape conservation. These include tensions between conservation of attributes and values of landscapes against other national interests and agendas, including governance, economic development, and environmental protection. Secondly, issues related to the recognition of traditional communities and their heritage, including an understanding of heritage values, cultural worldviews, access, ownership and use issues, and interpretation. Thirdly, in contested cultural landscapes, especially

where there is conflict over heritage values or different cultural or religious groups also cause conflicts. And finally, Mayer et al (2009) also mentioned issues about how heritage conservation and management is undertaken, especially disputes over methods, principles, and interventions, and practices that fail to engage key stakeholders. All these are some of the key reasons why there are always some conflicting interests in the management and proper utilization of the resources of the landscapes. Understanding these factors that lead to tensions have led to the better development of the strategic planning methodological framework that has been proposed in this thesis. Management and negotiation strategies have been integrated into the framework as well.

As it has been observed, all cultural landscapes have multiple players with distinct roles in the management of different aspects of the sites. This often results in conflicting approaches and opinion as regards to the protection and management of these landscapes. Cultural landscapes reflect multiple cultural connections and meanings. Coexistence of these connections is usually problematic, which usually lead to actions that have negative impacts on the values of the landscapes. For example, in the case of the interviews conducted in these two cultural landscapes, it has been observed that public officials were prioritizing the conservation of the tangible heritage with high economic significance in terms of tourism while most of the local communities valued the sacred heritage and their intangible aspects as more important.

It has also been observed that most cultural landscapes in African are used for traditional spiritual purposes, usually by small and minority groups. These traditional minority groups see these landscapes and specific natural features within it as symbols of their cultural identity. This therefore always triggers disputes over ownership of the entire landscape and meanings it conveys. In some instances, these have led to conflicts leading to significant damage to the entire landscapes and values associated with it. The best remedy is to respect the values and belief systems of these local communities. As ICOMOS (2002) has highlighted in its *Ethical Commitment Statement*, that a fundamental part of value-based heritage management is to understand the heritage values held by different groups within a society and by the society as a whole. Ignoring or denying the heritage values of a group with close and enduring associations with a place is both unacceptable.

Therefore, it can be argued that specific heritage values attributed to different cultural landscapes most often are the basis for disputes, with different cultural groups and stakeholders presenting claims for or against certain values. Sometimes this simply reflects different perspectives on

connections to cultural landscapes, for example, some local people may regard sacred traditional pools as places of spiritual significance, whereas mining developers may appreciate its feasible location for mining development due to closeness to a source of water. If all the values in cultural landscapes are recognized well in advance, the dispute can easily be mitigated. But if one heritage is acknowledged and others rejected, conflicts can easily erupt. According to the Burra Charter, (Australia ICOMOS 2016, Articles 15 and 16), it recognizes that there are connections or associations between people and a place that may include social or spiritual values and cultural responsibilities. In this aspect, mining developers should be aware that most cultural landscapes signify and express important meanings through local people's experience in relation to their environment. To ignore such connections may adversely impact the cultural identity, human dignity, and well-being of individuals, families and cultural groups of most of these cultural landscapes. The result maybe conflicts which may reduce the likelihood of an effective heritage planning process.

It has also been observed that disagreements in management and use of natural and cultural resources of cultural landscapes arise when right local people with a close attachment to the spiritual and traditional values of the landscape have not been consulted. Most often, these people are the ones which mobilize others not to accept proposed development projects, leading to tension between developers and these local community groups. Subsequently, when two different groups of people, local people, and developers, are in conflict, it is the landscape attributes and values that most of the times are at risk. Therefore, adequate local people's engagement and consultation processes are very essential in landscape planning and management.

Another typical dispute is among stakeholders who are pro-development and those who are pro-conservation of cultural landscapes. These two types of stakeholders are likely to argue their respective cases from different perspectives, making common ground hard to find. When mining development projects have been proposed in cultural landscapes, it usually favors the merits of economic benefits against the benefits of landscape conservation. In such cases, conflict arises when values of cultural landscapes and economic values come head to head. Tensions between cultural landscape conservation advocates and stakeholders with economic interests related to extraction of mineral resources are common in most heritage places. Therefore, the proposed integrated strategic management planning methodological framework that has been proposed

through this research has tried to solve this challenge. The fact that most developers are likely to argue their case from an economic discourse focusing on the commercial value of heritage and on the other hand local people argues in relation to local identity, the framework has tried to bridge the gap to amicably negotiate these conflicting perspectives. The possibility of achieving solutions that will sustain both economic and heritage conservation outcomes is the most desirable one. This will only be achieved through the application of the proposed integrated management planning methodological framework discussed in Chapter 8.

6.6.2. Community Participation in Cultural Landscape Management

The protection of cultural landscapes through traditional management systems necessitates that the local community participates in decision making as regard to the issues of cultural landscapes and in the implementation of those decisions (Mumma 2000). Community participation has two components; a right of access to information and a right to be consulted in decision-making. According to Albert Mumma, (2000), he noted that most conventional legal regimes usually restrict the availability of information to the local communities. Surprisingly, this has turned most local communities to be passive observers to issues of mining development projects happening in their cultural landscapes. Therefore, in the integrated strategic management planning framework which has been developed through this research, it has suggested the inclusion of adequate communication platform to ensure that the local communities have right of access to information related to mining development issues.

It has also been observed that most local people within and surrounding cultural landscapes are rarely involved in the critical stages of planning, implementation, and closure of mining developments. Their interests, values and belief systems are rarely taken into account in the implementation of mining decisions in most heritage places (Abungu and Githitho 2000). Therefore, it has been suggested in the integrated planning framework to give priority to local communities to participate in decision-making processes, in terms of, active consultation, information sharing, and capacity building. It has already been discussed that mining development projects in most cultural landscapes usually lead to changes in traditional values due to socio-economic changes in society, which affects cohesion and values of local communities (Abungu and Githitho 2000).

The exploitation of mineral resources from the cultural landscapes must not be carried out at the expense of socio-cultural values of local communities. Mining development and conservation of cultural landscapes has been integrated into the proposed integrated management planning framework as a measure to achieve sustainable development. The key objective of this proposed framework has been to strengthen cultural landscape conservation and its management, at the same time to develop the local economies through mining development in such a way that the local communities, national government, and developers benefit through the income from mining proceeds. There is a close interaction between conservation activities of the landscape and development activities, one supporting the other. It has been suggested that implementation of new mining exploratory activities should not affect certain attributes and values of cultural landscapes that were initially integral to the nomination of the landscape (Abungu and Githitho 2000). Management planning should incorporate elements which conserve the spirit of the relationship between man and the general landscape.

Marie Stenseke (2008) reviewed a research on community participation and she summarized the following aspects in effective local people's participation; power relations, active participants, effective institutional frameworks, positive communication, knowledge and capacity building, monitoring and contextual factors. According to the review, she found that trust, communication, and local influence are the vital ingredients in a participatory approach (Stenseke 2008). These factors have therefore been integrated into the proposed management planning methodological framework discussed in Chapter 8. Communication and co-management with local people are some of the areas of competences for managers of cultural landscapes to achieve sustainable management and use of cultural landscape resources. The concern to involve local people in cultural landscape management and planning is also explicitly expressed in the convention on biodiversity (1991), and the European landscape convention (Council of Europe 2000), and the Aarhus convention (UNECE, 1998).

According to the findings of this research, it has also been observed that there is a gap between the decisions made by cultural landscape decision makers at a government level and the decisions made by the local people at a community level on some aspects of landscape management and protection. This has prompted this research to single out some of the elements that have been integrated into the proposed management planning methodological framework. Most decisions

made on conservation and management of the resources of the landscape are top-down. Therefore, in the proposed framework, this has been reconsidered and changed, to make the approach of decision-making more interactive and bottom-up. This is similar to ideas of Thackway and Olsson (1999) who claimed that integration of community aspirations for the conservation of biodiversity and cultural diversity in cultural landscapes, should ensure that there is a sustainable use of natural and cultural resources, thereby ensuring long-term maintenance of their ecological functions. In her research overview, Zachrisson (2004) identified a number of advantages for increased public involvement. These included a reduction of conflicts, a more flexible and efficient management, increased legitimacy, and an implied better use of place-specific knowledge.

As noted above, local participation appears to be a promising strategy for cultural landscape management and planning. The understanding and conceptualizations of 'local participation', has been used to describe anything from information sharing through communication between government agencies and local people about policies and regulations about the aspects of cultural landscapes. According to Pimbert and Pretty (1997), they have described four possible forms of local participation in cultural landscape management. These included *minimal participation*, which consists of minimal information sharing or consultation, the managers or developers define the problems and solution for cultural landscape without obligations to integrate local people's views. The second one is *participation for material incentives* in which people participate by providing resources such as labor or access, in return for material incentives. The third one is *interactive participation* where local people participate in the joint analysis of issues and action plans to do with the conservation and management of cultural landscapes. The last one is *self-mobilization* in which local people take initiatives independent of external institutions as regards to use and protection of cultural landscapes.

Ineffective and irresponsible implementation of local people's participation in decision-making might lead to conflict in most societies within and around cultural landscapes, with long-term effects on collaboration amongst community members and developers. The application of the integrated management planning framework has emphasized the integration of community participation as a prerequisite for conservation and management of cultural landscapes in times of development. Through this research, successful factors and challenges in the involvement of local

communities have been assessed in the two case studies in order to help develop and understand the application of the framework.

Selman (2004) suggested stakeholder commitment as one important aspect of heritage management planning. He made a distinction between capacity-driven participants, who have economic interests, for example on some aspects of the landscape, and commitment-driven participants, who mainly achieve something from the cultural landscape. Furthermore, distinctions have been proposed between communities-of-interest, and communities-of-place, (Selman 2004). The former relates to interest groups, while the latter relates to local communities. He also differentiates special communities, like farming communities in the area, from general communities, which include all inhabitants. Community involvement in cultural landscape management is also better favored in complex social systems, linking together stakeholders at various levels in society, than by only independent local groups in action (Olsson 2003). However, it has to be clear that when seeking to implement an effective management system in cultural landscapes, there is a need to have a broad participation of all relevant stakeholders (Zachrisson 2004). It has therefore been observed that partnership and active stakeholder involvement including local communities, the private sector, and civil society organizations, are key to the success of the implementation of the proposed management planning framework. At the same time, it has to be understood that not everyone is interested or has the time to get involved in issues concerning conservation and management of natural and cultural resources of the landscape.

Some of the problems of participatory approaches in cultural landscape conservation and management are communication issues. Luz (2000) in his study on landscape planning in Bavaria, Germany has also identified similar communication challenges. Among others, these included weaknesses in communication and withholding of environmental and cultural information by responsible public institutions. According to information gathered from the field, it has been reported that when environmental and cultural heritage information is collected through scientific efforts, it is rarely passed on to local people in a comprehensive way. Another challenge between different stakeholders is regarding differences in perception and evaluation of impacts of development initiatives in cultural landscapes. For example, most developers are seldom aware that their perception of the resources of the cultural landscapes always differs from those of the local people because of poor channels of communication between the two stakeholders. In

addition, previous negative experiences of various other development projects affect decision making and attitudes towards new development initiatives. According to Brown et al (2004) they assert that knowledge and learning is the most important aspect of understanding cultural landscapes. They noted that the acceptance of various sources of knowledge and various forms of knowledge is a key to understanding cultural landscapes. They emphasized that knowledge generated by experience and in local context should be seen at par with scientific knowledge (Brown et al 2004; Pinto-Correia et al 2006).

6.7 Chapter Summary

The chapter provided the results of the perceptions of local people and other stakeholders on issues concerning mining and conservation of cultural landscapes. The focus was on understanding how local people and other stakeholders perceive issues of mining and heritage conservation in African cultural landscapes. A participatory ethnographic research was carried out among local people and other stakeholders in the targeted case studies. The aim was to solicit their views and perceptions in order to understand and properly plan the effective use and management of cultural landscapes. Specific issues which were investigated included an examination on levels of awareness from different types of stakeholders on issues concerning the protection of cultural landscapes which are at risk of mining development and also on how local people got involved in decision-making. Further to this, relevant stakeholders were identified and their roles in the conservation and management of different aspects of cultural landscapes were discussed. It was revealed that stakeholder identification is a key before implementing any development projects in cultural landscapes. Determining who will be a stakeholder representative is very important when planning for mining development initiatives in cultural landscapes.

Therefore, based on the results of this chapter, it was concluded that most of the local people and other stakeholders who participated in the research were aware of the importance of the cultural landscapes in their totality and the various cultural and natural features within it. In the next chapter seven, the second results from the last objective of the study will be presented. This comprises of the results from the assessment of the effectiveness of the management planning framework of Mapungubwe cultural landscape in achieving the UNESCO strategic objectives and also protecting the attributes and values of the landscape.

CHAPTER SEVEN

7 RESULTS ON ASSESSMENT OF EFFECTIVENESS OF MANAGEMENT PLANNING FRAMEWORK

7.1 Introduction

This chapter has provided results of the assessment of the 2013-18 management planning framework for Mapungubwe cultural landscape. The chapter has been broadly subdivided into three parts. The first part is the detailed results of the review of the management plan for Mapungubwe cultural landscape. The management planning framework was evaluated in order to assess how effective it was in achieving the strategic objectives of the UNESCO's strategic action plan for the implementation of the World Heritage Convention 2012-2022. These include credibility, conservation, capacity-building, communication, and community involvement, in short commonly known as the 5Cs. These strategic objectives were adopted in 2002 at the World Heritage Committee's 26th meeting held in Budapest, Hungary, and were enlarged to encompass 'communities' in 2007 at the World Heritage Committee's 31st meeting held in New Zealand, (UNESCO 2015).

Further to this, the chapter has also provided results of the content analysis of the management planning framework. The focus is on the presentation of the extent of the integration of various dimensions of the management planning instrument into the management planning system of the cultural landscape. These include; situational analysis, strategic orientation, organizational structure, stakeholders identity, participation scope and participation continuity. These dimensions have been adopted from Landorf (2009) in her recent publication on 'developing a framework for sustainable heritage management'.

The second part is a presentation of the results of the semi-structured interviews and theme rationalization in relation to the various dimensions that have been used to evaluate the content of the management planning framework. The semi-structured interview analysis has contributed to a holistic understanding of the landscape and also supported data from the management plan.

7.2 Review of Management Plan for Mapungubwe Cultural Landscape (2013-2018)

The Mapungubwe World Heritage cultural landscape has a management plan as part of the requirement of the World Heritage Convention which requires States Parties to integrate the protection of heritage into some form of planning framework, (UNESCO 2016). The Operational Guidelines also require States Parties to provide a management plan as part of the World Heritage nomination and periodic reporting processes. Unlike the World Heritage Convention, the Operational Guidelines are non-statutory which limits the enforceability of such requirement. The Operational Guidelines go on to acknowledge that management systems vary across World Heritage sites, but the common elements are participatory management and a cycle of ‘planning, implementation, monitoring, evaluation, and feedback, (UNESCO 2016: Article 111). In addition to identifying how the protection, conservation, and presentation of a World Heritage Site should be managed, management plans provide key indicators for measuring the ongoing state of conservation. These indicators form a basis for the six-yearly system of periodic reporting to the World Heritage Committee.

The initial analysis of the Mapungubwe cultural landscape has revealed that the landscape is managed by a multiple of organizations. These organizations included land property owners, government agencies and non-governmental organizations, each with an interest in different aspects of the cultural landscape. However, the roles and responsibilities of these various organizations are not well articulated in the management plan document. The plan also has no details on whether there are any formalized agreements in place between the organizations and other stakeholders in the management of the landscape. It also lacks a clear and detailed mechanism in relation to community involvement and participation.

In terms of the structure, the Mapungubwe World Heritage cultural landscape has generally followed the three-part configuration and four linear planning process as proposed by Feilden and Jokilehto (1998) in the Management Guidelines for World Cultural Heritage Sites. This management guideline document provides useful definitions of conservation concepts including authenticity, historical stratification, cultural and socio-economic values, and the different management strategies available to landscape managers. The three-part management plan structure described in the management guidelines document represents the sequence of activities that is

ideally undertaken in preparing the plan. The process starts with a site survey and description. This is followed by an evaluation of the site's values and concludes with a prescription for site management in the form of planned projects and work schedules. The process is usually driven by heritage professionals with broader consultation limited to the collection of information to support the description and evaluation process and discussion of potential threats to the site's cultural and natural values. The management plan guideline document state that 'the first requirement of site management is the conservation and protection of its cultural and natural resources, once that has been achieved the site can be considered for other purposes such as education, research, tourism and others, (Feiden and Jokilehto 1998:35).

Despite some inconsistency, the Mapungubwe World Heritage cultural landscape management plan followed the management plan guidelines model. The plan provides an extensive historical and physical description, and a statement of significance. This was based largely on the information gathered as part of the cultural landscape World Heritage nomination process. The evaluation of the values and the identification of key management issues of the cultural landscape was provided in a second part of the management plan. This section described the six key issues based on the perceived threats to or opportunities arising from the cultural landscape significance. The key issues formed the basis of the objectives of the plan that has further been developed and integrated into the Strategic Management Planning Methodological framework that has been proposed in this thesis.

7.3 Management Plan Assessment

The assessment of the management plan developed around the integration and effectiveness of UNESCO's strategic objectives for the implementation of World Heritage Convention (2012-2022) which identifies World Heritage goals, priorities, and actions to help achieve long-term strategic goals. These strategic objectives include, strengthening the credibility of the World Heritage list; ensure effective conservation of World Heritage properties; promote development of effective capacity building; increase public awareness, involvement and support for World Heritage through communication; and enhance the role of communities in the implementation of the World Heritage Convention, (UNESCO 2011). In short, these strategic objectives are referred to as '5Cs', shortened as Credibility, Conservation, Capacity Building, Communication, and

Communities. See Figure 7. 1 for the structure of strategic action plan and a general fundamental framework for the implementation of World Heritage Convention.

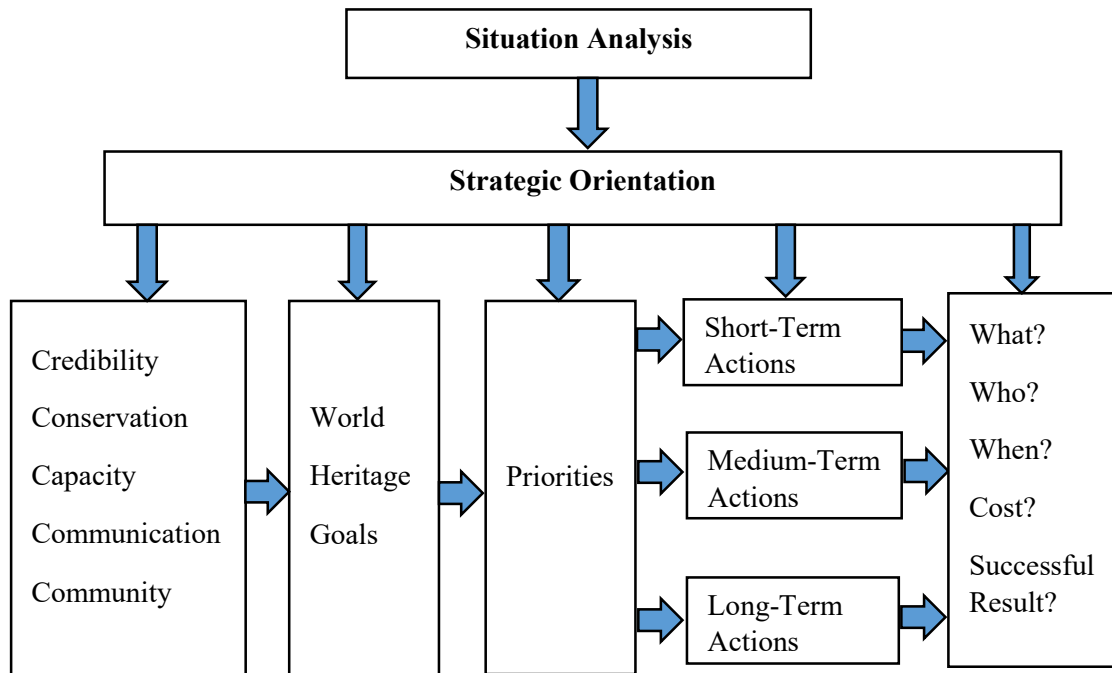


Figure 7. 1. Structure of the Strategic Action Plan.

Source: UNESCO World Heritage Capacity building programme (2011).

The seven dimensions were assessed. These include the following:

- *Situation Analysis dimension* - this was used to assess the extent on how the external and internal influences were identified as a starting point in the planning process. The internal situation included the state of the cultural landscape values, attributes and the skill base of staff, while the external situation included trends in legal and policy frameworks.
- The *strategic orientation* - this was used to evaluate the extent on how the planning process was either long-term or holistic.
- The *credibility dimension* was used to evaluate the extent at which the dissemination and promotion of the core principles of the World Heritage Convention such as outstanding universal value, integrity, and authenticity were integrated into the management planning framework of Mapungubwe cultural landscape.
- The *conservation dimension* was used to evaluate the conservation measures that has been integrated in the management planning framework of Mapungubwe World Heritage cultural landscape, including considerations on whether the outstanding universal value of

the cultural landscape, including conditions of integrity and authenticity, were being sustained or enhanced since the landscape's inscription on a World Heritage List.

- The *communication dimension* was used to establish the extent to which the management planning framework of Mapungubwe World Heritage cultural landscape integrated communication strategies into a strategic vision of the cultural landscape.
- The *capacity building dimension* was used to determine the extent to which the management planning framework of Mapungubwe World Heritage cultural landscape has integrated the issues of capacity building in the course of the planning period and beyond.
- The *community involvement dimension* was used to evaluate the extent to which management planning system at the Mapungubwe World Heritage cultural landscape was designed to support community involvement aspects.

These dimensions formed the conceptual categories for open coding. Therefore, a coding instrument was developed as part of the methodology and used in the review of the Mapungubwe World Heritage cultural landscape management planning framework. (Refer Table 7. 1 for an axial coding instrument, also as discussed in the methodology chapter 4).

Table 7. 1. The coding instrument used in the analysis

Coding Dimension	Coding Items
Situation Analysis	Description of tangible heritage
	Description of intangible heritage
	Description of land use pattern
	Identification of demographics
	Identification of economic character
	Identification of economic benefits
	Identification of tourism activities
	Identification of tourism capacity
Strategic Orientation	Long-term orientation
	Identification of economic goals
	Identification of environmental goals
	Identification of social goals
	Identification of heritage goals

	Identification of strategic alternatives
	Objectives supporting goals
	Objectives based on capacity
	Equitable objectives
Credibility	National Inventory available
	Site Database available
	Institutional capacity
	Governance structures
	Collaboration and Cooperation
	Boundary modifications
	Changes to existing criteria
	Transboundary re-nomination
Conservation	Strategy for sustainable management
	Institutional management system
	Allocation of resources
	Delineated boundaries
	Involvement of stakeholders
	Policy and regulatory measures
	Institutional coordination mechanism
	Monitoring and assessing impacts
	Responsibilities of stakeholders
	Linkages
Communication	Effective information-sharing
	Awareness-raising programmes
	Communication mechanisms
	Systematic dialogue
	Communication strategies
	On-site awareness
	Dialogue amongst stakeholders
	Assessment of communication strategies

	Integration of communication strategies
Capacity Building	Programmes to develop the capacity
	Strengthen existing networks
	Identification of targeted audience
	Capacity building needs of the property
	Use of periodic reporting processes
Community Involvement Dimension	Mutual understanding and collaboration
	Strategies for increasing awareness
	Inclusive participatory approaches
	Roles of different community groups
	On-site conflict resolution strategies
	Community participation strategies
	Communities common interest

7.4 Evaluation of Effectiveness and Impact on WHC Strategic Objectives (5Cs)

7.4.1 Situation Analysis

The review of the management plan first analyzed the situation dimension of Mapungubwe cultural landscape. The situation analysis dimension evaluated the extent to which internal and external factors affected the attributes and values of the landscape. This was established in Chapter 5 as a critical feature in the conservation and management of cultural landscapes.

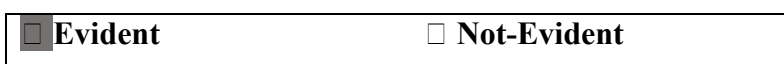
The management plan adequately described the general historical background of the landscape. The tangible and intangible heritage in association with other landscape physical features has been objectively and adequately described in the plan. The natural features has been described because they are an integral to the cultural landscape’s significance. The plan has identified the site-specific key issues influencing the management and conservation of the cultural landscape.

The plan also described the economic benefits of heritage tourism, however, it did not provide supporting financial evidence. It also did not consider the influence of broader socio-economic trends such as changes in visitor expectations, workforce characteristics or social policy objectives. The plan did not discuss the factual data in relation to tourism capacity; it also did not provide

detailed local demographic, economic or visitor data as the basis for decision-making; it did not also consider the impact of broader national or international demographic, economic or tourism trends, or provide a mechanism for regular ongoing evaluation of these dynamic external factors. Issues such as aging populations with traditional memories and changing tourist expectations have the potential to impact on long-term management objectives. Table 7. 2 below shows an evaluation of how situation analysis was evident or not evident in the management planning document.

Table 7. 2. Situational analysis evaluation, n=6

Situational Dimension	Coding Items	0	1	2	3	4	5	6
- Tangible and intangible heritage associated; - Natural features associated with the landscape. - Economic benefits of the cultural landscape and broader socio-economic trends.	Description of tangible heritage	Evident						
	Description of intangible heritage	Evident						
	Description of land use pattern	Evident						
	Identification of demographics	Not-Evident						
	Identification of economic character	Not-Evident						
	Identification of economic benefits	Not-Evident						
	Identification of tourism activities	Evident						
	Identification of tourism capacity	Evident						
	Identification of visitor details	Evident						
	Planning integration	Not-Evident						



7.4.2 Strategic Orientation

The assessment of the management plan also focused on the strategic orientation of the Mapungubwe cultural landscape. This has been established in Chapter 6 as a critical feature of the strategic planning dimension. The strategic orientation included nine coding items and was used to evaluate the extent to which planning process at Mapungubwe cultural landscape was long-term, evidenced by a causal mode of analysis, and holistic, evidenced by the generation of goals that identified a broadly based strategic direction rather than specific and quantifiable statements of intent. This dimension also sought to establish the extent to which goals were operationalized

as objectives. Objectives were assessed in terms of their relevance to the goals, and whether they were framed in a manner that permitted subsequent evaluation.

A linear planning process was evident in the management plan. The plan started with a broad vision/mission for the management plan followed by goals expressed as aims. Aims generally described the purpose of the management plan and provided a broader commitment to stakeholders. In terms of environmental and heritage management goals, the management plan referred to protecting and enhancing the natural values and safeguarding the outstanding universal value of the cultural landscape. Social and community goals were primarily evident in relation to enhancing public awareness. The plan also referred to building and maintaining strong partnerships between the community, local, regional, national and international organizations and recognizing that the Mapungubwe World Heritage cultural landscape is a living landscape which continues to evolve. The management plan has objectives that refer to strengthening community and economic life, combating economic decline and increasing community involvement and social inclusion. The management plan also referred to promoting a holistic and integrated approach and enhancing public awareness.

However, although the management plan included an opportunities and threat analysis, this was confined to the cultural landscape rather than the broader strategic environment. There was no evidence in the plan that a range of strategic alternatives had been evaluated. The need to manage information and develop adequate indicators to monitor progress was mentioned as a key management issue in the management plan. However, clear strategies to develop quantifiable measures for less tangible issues such as well-being were notable omissions in the plan. The evaluation of the strategic orientation dimension and coding items has been illustrated in **Error! Reference source not found.** below, which shows the extent that long-term planning was evident or not evident in the management plan.

Table 7. 3. Strategic orientation evaluation, $n=6$.

Strategic orientation Dimension	Coding Items	0	1	2	3	4	5	6
	Long-term orientation							

- Broad vision/mission for the management plan; Goals and objectives - Evaluation of strategic alternatives; clear strategies to develop quantifiable measures	Identification of economic goals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Identification of environmental goals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Identification of social goals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Identification of heritage goals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Identification of strategic alternatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Objectives supporting goals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Objectives based on capacity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Equitable objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Quantifiable objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evident Not-Evident

7.4.3 Credibility

The credibility dimension included 8 coding items relating to the extent to which the dissemination and promotion of the core principles of the World Heritage Convention such as outstanding universal value, integrity, and authenticity were integrated into the Mapungubwe Cultural Landscape management plan. This has been established in Chapter 2 as a critical feature in managing and protecting the values of cultural landscapes. An indication of improved documentation and systematization of attributes and values of the landscape was evident in the plan. There was also ongoing programmes to identify and interpret other heritage features and places within the property and in its buffer zones. The plan also emphasized on the enhancement of international cooperation through the established trans-frontier conservation area covering other cultural landscapes of Zimbabwe and Botswana. See Table 7. 4 for the coding matrix developed and eight coding items used to assess the extent at which credibility dimension was evident or not evident in the management plan.

Table 7. 4. Credibility dimension evaluation.

Credibility Dimension	Coding Items	0	1	2	3	4	5	6
	National Inventory available	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Site Database available	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- Documentation and systematization of cultural landscapes.	Institutional capacity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Governance structures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Collaboration and Cooperation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Enhancement of International Cooperation	Boundary modifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Changes to existing criteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Transboundary re-nomination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evident **Not-Evident**

7.4.4 Conservation

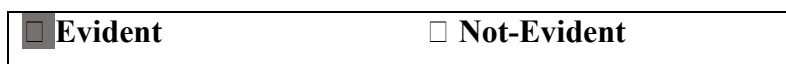
The assessment of the management plan also involved the evaluation of the conservation measures that have been put in place for Mapungubwe cultural landscape. This has been established in Chapter 3 as a critical feature of the sustainability of the cultural landscape. Specific issues that have been reviewed included considerations on whether the outstanding universal value of the cultural landscape, including conditions of integrity and authenticity, were being sustained or enhanced since the landscape’s inscription on the World Heritage List. Conservation as one of the strategic objectives for the implementation of the World Heritage Convention is of primary importance and it should be taken into account in all the activities undertaken in the implementation of the Convention (Sidorenko, 2011). To evaluate the conservation dimension ten coding items were used to assess the extent to which various conservation programmes have been integrated into the management plan of the Mapungubwe cultural landscape. The evaluation of the management planning framework had evidence of including long-term regulatory and effective institutional management system to help in safeguarding the attributes and values of the landscape. It also included information about the adequacy and delineation of the landscape boundary as one of the measures for effective protection of the outstanding universal values of the cultural landscape. The management plan also had a clear link on conservation, use and sustainable development within and inside the buffer zone of the Mapungubwe cultural landscape.

However, it was established that legal, administrative and financial measures necessary for the protection and conservation of the cultural landscape were not adequately discussed and integrated into the management plan. It was also noted that there was the complexity of decision-making and coordination of stakeholders. It was also noted that the institutional coordination mechanism at the

departmental, ministerial and professional levels was limited and sometimes conflicting, affecting the proper conservation of the attributes and values of the landscape. In addition, a lack of clear responsibility among different stakeholders for the effective implementation of the management plan was recorded. It was further revealed that in practice, the management planning document was not recognized in the national and local planning laws. Other issues that have been noted in the planning document was the irregular and unsystematic monitoring of the state of conservation of the cultural landscape in general due to various factors like financial and institutional capacity. The linkage between conservation, use and sustainable development was also limited in the management plan. The relationship of these coding items and the conservation dimension has been summarized in **Error! Reference source not found.** below.

Table 7. 5. Conservation dimension evaluation.

Conservation Dimension	Coding Items	0	1	2	3	4	5	6	
- Sustained and enhanced OUV of WH cultural landscape. - Appropriate and effective management and conservation system. - Linkage on conservation, use and sustainable development.	Strategy for sustainable management	Evident							
	Institutional management system	Evident							
	Allocation of resources	Evident							
	Delineated boundaries	Evident							
	Involvement of stakeholders	Evident	Not-Evident						
	Policy and regulatory measures	Evident	Not-Evident						
	Institutional coordination mechanism	Evident		Not-Evident					
	Monitoring and assessing impacts	Evident	Not-Evident						
	Responsibilities of stakeholders	Evident			Not-Evident				
	Linkages	Evident	Not-Evident						



7.4.5 Communication

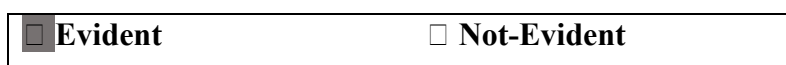
The communication dimension included nine coding items. This dimension was used to establish the extent to which the management plan integrated communication strategies into a strategic vision of the cultural landscape. Chapter 6 has discussed the necessity of information sharing and interaction among all stakeholders with a role in the conservation and management of cultural

landscapes. Functional communication supports local stakeholder participation in the conservation and management processes of the cultural landscape, (Luz 2000; Ljung 2001). The management plan has evidence of some form of effective information-sharing between the concerned stakeholders and the dissemination of research findings. The plan also has pointed out the need to continue with raising awareness to local communities and the general public to ensure that the World Heritage value, credibility, and quality of the cultural landscape is well understood at all levels. The management plan also included communication mechanisms with some of the stakeholders with vested interest in the management of different elements of the landscape. This has helped to improve the coordination of strategies and activities within and around the landscape. There was also evidence of on-going systematic dialogue between national authorities, civil society organizations and local communities on issues relevant to the management of the cultural landscape.

However, the application of the communication strategy to the wider audience was not clear in the planning document. This needed to be revised and updated to suit the new challenges of the World Heritage Convention in general and World Heritage cultural landscape in particular. It was also noted that to some extent there was a lack of on-site awareness of what a World Heritage Convention mean amongst the surrounding local communities. Therefore a deliberate effort was needed in the management planning document to address this issue. Assessment of the twelve communication coding items in the management plan document revealed a limited number of dialogue amongst stakeholders on issues directly affecting the cultural landscape. There was also no evidence of systematic assessment of the communication strategies that have been put in place, and no clear evidence of their integration into the management planning process of the landscape. Stenseke (2008) in his recent publication in *Land Use Policy*, has stressed that well-functioning communication arenas and trustful relations are positive for the ability to handle different situations and activities happening in cultural landscapes and other protected areas. Table 7.6 below illustrates the coding matrix developed and eight coding items used to assess the extent at which communication dimension was evident or not evident in the management plan.

Table 7. 6. Communication dimension evaluation.

Communication Dimension	Coding Items	0	1	2	3	4	5	6
		Communication for awareness raising of the WH Convention and to the general public.	Effective information-sharing	■	■	■	■	■
Communication between stakeholders for improved coordination of activities/strategies.	Awareness-raising programmes	■	■	■	■	■	■	■
	Communication mechanisms	■	■	■	■	■	■	□
Communication between stakeholders for improved coordination of activities/strategies.	Systematic dialogue	■	■	■	■	■	■	□
	Communication strategies	■	■	■	□	□	□	□
Communication between stakeholders for improved coordination of activities/strategies.	On-site awareness	■	■	□	□	□	□	□
	Dialogue amongst stakeholders	□	□	□	□	□	□	□
Communication between stakeholders for improved coordination of activities/strategies.	Assessment of communication strategies	□	□	□	□	□	□	□
	Integration of communication strategies	□	□	□	□	□	□	□



7.4.6 Capacity Building

The capacity building dimension included five coding items and was used to determine the extent to which the management plan document had integrated the issues of capacity building in the course of the planning period and beyond. The Table 7.7 below illustrates the coding matrix developed and five coding items used to assess the extent at which capacity building dimension was evident or not evident in the management plan.. The importance of capacity building among stakeholders in cultural landscapes was consolidated in Chapter 6 as necessary for achieving long-term changes and also in support of the objectives of the World Heritage Capacity Building Strategy (UNESCO 2011), a development which corresponds to *Article 5* of the World Heritage Convention and with the World Heritage Committee’s focus on capacity building as one of its five strategic objectives. Capacity building is central to ensure that there is a success in relation to other four strategic objectives (credibility, conservation, communication, and community)

In this thesis, capacity building for effective management of landscapes has been defined according to the UNESCO’s capacity building strategy (UNESCO 2011) as strengthening the knowledge, abilities, skills, and behavior of people with direct responsibilities for cultural landscape conservation and management; and improving institutional structures and processes

through empowering decision-makers and policy-makers. The review of the management plan has shown that it has included measures and programmes to develop the capacity to enable collect and develop information and good practice for better conservation and management of the cultural landscape. The plan has also developed strategies to strengthen existing networks and promote better conservation practices and capacity building across the landscape. According to the WHCB (2011), it has stressed that effective capacity building in cultural landscapes must ensure that strong joint networks are created for cultural and natural heritage professionals.

However, the management plan showed no evidence of strategies on how the targeted audience for capacity building will be identified. There was also no clear measures on how relevant institutions dealing with mining development, tourism, planning and other networks and local communities will be identified and empowered with knowledge and skills on better management and conservation of the landscape. The plan also lacked the means of understanding the specific capacity building needs of the property. This aspect was not well articulated in the management planning document. The plan also failed to indicate the use of periodic reporting processes and state of conservation reports on the development of on-site capacity building strategies. Capacity building is central to ensure that there is a success in relation to other four strategic objectives (credibility, conservation, communication, and community), see figure 7.2. below.

Table 7. 7. Capacity building dimension evaluation

Capacity Building Dimension	Coding Items	0	1	2	3	4	5	6
Knowledge and skills in conservation and management of WH cultural landscapes.	Programmes to develop the capacity	■	■	■	■	■	■	■
	Strengthen existing networks	□	□	□	□	□	□	□
	Identification of targeted audience	■	■	□	□	□	□	□
	Capacity building needs of the property	■	■	□	□	□	□	□
	use of periodic reporting processes	■	□	□	□	□	□	□

■ Evident □ Not-Evident

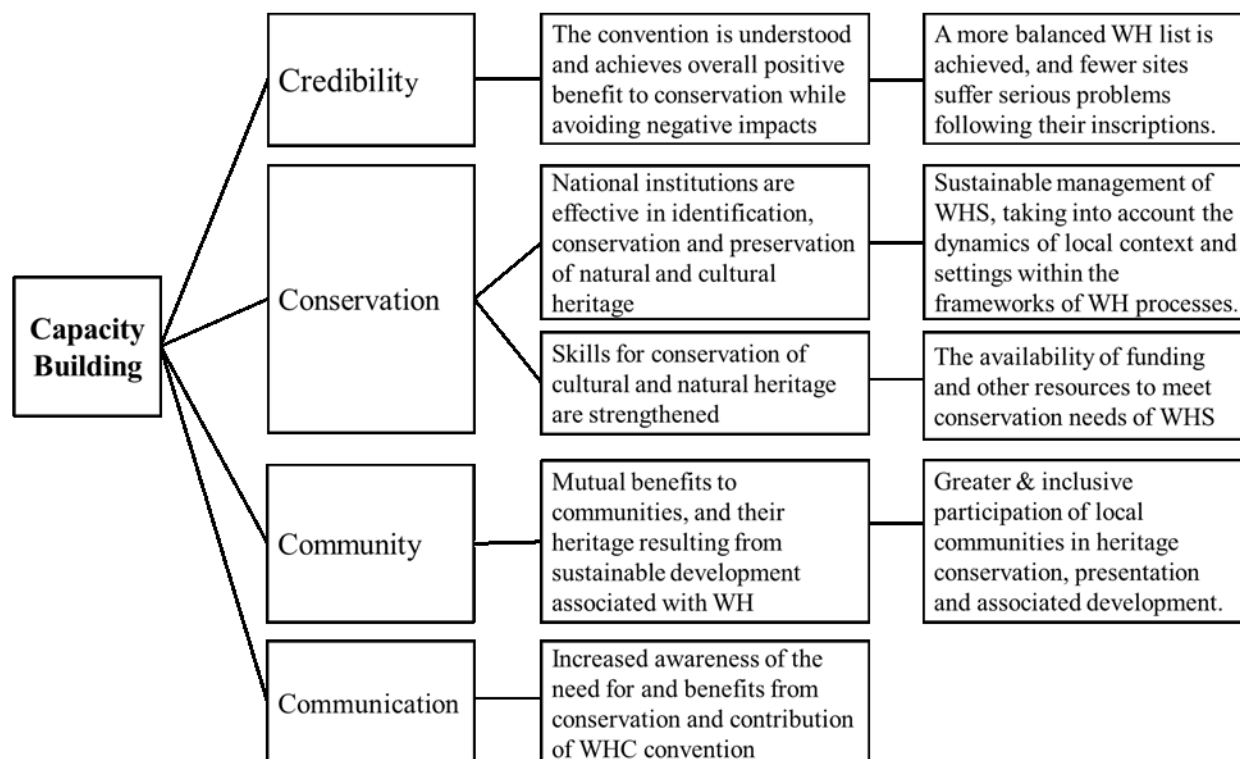


Figure 7. 2. Capacity building dimension in relation to other four strategic objectives.
Source: Sidorenko, (2012).

7.4.7 Community Involvement

The community involvement dimension included twenty-three coding items. This dimension was used to evaluate the extent to which management planning system at the Mapungubwe World Heritage cultural landscape was designed to support community involvement aspects. The active involvement of stakeholders including local communities was established in Chapter 6 as an important element in the sustainable use of the natural and cultural resources of cultural landscapes. The chapter also recognized local communities as key actors in the process of identification and sustainable management of attributes and values of cultural landscapes. As also noted in the Budapest Declaration that there is need to ensure active involvement of local communities and other stakeholders in the identification, protection, and management of all World Heritage properties, (UNESCO 2002: Article 3). The table 7.8 below illustrates the coding matrix developed and seven coding items used to assess the extent at which community involvement dimension was evident or not evident in the management plan

Table 7. 8. Community involvement dimension evaluation

Community Involvement Dimension	Coding Items						
		1	2	3	4	5	6
- .Local community as key actors in processes of identification and sustainable management of the landscape.	Mutual understanding and collaboration						
	Strategies for increasing awareness						
	Inclusive participatory approaches						
	Roles of different community groups						
	On-site conflict resolution strategies						
	Community participation strategies						
	Communities common interest						

The management plan had included measures of exploring ways of encouraging and generating mutual understanding and collaboration with local communities and other stakeholders concerned with the protection and management of the Mapungubwe cultural landscape. The plan also had strategies for increasing levels of awareness on different aspects of community involvement and ways of implementing participatory approaches in cultural landscape management and conservation practice.

However, the plan failed to show evidence of clear strategies on how the roles of different local community groups will be enhanced and reinforced in their involvement in the implementation of the World Heritage Convention. There was also minimal evidence on how on-site conflicts due to lack of dialogue between local authorities and local communities could amicably be resolved. The plan also lacked a clear community participation strategy, including participatory planning processes involving local and national stakeholders. It was also not clear in the management plan on the means of identifying local communities with a common interest in issues of mining development within and outside the cultural landscape.

7.4.7.1. Collaboration Linkages

The collaboration linkage dimension included three coding items, (see Table 7.5). This dimension was used to evaluate the extent to which collaboration strategies at the cultural landscape was designed to support collaborative linkages between heritage agencies and community groups, and

encourage flexibility, innovation, and organizational learning. It was evident that the management plan seeks to establish a framework for long-term inter-organizational collaboration. Inter-organizational collaboration here has been defined as a process of joint decision-making among autonomous key stakeholders in a social problem domain, aimed at agreeing on a direction for action and implementing and managing strategies designed to achieve desired goals in relation to the problem domain, (McCann 1983; Wilson and Boyle 2006).

The collaboration was facilitated through a partnership of stakeholders comprising of local community members, representatives from government institutions, non-governmental agencies, landowners and mining companies. The cultural landscape has a site manager whose role was to provide administrative support to the partnership and ensure coordination between the partnership members. However, the role of the site manager in holding the partners accountable for the activities of the landscape is not clear. A collaboration facilitation mechanisms as identified by Wilson and Boyle (2006), of assisting in the effective delivery of management plan objectives, were not so evident in the planning document.

The management plan has indicated a commitment to the extensive implementation of objectives to be executed by different stakeholders. The second expedition mechanism was a clear action plan linked to a collaborative funding framework and performance measures. The management plan showed a commitment to collaborative objectives which also linked action plans to collaborative funding. On the basis of this evaluation, collaboration appears as much a matter of necessity as it is a commitment to the ideals of participatory management.

7.4.7.2. Stakeholder Identity

The stakeholder identity dimension included six coding items, see Table 7.5. This dimension was used to establish the extent to which the management plan integrated the values, needs, and expectations of stakeholders into a strategic vision of the cultural landscape. Chapter 6 has discussed the necessity of stakeholder involvement in the conservation and management of the attributes and values of cultural landscapes as an expectation of management process. Defining a shared understanding of the cultural meaning of a site is necessary for there to be a collective sense of ownership and responsibility, or what Smith (2006) refers to as an ‘emotional engagement’ with a site.

The management plan has referred to some form of stakeholder consultation. Although, how the process was conducted, what understanding came from it, and how it was integrated into the strategic planning process was unclear in the planning document. Statements such as ‘consultation with the local community and relevant organizations and agencies’, indicated an assumed authority in relation to the process and suggested it did not require a more explicit description.

Assessment of the stakeholder identity coding items in the management plan document revealed that only issues of community values and attitudes directly affecting the cultural landscape has been addressed. There was no evidence of the systematic assessment of contemporary community values and attitudes to issues such as equity and social justice, lifestyle features such as leisure and self-enhancement activities, or quality of life characteristics such as community health and social engagement patterns, and no evidence of their integration into the management planning process.

The management plan referred to the need to develop performance measures and indicators for measuring change. However, there was no indication that broader community values or quality of life measure were to be developed. There was also minimal evidence that the vision for the landscape was aligned with community values. There was an assumption of having a common understanding regarding the cultural landscape value of the area. Despite it being fundamental to any sustainable development agenda, this indicates the complexity of balancing community values.

7.4.7.3. Participation Scope

The participation scope dimension included eight coding items. This dimension was used to determine the breadth of stakeholder engagement and the degree of influence each stakeholder group had over the decision-making process. Stakeholder participation was established in Chapter 6 as necessary for strategic goals to be seen as legitimate. Broad stakeholder participation was also seen as necessary if the diverse expertise and resources needed to tackle a social problem such as sustainable development were to be harnessed. As Williams (2006) observes, ‘because no single actor has the knowledge and resource capability to tackle problems unilaterally’ proper management and conservation of cultural landscapes needs to be grounded in multi-organizational and multi-stakeholder environments. This again highlights the tension between local stakeholders and those managing protected cultural landscapes.

The management plan detailed a partnership structure among varying numbers of key stakeholders. The plan provided partnership member names and detailed objective implementation responsibilities. Local government agencies dominated the membership and the implementation of objectives in the plan. An organization or individual was deemed to have participated in the planning process if they had an active role in the implementation of objectives. The generic 'public consultation' process noted in the plan was not deemed participation because of the lack of influence over the planning outcomes. Objective implementation responsibilities were spread across governmental and non-governmental agencies, businesses, residents and visitor groups in the management plans.

An organization or individual was deemed to have influence over the development of strategic directions if they were part and parcel of the management committee of the Mapungubwe World Heritage cultural landscape. The management plan referred to consultation has taken place if it was evident that the consultation process had been directed by the cultural landscape concerns of the relevant government and non-governmental agencies and major landowner group who made up the management committee, rather than an open process negotiation. The plan was developed as a result of extensive research and consultation with public bodies, private landowners, and local communities.

7.4.7.4. Participation Continuity

The participation continuity aspect included four coding items and was used to determine the extent at which stakeholders were engaged at the start of the strategic planning process, would continue to be engaged over the course of the planning period and beyond. The continuity of stakeholders was consolidated in Chapter 6 as necessary for achieving long-term change. Continuous stakeholder participation was also established in the same chapter where both the Budapest Declaration and the Operational Guidelines call for the active involvement of a wide variety of stakeholders in the management processes of World Heritage sites, (UNESCO 2002).

Stakeholder participation in the prioritization of objectives was investigated as a first step toward the development of joint responsibility for the outcomes of the strategic planning process. However, the management plan showed no evidence of broad stakeholder participation in the prioritization of objectives. This was due to the fact that it was difficult to gauge whether broad

stakeholder participation did contribute to the final chosen strategic direction. The management plan also failed to indicate that prioritization of objectives had been a negotiated process amongst the cultural landscape management committee members.

The management plan document has listed a series of action plans derived from the analysis of the key management issues. As with objective implementation responsibilities, the plan used a project register to list project timelines and their implementation status. However, with many of the projects being assigned to one implementer and the management plan lacking a comprehensive set of collaborative performance indicators, it was difficult to gauge what the evaluation and review process involved.

The plan did not clearly address the issue of ongoing partnership and legitimacy. As noted by Williams (2006), sustainable development will involve a variety of public, private and voluntary organizations in a 'complex set of shifting and dynamic relationships and connections, with interfaces characterized by ambiguity and tension'. Therefore, any system of governance will need to remain flexible and ready to act within loose collaborative networks. Such a system also needs the capacity to recognize self-interest and promote innovative thinking amongst cultural landscape management committee members.

7.5 Semi-Structured Interview Analysis and Theme Rationalization

As outlined in Chapter 4, Methodology, the semi-structured interviews contributed to a holistic understanding of the cultural landscapes used as case studies and were used to corroborate data from the documentary evidence and physical surveys. Interviews were used to develop a deeper understanding of the stakeholder relationships and management processes used at the two cultural landscapes. The following section uses thematic analyses to examine the semi-structured interviews in greater detail. A total of twelve interviews were included in the study. The selection criteria for the choice of the interview participants were the following:

- Be either a manager responsible for the management of the cultural landscape or public officer within the government conservation agencies responsible for the management and conservation of cultural or natural heritage and or;

- Be in a position of influence in the management planning processes of the cultural landscapes and accountable for the outcomes of the processes.

The thematic analysis of the interviews relied on the coding dimensions derived from the qualitative content analysis of the site management planning framework, with an emphasis on 5Cs. The interview procedure and the process of thematic analysis adopted in the following section have been further detailed in Chapter 4, methodology.

7.5.1 Semi-Structured Interview Thematic Analysis: The Strategic 5 Cs

7.5.1.1 Situation Analysis

The situation analysis dimension related to the extent to which internal and external factors impacting on some aspects of cultural landscapes were assessed as part of the planning process. This discussion commenced with a question about the use of analytical techniques such as benchmarking, strengths, weaknesses, opportunities, weaknesses, and threats (SWOT) analysis, or investment appraisal methods such as cost-benefit analysis to support decision-making. The management plan analysis indicated that the conservation planning process defined by Feilden and Jokilehto (1998) was used thoroughly, but there was limited use of other formal strategic management techniques to guide planning and decision-making.

7.5.1.2 Strategic Orientation

The strategic orientation dimension assessed the extent to which the planning process at the cultural landscape was either long-term, holistic and objective oriented. The management plan analysis indicated that a linear planning process was evident at Mapungubwe World Heritage cultural landscape. However, the extent of long-term and holistic strategic thinking was not well clarified. The description of the planning process was also limited and there was an emphasis on economic and conservation objectives. Sustainable development and social community benefits were mentioned but lacked detail and measurable outcomes.

7.5.1.3 Credibility

The credibility dimension investigated if the core principles of the World Heritage Convention such as outstanding universal value, integrity, and authenticity were being adequately promoted among all stakeholders. Most of the interview contributors indicated that there were an improved documentation and systematization of the attributes and values of the Mapungubwe cultural

landscape. They also pointed out some examples of on-going projects aiming at identifying and interpreting cultural and natural features of the landscape. They also agreed that international cooperation has been enhanced through the establishment of the trans-frontier conservation area covering two neighboring countries.

7.5.1.4 Conservation

The conservation dimension investigated the conservation measures that were employed in the cultural landscape. Discussions focused on the extent of how the outstanding universal value of the cultural landscape, including conditions of integrity and authenticity, were being sustained or enhanced. Key information was solicited from key informants responsible for the conservation issues of the landscape. The following two key questions relevant to conservation were included in the questionnaire:

- How did conservation authorities use results of periodic reporting exercises to plan for conservation activities at Mapungubwe cultural landscape?
- And secondly, what steps have the conservation authorities made to integrate the protection of the Mapungubwe cultural landscape into wider national programmes?

From responses gathered through the questionnaire administered, on the first inquiry, the interview participants indicated that the conservation authorities mainly use the results of the periodic reporting exercises to improve the general management of the cultural landscape; identify the needs of the landscape; improve the policies and legislation; and plan for other management and conservation activities based on the issues that has been reported. On the second inquiry, the respondents who answered the questionnaire on some of the steps conservation authorities have made to integrate protection of the landscape in national programmes, indicated that there was the annual provision of development and operational funds for the implementation of the landscape. There was also some initiatives to reinforce heritage and other related laws, and an increase in cooperation with other neighboring countries in which the property shares boundaries. In general, it was reported that conservation of the heritage resources as one of the important dimension should be taken into account when planning for mining development programmes.

7.5.1.5 Communication

The communication dimension investigated the extent to which the management plan integrated communication strategies into a strategic vision of the cultural landscape. The analysis of the plan has indicated that it has communication strategies for effective information sharing among all stakeholders. To better understand the communication dimension of the cultural landscape, information from key informants were solicited from the questionnaire administered. One critical question that was asked in relation to communication was on:

- How did conservation authorities ensure that World Heritage status of Mapungubwe cultural landscape was being adequately communicated and promoted to the general public?

Analysis of the responses from the respondents revealed that there were adequate communication and promotion of the World Heritage status of Mapungubwe. They mentioned the following means of promoting the landscape to a wider community; campaigns, workshops, lectures, and talks about the landscape; promotional activities and cultural festivals at the site; through educational programmes in schools around the World Heritage property; informational signs across the landscape; and availability of information kits. Generally, the inquiry was based on two levels of awareness-raising. Awareness-raising concerning the cultural landscape itself and awareness to the general public with regards to the World Heritage Convention, its objectives, principles, mechanisms, roles, and obligations of responsible institutions to implement the Convention.

7.5.1.6 Capacity Building

The capacity building dimension investigated the extent to which the management plan document integrated the issues of capacity building in the course of the planning period and beyond. The analysis revealed that the plan had some capacity building strategies and measures to strengthen networks for better management and conservation measures of the landscape. To better understand the capacity building dimension of the cultural landscape, information from key informants was also generated from the questionnaire administered. One critical question that was asked in relation to capacity building dimension was:

- What measures should be done to ensure that there was effective capacity building in Mapungubwe World Heritage cultural landscape?

Majority of the responses said that there was a need to create an effective information management structure that should effectively disseminate information on training programmes and activities on World Heritage issues and capacity building opportunities at all levels. The interview analysis also showed the need for ensuring effective communication between providers of capacity building with the audiences/beneficiaries. The analysis also indicated the need to strengthen the national legislation and co-operation between different levels of authorities responsible for the management and conservation of the cultural landscape. Organisations of on-site training workshops and seminars with specific themes of the cultural landscape were also emphasized. Three target audiences for capacity building was broadly identified as practitioners, institutions, and communities (UNESCO 2011).

7.5.1.7 Community Involvement

The community involvement dimension investigated the extent to which management planning system of the cultural landscape integrate and support community involvement aspects in the management processes. The analysis of the plan has shown that there were strategies in place to increase awareness and involve local communities in different aspects of the management and conservation of the landscape. However, in order to fully understand community involvement at the site level, two exploratory relevant questions were included in the questionnaire that was administered to key informants. The following two questions were asked:

- Does the cultural landscape have plans to cooperate with local communities in the decision-making of conservation and development projects, preparation of periodic state of conservation reports and its follow-up activities?
- Which approach has been developed or could be developed by the management authorities of Mapungubwe cultural landscape to enhance the collaboration and cooperation with local communities?

Various responses were generated from this questionnaire survey. On the first question, almost all respondents mentioned that the landscape has plans to cooperate with local communities in all aspects of decision-making for issues to do with the landscape. On the second question, a variety of responses were provided. These included; organizations of awareness campaigns at local, national and regional levels; development of integrated conservation plans; dialogue and exchange

of information; active participation of stakeholders; organizations of workshops and seminars, among others.

On the aspect of collaboration linkages, the examination focused on the extent to which organizational systems and structures at the cultural landscape were designed to support collaborative linkages between organizations and community groups, and encourage flexibility, innovation, and organizational learning. This section of the interview, therefore, focused on inquiring about the organizational structure and management skills. The interview analysis showed evidence that the management system at the cultural landscape has a framework for long-term collaboration through a multi-organizational partnership structure. On the aspect of stakeholder identity which was exploring the extent to which the values, needs, and expectations of stakeholders were integrated into a vision of the landscapes Analysis of the management plan for Mapungubwe World Heritage cultural landscape has indicated limited engagement with local values and issues beyond assessing attitudes to cultural landscapes.

The participation scope aspect was investigating the breadth of stakeholder engagement and degree of influence of stakeholders in decision-making processes. The discussion focused on how site managers understood key stakeholders in the management and conservation of cultural landscapes and how those stakeholders have been involved in the management planning process. Analysis of the management plan indicated that there had been strong government and non-government institutional participation in the planning stages and influence on objectives of the Mapungubwe World Heritage cultural landscape. The participation continuity aspect examined the extent to which stakeholders were engaged in the strategic planning process continues. Analysis of the management plan indicated that responsibility for the implementation of planning objectives was assigned, to varying degrees, across all members of the cultural landscape management committees.

7.4.2 Theme Rationalization

The previous section described participant responses to each coding dimension. The primary responses and emergent themes have been illustrated with appropriate descriptions from the interview transcripts. The initial analysis of the interviews identified a relatively consistent primary

response against each coding dimension across interview participants. A number of emergent issues were identified within each dimension and summarized as keywords.

The primary responses generally supported the findings of the management plan content analysis. However, as themes emerged, a more complex set of forces became apparent. Firstly, it was evident that the types of analytical techniques normally utilized in a strategic planning process were not applied consistently. The skills and resources of individual cultural landscape management committee members and specialists in heritage conservation and management were critical to the provision of technical support for decision-making. Secondly, it was evident that the partnership structures in place at the Mapungubwe cultural landscape were complex and multi-faceted. As a result, strategic planning processes did not provide a truly collaborative long-term and holistic approach. On the organizational structure of Mapungubwe, like the strategic orientation aspect, it was evident that the complex and multi-faceted partnerships structures at the landscape had an impact on decision-making. However, the partnership structure did provide flexibility and allow for innovation. While not mentioned directly, it was apparent that the heritage conservation agency which hosts the Mapungubwe World Heritage cultural landscape management office took the leadership role in the implementation of set objectives. Also not mentioned directly was the need for a site manager to exercise skills as negotiators and champions for critical issues affecting the landscape.

Thirdly, on the implementation of the WHC strategic objectives, the 5Cs, on the first objective – credibility, it was evident that the documentation and systematization of information for the attributes and values of the landscape were well organized and coordinated using available systems. On the conservation aspect, it was evident that there was complexity in decision-making affecting the enforcement of legal, administrative and technical measures for the conservation of the landscape as a whole. On the communication aspect, it was evident that there was a lack of clear and effective communication strategy which could be applied to the general public. This calls for a revised strategy that can be integrated into the management planning processes of the landscape. On the capacity-building aspect, it was evident that there were no clear mechanisms on how the specific needs of the targeted audience and institutions could be identified and trained. On the community aspect, it was evident that there were strategies in place on how the roles of different community groups will be enhanced.

It was apparent that the integration of stakeholder values, needs and expectations was limited primarily to partnership organizations. There was limited evidence of broader community participation in the development of a mission for the cultural landscape. Interview participants indicated an awareness of having a broader role within the community. However, because of the constraints of the partnership structure and the principle commitment to conserving the historic significance of the landscape, they had a limited capacity to develop extensive socio-economic strategies and to evaluate their outcomes.

The integration of stakeholders into the formal planning process was also limited to those organizations who were members of the partnership structure, and that these roles were not reviewed regularly. There were apparent difficulties obtaining broad participation in the cultural landscape and problems associated with the collaborative evaluation of objectives and outcomes as part of a holistic planning process.

7.6 Discussion: Data Synthesis

The following discussion aims to synthesize the results presented above in terms of the seven coding dimensions – situation analysis, strategic orientation, credibility, conservation, communication capacity building and community involvement. The results are connected back to the literature which provides the theoretical grounding of the research. The synthesized results are drawn together into a comparative framework of cultural landscape management that indicates the gaps between current best practice for Mapungubwe cultural landscape in South Africa and the proposed integrated management planning methodological framework to be applied for Mulanje Mountain cultural landscape.

7.6.1 Situation Analysis

An extensive situation analysis is an accepted foundation for holistic and long-term decision-making (Viljoen and Dann 2003). This includes not only an analysis of the cultural and natural significance of a cultural landscape but also other internal influences, such as the staff skill base, and external influences, such as trends in heritage policy or tourism demand. Despite a strong awareness of cultural landscape situational factors and an expectation that the Mapungubwe cultural landscape would contribute to a local economic and social regeneration, there was limited evidence in the reviewed management plan of an analysis of internal issues or an engagement with

broader economic and social issues or trends. This lack of analysis would otherwise reduce the capacity for the cultural landscape management to respond quickly and effectively to changing trends. A narrow focus of cultural landscape management related issues would equally limit benefits that might otherwise flow to the broader community.

The interviews supported this finding but also revealed that partner organizations provided many of the technical skill that would normally be utilized in strategic decision-making. These include analytical techniques such as benchmarking, cost-benefit, SWOT and value chain analysis. As noted earlier, McCann (1983) suggests that where no one entity has the responsibility for a social problem, new institutional and legal frameworks are needed to coordinate any intervention. Furthermore, Willaims (2006) and Wilson and Boyle (2006) support inter-organizational collaboration as an appropriate framework in situations where no one organization has the knowledge or resources to tackle the problem unilaterally. The continuous threat of mining development projects in World Heritage cultural landscapes is viewed in this thesis as a problem.

Despite this support, many of the criticisms of partnership arrangements described earlier in this thesis were also evident in the interviews. Various stakeholders were disposed to focus on their own project-specific objectives. This manifests itself in an evident tension between the effectiveness, legitimacy and participation principles of governance described in Davison and Lockwood (2008) and the principles of inter-organizational collaboration described by Wilson and Boyle (2006). Most discussions acknowledge the logistical need for some form of partnership structure. However, this was tempered with the recognition that there were inherent coordination issues. It was clear that centralized data collection and the development of meaningful performance indicators would support greater coordination. It was also clear that the site manager skills and the capacity of the site office to undertake the full strategic planning and review process were also critical in the coordination process.

7.6.2 Strategic Orientation

Assessing a range of strategic alternatives and developing a balance of economic, environmental and social objectives has been established as critical to longer-term sustainability (Simpson 2001; Viljoen and Dann 2003). Such strategic orientation is capable of assessing dynamic problem domains and bringing together the resources necessary to impact on the problem in the most

effective way (McCann 1983). Achieving an equitable balance of objectives has, however, been established as problematic (Bull and Jones 2006; Davies, 2002; Litting and Griessler 2005). This was evident in the management plan analysis. The plan followed an established linear process of setting objectives and developing action plans to meet these objectives. However, while the focus was on the conservation of the OUV of the World Heritage cultural landscape, broader socio-economic objectives and quantifiable measures for the less tangible values associated with the cultural landscape was not evident.

By contrast, the interviews did reveal an awareness of the broader role the cultural landscape played within the local community. However, discussions focused on income generation, tourism and employment growth as major issues. It was evident that there was limited operational capacity and vision within the partnership structure to integrate long-term socio-economic objectives into the planning process of the cultural landscape. This supports the findings of Pendlebury et al. (2004) who highlighted a need for a 'greater clarity of thinking' if historic environments are to contribute to broader socio-economic issues. It also supports the findings of Stubbs (2004) who notes the lack of a robust framework for measuring sustainable development objectives at heritage sites.

Multi-faceted and complex funding arrangements were also shown to be a contributor to the capacity to develop strategic objectives. Discussions supported the view that objectives were short-term and project specific, with cultural landscape management committee members taking independent responsibility for implementation. The lack of a rigorous evaluation and review process was symptomatic of this fragmentation, although the importance of structure and basic systems as a driver of collaboration has been emphasized (Wilson and Boyle 2006).

7.6.3 Community Involvement

A community-led vision that incorporates local values and attitudes contributes to a collective sense of responsibility and enhances connections between a heritage site and the local community (Simpson 2001). Jointly establishing values, needs and expectations is also a key step in establishing who the legitimate problem domain stakeholders are (McCann 1983). Despite this critical role, there was minimal evidence that a community vision was addressed in the management plan. Furthermore, the internalized strategic focus indicated that, however vague the

consultation process, it was assumed to equate to a common understanding regarding the cultural values of the cultural landscape. This is in line with the findings of Simpson (2001) and Aas et al. (2005) who note that the difficulties associated with isolating legitimate stakeholders and ensuring equal participation usually result in tokenistic informing rather than the true delegation power.

The interviews also indicated that community participation in the development of vision was problematic. Again, there was awareness amongst participants of the broader role each site played within the local community and the need to promote greater inclusion in the management process. However, the primary role of participants is to conserve the outstanding universal values of the World Heritage cultural landscape which can be inconsistent with community visions of a sustainable future. It was also evident that there was a limited sense of how the broader participation might be generated and managed within the current system. Waterton et al (2006) see this as a 'failure to identify to what extent, or how, the expert should give ground or engage with the community'.

Like the development of a vision that incorporates local values and attitudes, the capacity for all stakeholders to contribute to the management of cultural landscapes is accepted as fundamental to empowering local communities and enhancing the equitable distribution of the benefits of that resource (Aas et al 2005; Simpson 2001). As Gallent (2008) suggests, there is also a struggle in such a process between the need to balance the devolution of power to communities with the need to retain strategic oversight, in this case in relation to the conservation of the attributes and values of cultural landscapes. It was clear that there was a commitment to stakeholder collaboration in the management plan. The difficulty of isolating legitimate stakeholders and then ensuring equal participation was also evident. The plan focused on the development of formal partnership relationships between government and non-government organizations rather than broad-based collaboration with informal community groups and individual citizens.

The interviews supported this finding. Participants emphasized the partnership as the primary mechanism for participation and highlighted the difficulties of broad-based participation in the planning process. The significant role played by local authorities as conduits for community communication rather than democratic participation, was apparent. Also apparent was the need for

stronger strategic planning process and performance measures that would enable a more integrated and longer-term approach to be taken.

Continuous stakeholder engagement that facilitates ongoing independence and commitment has been identified as necessary if systematic changes are to occur (Williams 2006). It is also a necessary component for the ongoing viability of a social problem-solving intervention (McCann 1983). The ‘active involvement’ of local communities in the management process is called for in the Budapest Declaration (UNESCO 2002), while the ‘participation of local and national populations in the protection and presentation of heritage’ is a stated objective in the Operational Guidelines (UNESCO 2008: Article 211). However, Pendlebury et al (2004) point out that ‘partnership building’ has been a significant feature of urban regeneration policy in historic areas, yet partnerships have ‘frequently been criticized for being opportunistic and short-lived to capture resources and for having no real transforming impact on power relations’. This point is supported by other such as Bull and Jones (2006), Davies (2002), Davidson and Lockwood (2008) and Chhotray and Stoker (2009). This raises questions about whether it is possible to balance the conservation and management of the attributes and values of the cultural landscape with the active involvement of local communities looking for development. The management plan, however, did not show evidence of broad stakeholder participation in the setting of objectives and also did not indicate a clear process for a review of stakeholder participation.

This was supported by the comments related to the review of the management plan rather than a broader review of the partnership structure and participation processes. Responses also focused on the achievement of project-based operational issues and the need to respond to external reporting requirements such as UNESCO’s periodic reporting. There appeared not to be an active annual systematic review process in place as would be the case in a normal cyclic strategic planning process. The lack of consistent performance measures and data collection capacity was indicated by several respondents to be an issue, as was the independence of individual organizations.

7.7 Chapter Summary

This chapter has provided results of the assessment of the management planning framework for Mapungubwe cultural landscape. The chapter has provided detailed results of how the management plan has achieved and incorporated the strategic objectives of the UNESCO’s

strategic action plan for the implementation of the World Heritage Convention 2012-2022. These include credibility, conservation, capacity-building, communication, and community involvement. Further to this, the chapter has also provided results of the content analysis of the management planning framework. The focus has been on presenting the extent of the integration of various dimensions of the management planning instrument into the management planning system of the cultural landscape. These include; situational analysis, strategic orientation, organizational structure, stakeholders identity, participation scope and participation continuity. The last part of the chapter has presented the results of the semi-structured interviews and theme rationalization in relation to the various dimensions that have been used to evaluate the content of the management planning framework.

The results generally indicate that the management of African cultural landscapes necessitates a broader approach than that proposed by Feilden and Jokilehto (1998) *Management Guidelines for World Heritage Sites*. There was evidence of conflicting interests in the management and conservation approaches in the cultural landscapes. This calls for a need to revise management guidelines that should encompass a stronger strategic planning process at World Heritage cultural landscapes, and a need for greater operational capacity linked to national funding frameworks.

The following chapter 8, Discussion and Application, has proposed and applied an integrated strategic management planning methodological framework, as a theoretical tool for integrating development in protected cultural landscapes. The instrument incorporates the conventional approach to strategic planning found organizational literature (Johnson et al. 2008) and the collaborative decision framework suggested by McCann (1983). The methodological framework has then been applied to Mulanje Mountain cultural landscape in Malawi.

CHAPTER EIGHT

8 DISCUSSION AND APPLICATION: STRATEGIC MANAGEMENT PLANNING METHODOLOGICAL FRAMEWORK

8.1 Introduction

This chapter discusses a management planning methodological framework that has been developed in order to integrate mining development in cultural landscape management planning programmes. This methodological framework for cultural landscapes has been developed as a practical methodological tool to be applied in all protected cultural landscapes that need to integrate development activities in protected cultural landscapes. It is intended to offer performance standards for achieving and maintaining appropriate use and management of resources of cultural landscapes.

This proposed management planning methodological tool includes a framework of spatially represented information connected to significant aspects of cultural landscapes such as the relationship between the local people and their associated environment. A key function of this proposed framework is to methodologically identify and integrate areas of potential conflict between mining development projects and protection of significant attributes and values of cultural landscapes. It will achieve this by integrating the sustainable utilization of natural and cultural heritage resources of the cultural landscapes through the application of proposed landscape management planning strategies.

The chapter has been divided into three parts. The first part presents a framework that compares current best practice derived from the case study results of Mapungubwe with an integrated best practice for cultural landscape management proposed in this chapter. The second part is the discussion on the developed management planning methodological framework which has aimed at promoting integration and sustainability on the use of the resources of the cultural landscapes. On the last part, is the application of the suggested management planning methodological framework to Mulanje Mountain Cultural landscape.

8.2 Comparative Framework

The previous chapter synthesized the findings of the assessment of the effectiveness of management planning framework of Mapungubwe cultural landscape. The results indicated a complex situation in that the management plan document primarily responded to the criterion for inclusion on the World Heritage List, while the implementation of the management plan responded to other more complex-specific issues such as mechanisms for effective collaboration and general expectations of the stakeholders. The intention stated in the management plan was sometimes different from the implemented reality. This indicates the degree of flexibility in the partnership structures used in the cultural landscape. It also indicates a limited capacity of the administration of the Mapungubwe World Heritage cultural landscape to undertake major strategic initiatives. Table 8. 1 below presents a framework that compares current best practice, derived from the case study results in Chapter 7 and an integrated best practice as proposed in this chapter.

Table 8. 1. A comparative framework of cultural landscape management.

Dimension	Best Practice Mapungubwe Cultural Landscape Management	Integrated Best Practice Cultural Landscape Management
Situation Analysis	Analysis based on issues of immediate concern for the conservation of cultural landscape value.	Analysis based on broad trends and issues that impact on the sustainable use of cultural landscapes
	Specialized cultural landscape management skills and technical expertise dominate.	Multi-disciplinary skills (including cultural landscape) and volunteer capabilities utilized.
Strategic Orientation	Segmented and isolated planning process.	Holistic integrated planning process.
	Focus on linear, short-term heritage related goals.	Focus on causal, long-term vision which accommodates cultural landscape goals.
	A strategy based on an assessment of risk to heritage value.	Options generated and priorities negotiated that integrate cultural landscape value risk assessment.

	Quantitative measures of cultural landscape specific outcomes.	Qualitative and quantitative sustainability measures that integrate cultural landscape outcomes.
	Responsibility for implementation based on organizational expertise.	Responsibility for implementation based on multi-dimensional values.
	Segmented review process.	Holistic review process.
Credibility	Master plan concerning sustainable heritage development.	Integration of management plan into the wider regional strategic development plan.
	Agreement for the sustainability of the cultural landscapes.	Innovative management practices; a and inter-institutional cooperation agreement
Conservation	Specialized- approach to the protection of the cultural landscape.	A multi-faceted approach to the protection of the cultural landscape.
	Conservation and development regulatory policies within cultural landscapes.	Innovative conservation policies and compatibility strategies for integrating development within cultural landscapes.
Communication	Streamlined measures for diffusion of cultural heritage and other development programmes.	Diverse strategies for diffusion of cultural heritage and other development programmes.
	Cultural landscapes communication initiatives.	Integrated and interdisciplinary heritage communication programmes.
Capacity-Building	Personalized training schemes and visitor code of conduct.	Holistic and integrated training schemes; Local inhabitants trained as tour guides; Heritage volunteer programs.

	Education and dissemination activities specific to some aspects of cultural landscapes.	Pro-active education and dissemination activities.
Community Involvement	Integration of the local community in the management of cultural landscape values.	Integration of the local community in many aspects of sustainable conservation and management.
- Collaboration Linkages	Hierarchical authority based on organizational expertise.	Delegated authority based on collective negotiation and contextual needs.
	Formalized rule and decision-making processes.	Minimal rules, contingent decision-making processes.
- Stakeholder Identity	Cultural landscape values isolated at the start of the nomination process.	Community and cultural landscape values isolated at the start of the nomination process.
	Vision relates to conserving values of the landscape	Vision relates to continuity of community and cultural landscape values.
- Participation scope	Formal partnership structure with influence limited to key landowners and agencies.	Voluntary partnership structure with extensive and fluid membership.
	Decision made by management committee members.	High degree of grassroots influence on decisions.
- Participation continuity	Decisions are reactive.	Decisions are proactive.
	Unilateral communication	Iterative communication
	Benefits flow to cultural landscapes.	Benefits flow to the local community and cultural landscape.

8.3 Development of the Integrated Management Planning Methodological Framework

This methodological framework aims at promoting integration and sustainability on the use of the resources of the cultural landscapes; securing cultural landscape protection; and promoting cooperative cultural landscape governance. Specifically, the methodological framework has the following objectives:

1. To facilitate decision-making in order to ensure sustainable management of significant features, attributes, and values of cultural landscapes and their buffer zones;
2. To provide strategic guidance on usage of cultural and natural heritage within cultural landscapes and their buffer zones;
3. To identify sensitive areas of high cultural significance that convey the outstanding values;
4. To identify the cultural landscapes' mining development opportunities and constraints;
5. To assess the economic and conservation potential of cultural landscapes;
6. To provide a decision support system in respect of incorporating development issues into the management and planning processes of cultural landscapes;
7. To include existing policies as bases for establishing values, guidelines, and standards for future developments.

This proposed strategic management planning methodological tool has bridged a gap between the current state of cultural landscape management and the anticipated state that integrates development in protected cultural landscapes. It has achieved this by applying the various cultural landscape management strategies and controlling measures in cases of mining development activities that may impact the attributes and values of cultural landscapes.

The framework is based on a model of the current best practice of cultural landscape management that remains inwardly focused on situational issues of immediate concern for cultural landscapes. The model, shown graphically in Figure 8. 1, indicates an inwardly focused cultural landscape with a dynamic central core of independent key stakeholders. The strategic orientation is segmented and projects specific, with key objectives determined by individual stakeholders' agendas rather than collective negotiation. The cultural landscape management is fragmented, decision-making is hierarchical, and power rests with several major stakeholders, thus making the integration of development within the landscape difficult. Beyond the key local community

members and members comprising the cultural landscape management committee, the scope of other stakeholders' influence is limited.

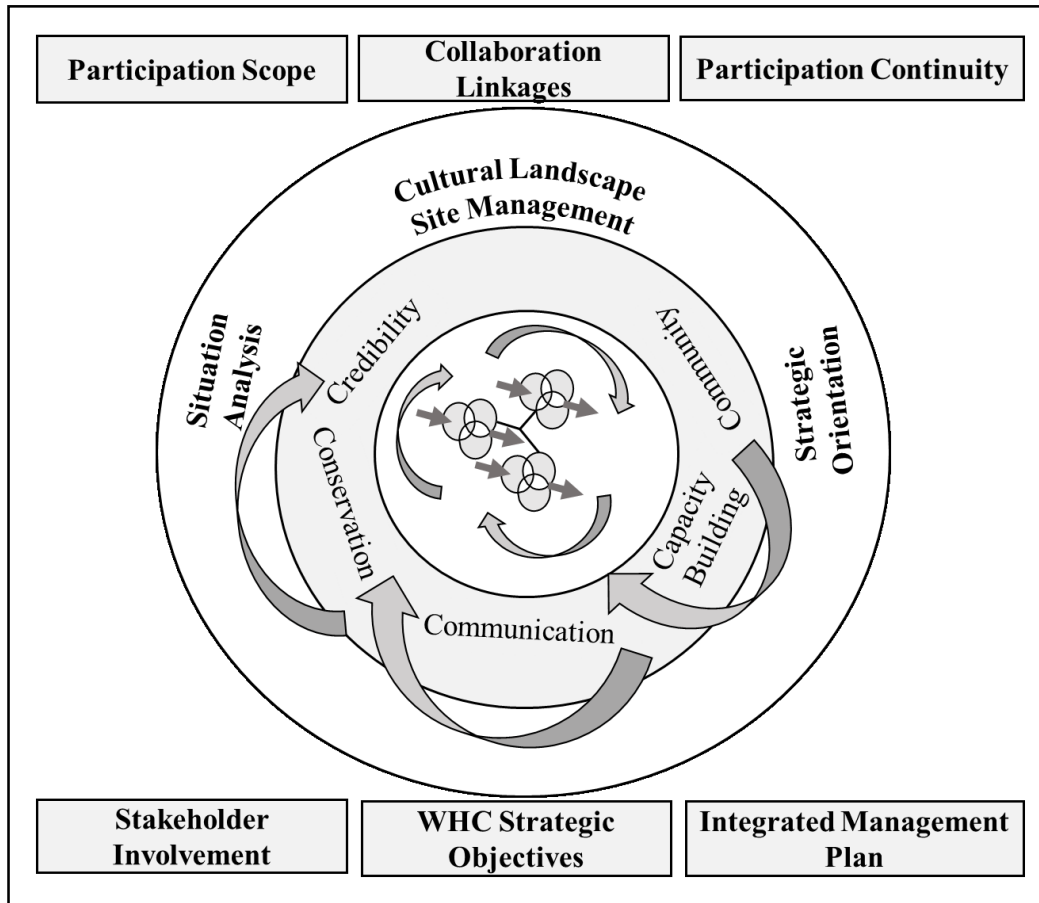


Figure 8. 1. Current best practice model of World Heritage cultural landscape management. (Source: Own construction).

The operational themes shown at the core of Figure 8. 1 are detailed in Figure 8. 2 below, as a chain of activities undertaken to achieve the mission of the heritage institution which manages the cultural landscape. The model differentiates between cultural landscape value as the primary operational input, the individual collaboration linkages, strategic objectives and stakeholder's involvement as the primary drivers of the operational process, and the conservation of the cultural landscape value as the primary output. The individual collaboration linkages operate around three primary functions – management processes, development frameworks, and management frameworks. The individual collaboration linkages are coordinated by the heritage institution responsible for the management of the natural and cultural heritage resources found within the cultural landscape with a broader network of professional support.

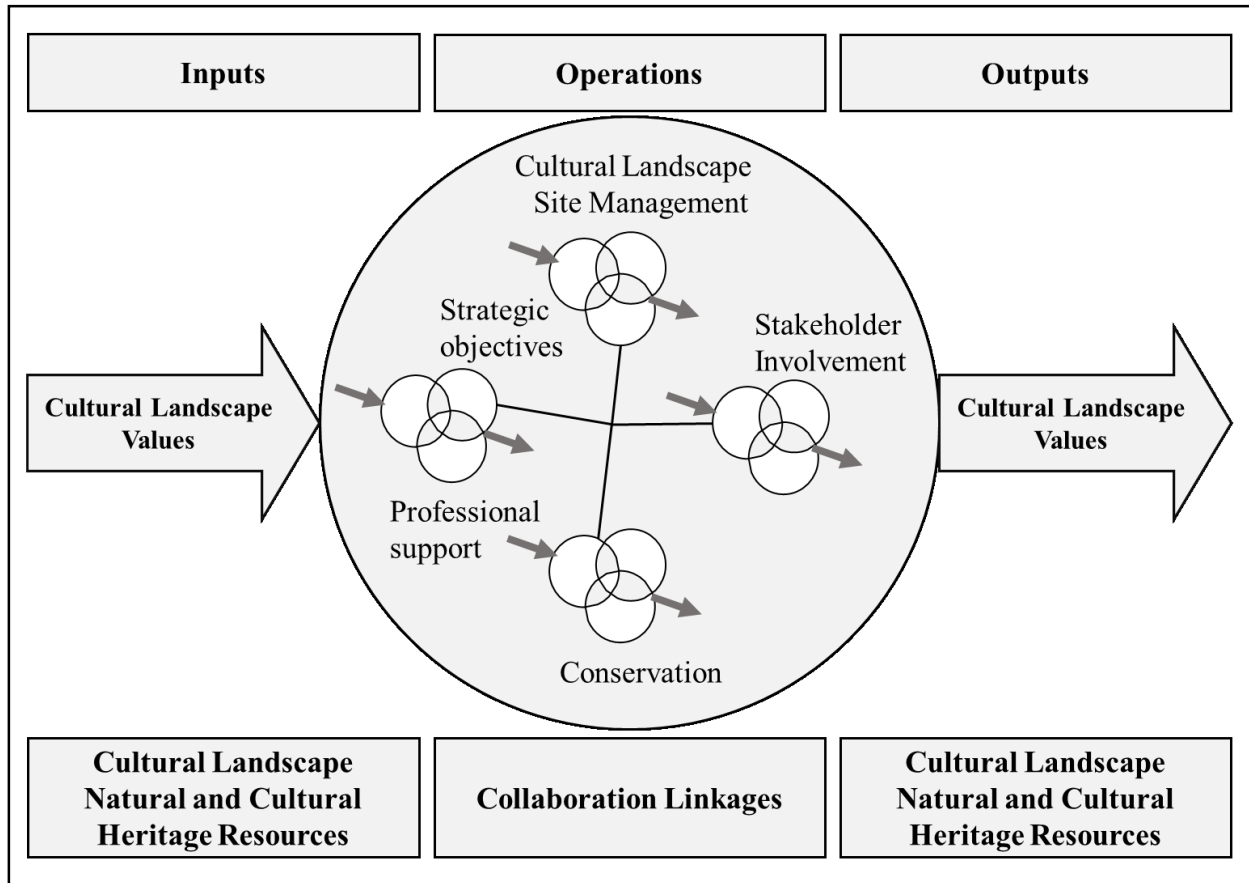


Figure 8. 2. Current best practice operational model.
 Source: Own construction).

This operational model is shown as a linear process of inputs, operational processes, and outputs. However, the inward focus of the current best practice model of cultural landscape management results in a process contained within the boundary of a defined set of heritage values.

The comparative framework shown in Table 7. 1 has suggested a model of integrated cultural landscape management that focused on situational issues within and beyond the cultural landscape boundary. The model proposed in Figure 8. 3, indicates an outward-looking management system that moves toward an integrated development as a coordinated whole in response to internal and external situational issues. The natural and cultural heritage resources of cultural landscapes, and therefore, the conservation of the values and attributes within it are shown as the major factors influencing cultural landscape strategic objectives. The cultural landscape is shown to have a strategic orientation that seeks to balance economic, environmental and social objectives that support the conservation of cultural landscape values.

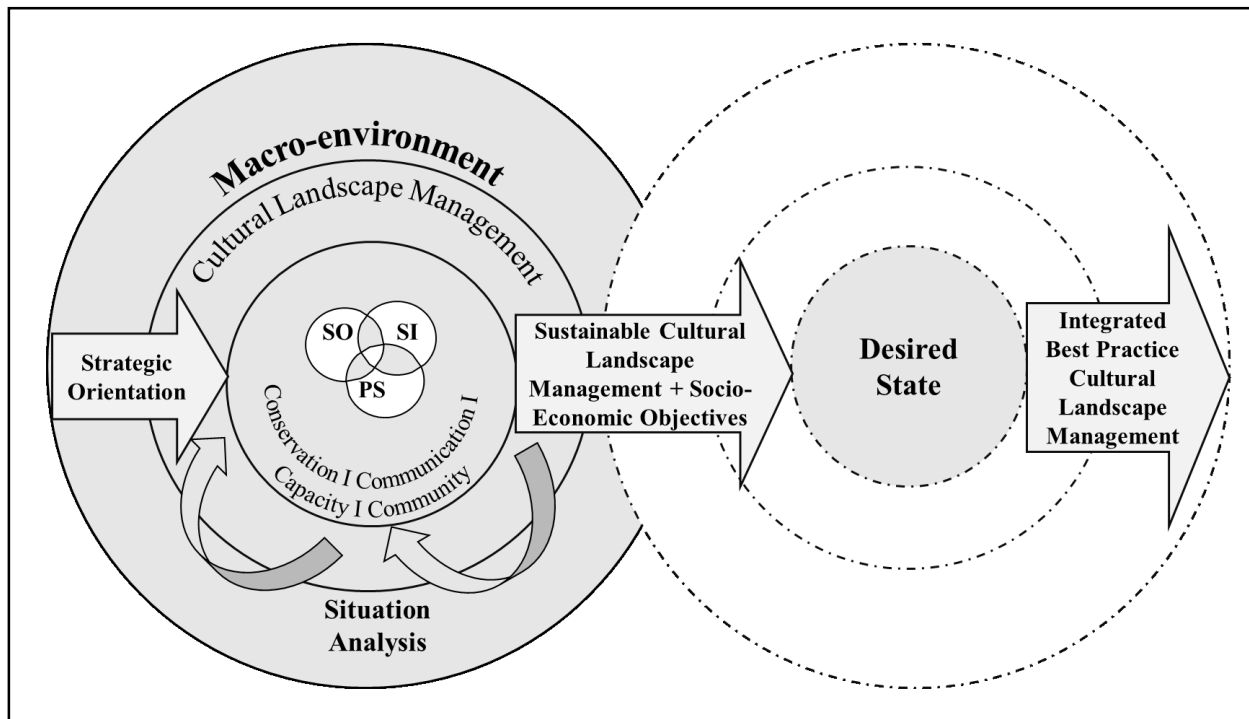


Figure 8. 3. Best practice integrated cultural landscape management planning framework. (Source: Own construction).

The center of the framework is shown as a set of interlinked World Heritage strategic objectives: credibility, conservation, communication, capacity-building and community involvement (the 5Cs) founded as common objectives to be achieved both by developers and conservationists. Decision-making is centered on collective negotiation, contextual needs, and broad stakeholder participation. Stakeholder identity is driven by community values, needs, and expectations that include a strong commitment to an understanding of cultural landscape values. There is multiple stakeholder participation in the process, and that participation is subject to regular evaluation and review as part of a long-term and holistic planning process.

The operational model in Figure 8. 4 below, is also shown as a linear process of inputs, operational processes, and outputs. In this case, inputs include multiple stakeholder participation, while operational activities are shown as collaborative management processes, and outputs include socio-economic objectives. When placed within the externally connected framework of cultural landscape management planning, operational processes are subject to a continuous cyclical process of interrogation, implementation, assessment, and adjustment of internal and external contextual forces toward integrative development.

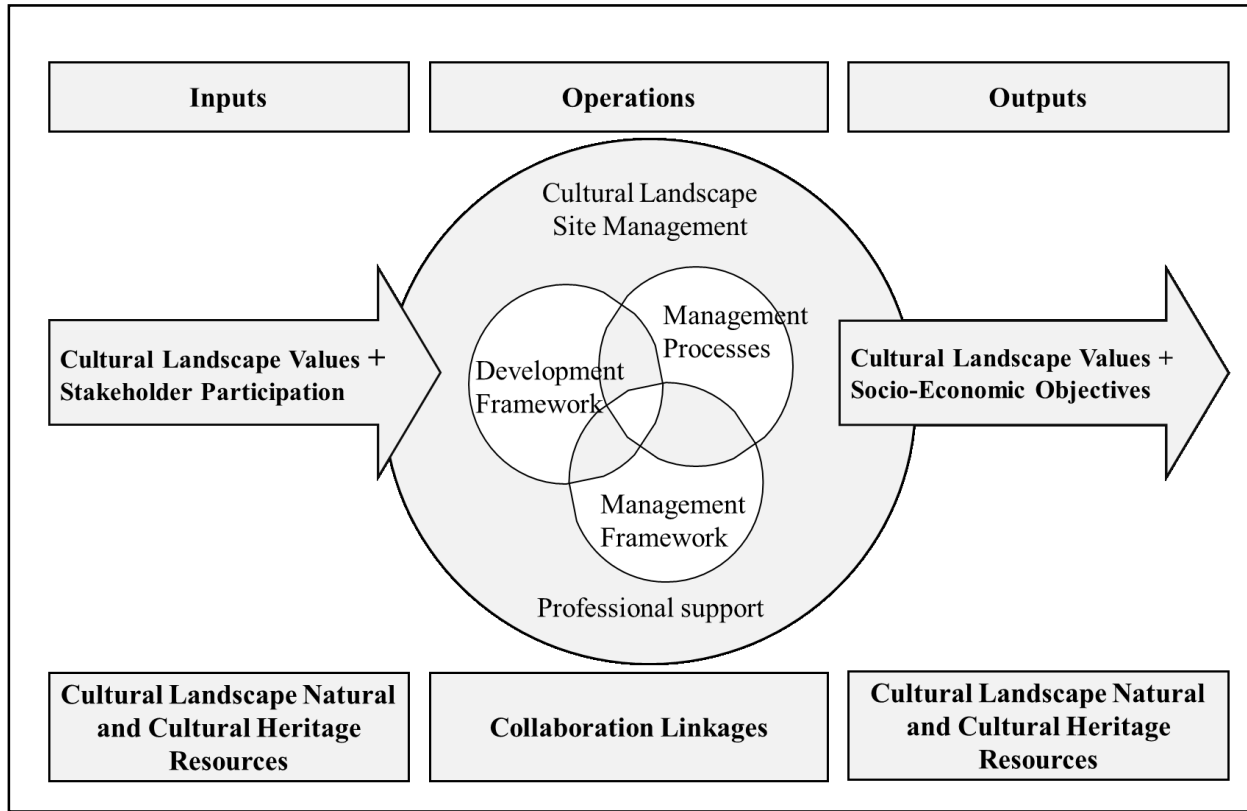


Figure 8. 4. Theoretical best practice operational framework.
(Source: Own construction).

8.4 Implementation Strategy: Cyclical Implementation Approach

A pragmatic approach to the implementation of the SMPM for cultural landscapes has been recommended, which is based on the commonly adopted management system of plan Plan-Do-Check-Act model, (PDCA model), (Kemp et al 2006; Nakashima 2006). This process acknowledges a dedicated commitment to continual improvement to eventually achieve the desired management outcomes. The main steps in the cycle has been presented in Table 8. 2 below (Adopted from Henning 2014).

Table 8. 2. The implementation cycle

1.	Plan	<ul style="list-style-type: none"> - Identify the SMPMF triggers - Define the scope of the SMPMF. - Determine information requirements and key cultural landscape feature, attributes and values to be assessed. - Develop and implement a public participation strategy.
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		<ul style="list-style-type: none"> - Determine context for cultural landscape management, based on opportunities, constraints, issues, and desired state. - Delineate management zones and assign management objectives and requirements. - Develop implementation strategy. - Seek formal adoption. - Establish institutional arrangements.
2.	Do	<ul style="list-style-type: none"> - Cultural landscape management and conservation training of stakeholders. Depending on the audience, training mechanisms can include manuals, tutored sessions, brochures, etc. - Recruitment of SMPMF in appraisal of proposals / applications for activities or developments. - Implementation of SMPMF management measures, including provisions and arrangements for accomplishing management objectives and desired state.
3.	Check	<ul style="list-style-type: none"> - Monitoring of SMPMF performance and overall implementation. - Monitoring to be based on Cultural Landscape Management Framework for Strategic Issues & Priorities, and to focus on associated indicators.
4.	Act	<ul style="list-style-type: none"> - Taking stock of the lessons learnt during the implementation of the SMPMF and the outcome of the review stage, management actions need to be taken to ensure that the SMPMF is revised as needed.

8.5 Application of the Management Planning Methodological Framework

This section applies the suggested management planning methodological framework by integrating mining development programme into the Mulanje Mountain cultural landscape management process.

8.5.1 Apply Integrated Best Practice

The first stage in this process is to compare the management planning framework proposed for Mulanje Mountain cultural landscape with the integrated best practice management framework

that has been analyzed earlier in Table 8.1. This will determine any incompatibility elements in what is proposed for Mulanje Mountain cultural landscape. Table 8. 3 below compares the integrated management planning methodology proposed for Mulanje Mountain cultural landscape with the best practice criteria identified in Table 8. 1. Potential areas of concern are shown in italics.

Table 8. 3. Comparative analysis of Mulanje Mountain cultural landscape management

Dimension	Integrated Best Practice for Cultural Landscape Management	Comparison with Mulanje Mountain Cultural Landscape
Situation Analysis	Analysis based on broad trends and issues that impact the sustainable use of cultural landscapes.	A strategic planning process that includes analysis of the impacts on cultural landscape values is in place.
	Multi-disciplinary skills and volunteer capabilities utilized.	<i>A heritage advisory council is in place but volunteer use is limited.</i>
Strategic orientation	Holistic and integrated planning process.	A holistic and integrated planning process is in place.
	Focus on causal, long-term sustainability vision which accommodates cultural landscape goals.	A causal and long-term planning process is in place which accommodates cultural landscape goals.
	Options generated and priorities negotiated that integrate heritage value risk assessment.	Options are generated and priorities are negotiated that integrate heritage value risk assessment.
	Qualitative and quantitative sustainability measures that integrate cultural landscape outcomes.	Comprehensive sustainability measures that integrate cultural landscape outcomes are in place.

	Responsibility for implementation based on multi-dimensional values.	Multi-dimensional values are implemented responsibly.
	Holistic review process	The holistic review process is in place.
Credibility	Integration of management plan into the wider regional strategic development plan.	<i>Limited integration of management plan into the wider regional strategic development plan.</i>
	Innovative management practices and inter-institutional cooperation agreement	Inter-institutional cooperation and agreements in place, though <i>limited innovative management practices at the landscape.</i>
Conservation	A multi-faceted approach to the protection of the cultural landscape.	Availability of different approaches to the protection and management of the cultural landscape.
	Innovative conservation policies and compatibility strategies for integrating development within cultural landscapes.	Innovative conservation policies and compatibility strategies for integrating development within cultural landscapes.
Communication	Diverse strategies for diffusion of cultural heritage and other development programmes.	<i>Limited strategies for communicating information of cultural heritage and other development programmes.</i>
	Integrated and interdisciplinary heritage communication programmes.	<i>Limited communication programmes of sharing information about the cultural landscape.</i>
Capacity building	Holistically integrated training schemes; Local inhabitants trained as tour guides; Heritage volunteer programs.	Availability of holistic and integrated training schemes; Local inhabitants have been trained as tour guides, <i>But there were limited heritage volunteer programs.</i>

	Pro-active education and dissemination activities.	Hands-on and practical education and dissemination programs are in place.
Community Involvement	Integration of the local community in many aspects of sustainable conservation and management.	Local communities are integrated into many aspects of sustainable conservation and management.
- Collaboration Linkages	Delegated authority based on collective negotiation and contextual needs.	Authority is negotiated based on contextual need through the democratic process.
	Minimal rules, contingent decision-making processes.	<i>Legislated requirements for accountability and transparency.</i>
- Stakeholder Identity	Community and heritage values isolated at the start of the nomination process.	Stakeholder surveys are part of the nomination process and are part of ongoing annual planning.
	Vision relates to continuity of community and cultural landscape values.	The vision for the community and cultural landscape value is in place.
- Participation Scope	Voluntary partnership structure within extensive and fluid management committee membership.	<i>Limited evidence of voluntary partnership structure and fluid management committee membership in the structure.</i>
	High degree of grassroots influence on decisions.	<i>Limited consultations among local communities in making decisions about the landscape.</i>
- Participation Continuity	Decisions are proactive	Decisions are based on a long-term planning process
	Iterative communication	Legislated requirements for engagement with stakeholders.

	Benefits flow to the local community and cultural landscape	A cultural landscape development project in place.
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The comparative analysis undertaken in Table 8.2 above, indicates that the framework for integrated cultural landscape management planning proposed for Mulanje Mountain cultural landscape responds fully to all but seven of the criteria for best practice integrated cultural landscape management planning. This was achieved primarily through a governance framework that requires conformance at all levels of management, a holistic and long-term planning process, and the participation and empowerment of multiple stakeholders in that process. This framework provides the necessary technical methodological support for decision-making and integrates Mulanje Mountain cultural landscape into the development and delivery of broader strategic priorities and programs for sustainable development.

On the issue of formalized rules and decision-making processes, Davidson and Lockwood’s (2008) research suggests that a degree of formalization is needed to maintain an acceptable level of organizational legitimacy and authority in a democratic context. They also suggest that organizational transparency is required to maintain accountability and public confidence. While not providing an opportunity for direct organizational involvement evident in the case study, the framework in place in Mapungubwe cultural landscape would allow for greater general public participation through communication strategies such as public forums at public meetings, local and national advisory committees with membership drawn from the general public and community surveys that target a broad range of issues. However, attention is required to further democratize sustainable development through the existing local government framework.

Collaboration through inter-organizational partnership was shown in the case study that it required the integrated financial, technical and policy making and implementing capabilities necessary for long-term sustainable development. The case study partnership structures were also shown to be difficult to manage in terms of developing a collective vision and coordinating progress toward that vision. On this point, Huxham (2003) notes that ‘it is hard to agree on aims, build mutual understanding and manage power relations in structures that are so ambiguous that members do not know who their partners are and so complex that it is often very unclear how parts of

collaborations relate to other parts'. Wilson and Boyle's (2006) study of collaboration at World Heritage sites supports the fact that having a fluid membership and constantly changing agenda further exacerbates this position.

8.5.2 Apply Integrated Management Strategies

The second stage in the application process is the integration of mining development programme in the wider strategic cultural landscape management planning framework by following the recommended management strategies suggested for Mulanje Mountain cultural landscape. See Figure 8. 5 for the application of the management planning strategies.

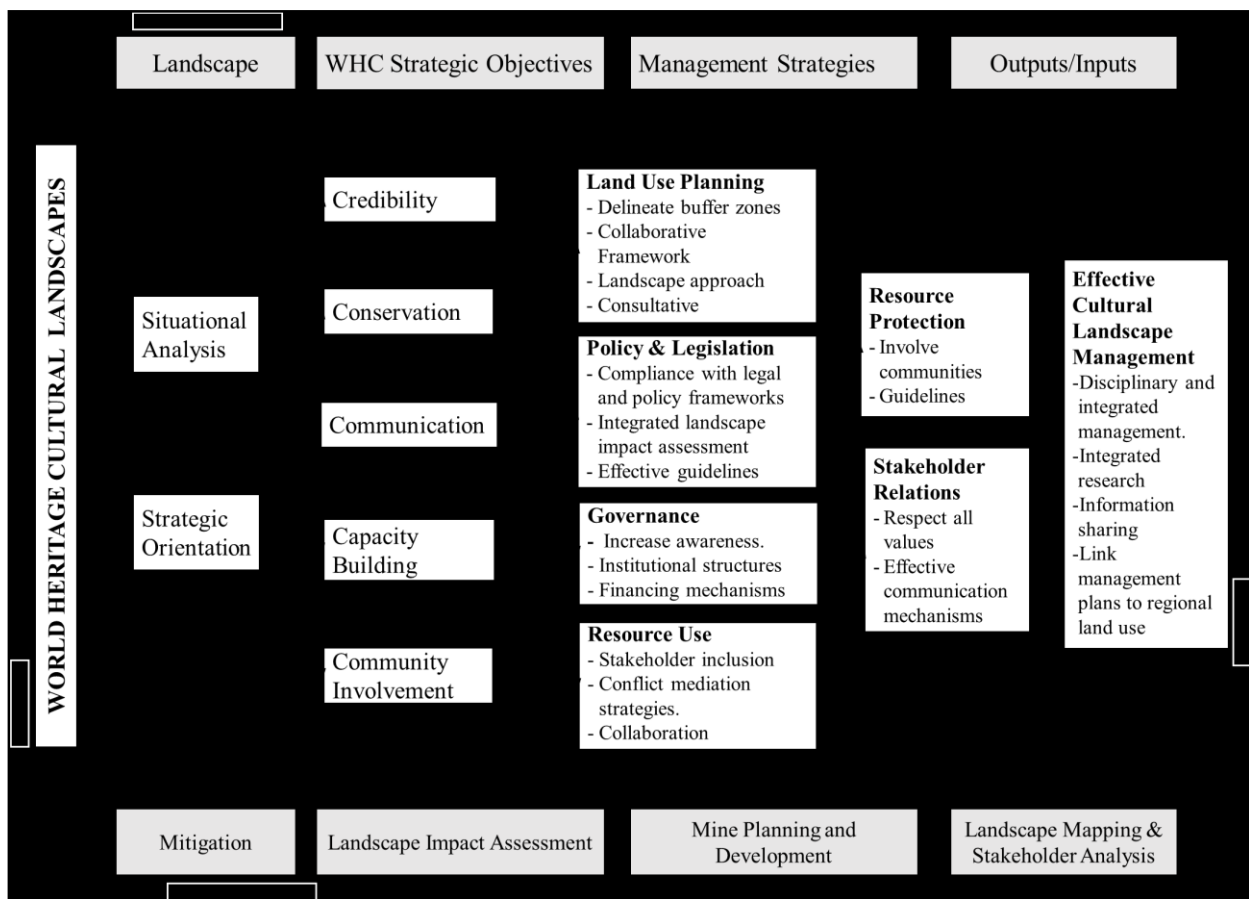


Figure 8. 5. Integrated World Heritage cultural landscape management planning process. (Source: Own construction).

In this methodological framework, management strategies have been defined as measures and objectives that promote the realization of the desired state, as well as requirements that need to be taken into consideration when contemplating mining development within cultural landscapes.

Therefore, management strategies for two key stakeholder groups associated with mining development and conservation and management of cultural landscapes has been proposed. These include government conservation and mining industry, as discussed below.

8.5.2.1. Management Strategies for Government Conservation Agencies

Conservation agencies are responsible for the effective management of cultural landscapes which has been designated as World Heritage sites. These agencies need to be institutionally capacitated with human resources, equipment, and funding, and they should be able to play a role in land use decisions and socio-economic development. The role of conservation agencies is to ensure that cultural landscapes are managed in terms of laws and regulations of the country, the resources of the cultural landscapes are adequately protected, and ensuring that benefits are flowing from the conservation of the cultural landscape to local communities. Issues relating to the wise use of resources of cultural landscapes, regional land use, and environmental and social impacts associated with development activities are the responsibility of conservation agencies. Seven management interrelated strategic areas have been suggested. These include governance and institutional capacity, policy and legislation, land use planning, resource use, resource protection, socio-economic development, and effective cultural landscape management.

Strategic Area 1: Governance and Institutional Capacity

There is a need to ensure that effective organizational structures are in place to facilitate the efficient management of cultural landscapes. This also includes the development of financing mechanisms to facilitate the effective management and conservation activities within the cultural landscapes, and develop mechanisms for generating and sharing revenue that takes into account considerations of transparency, ethics, equity, and sustainability. There is also a need to increase awareness locally and nationally of the values of cultural landscapes through improved information, knowledge sharing, and communication. There is also a need to improve the institutional capacity of relevant to work at the national and community levels.

Strategic Area 2: Policy and Legislation

There is a need to strengthen the legal and policy frameworks in most of the heritage institutions with a mandate to conserve and protect cultural landscapes. There is also a need to provide for a single integrated environmental permitting process for all mineral extractive developments that

should incorporate issues of heritage conservation and other aspects of the environment. There is also a need to apply integrated environmental and social impact assessment procedures for development affecting cultural landscapes. In specific this includes all mining development projects in cultural landscapes. Regular condition assessments should be conducted to monitor the possible impact of mining-induced factors on the attributes and values of cultural landscapes. Comprehensive and effective assessment tools should be adopted for this activity. Clear guidelines and regulations should be developed to govern activities planned in buffer zones of cultural landscapes that have been designated world heritage status. For this to be effective, there is need to ensure that buffer zones are under the control of the management authority.

Strategic Area 3: Land Use Planning.

There is a need to establish buffer and transitional zones around cultural landscapes or significant attributes and spaces within cultural landscapes that have high significance to the local communities. This is important since avoidance and other mitigation strategies can be used to protect critical and sensitive attributes that convey the values of the landscapes. There is also a need to provide a collaborative framework within different government departments and agencies, local communities, and other decision-makers and managers of mining development projects who participate in land use decisions. This is important to minimize conflicts and tensions once decisions to mine the landscape has been made. A landscape approach to all sacred natural sites should be taken. This landscape approach should recognize the role of sacred sites in wider cultural landscapes, protected area systems, ecological corridors, and other land uses. In addition to this, there is also need to recognize that some sacred natural sites, and the cultures that hold them sacred, cross international boundaries and that some may be within or surrounding existing protected areas. This recognition is important for proper integration of these sacred sites into the wider cultural landscape planning system. There is also need to ensure that all relevant stakeholders at the local, national and international levels have been adequately consulted at the earliest possible stages in planning for mining development in cultural landscapes and in any plans to nominate landscapes as World Heritage Sites. An open and transparent multi-disciplinary approach should be ensured in determining boundaries for cultural landscapes that have been designated world heritage status. This approach should make sure that the values and attributes are protected and

should also take into account the ecological, cultural and mineral and other economic values, as well as other socio-economic factors.

Strategic Area 4: Resource Use

On this aspect on resource use, there is need to ensure a full inclusion of all relevant custodians of cultural landscape values and key stakeholders in decision-making processes as regards to mineral extractions and conservation of cultural landscapes. This should be done to avoid future conflicts and uncooperative partnerships. Where appropriate, there is also a need to use conflict management, mediation and resolution methods to promote mutual understanding between traditional custodians and more recent occupants, resource users/mining developers, and heritage managers. There is also a need to encourage mining and conservation specialists to work together taking into consideration the unique aspects of mining and the multiple value and conditions of cultural landscapes.

Strategic Area 5: Resource Protection

There is a need to develop guidelines for governing mining development activities in the buffer zone. This should be supported by developing regulations that relate to all mining activities and any other development with the full participation of all relevant stakeholders. Regular condition assessments should be conducted to monitor the possible impact of mining-induced factors on the attributes and values of the cultural landscapes. There is also need to ensure that local communities through their leadership contribute meaningfully to the management and protection of cultural landscapes.

Strategic Area 6: Socio-Economic Development

There is need to ensure that there is effective regional land-use planning relating to the use and management of the resources of the cultural landscape. There is also a need to adopt an integrated landscape approach to socio-economic development within and around cultural landscapes with full participation and involvement of all key stakeholders. There is need to ensure that activities associated with the conservation and management of cultural landscapes maximizes the social and ecological benefits and minimizes the adverse ecological and socio-cultural impacts. Further to this, there is also a need to work with mining companies in order to ensure an integrated approach to cultural landscape management and community development.

Strategic Area 7: Effective Cultural Landscape Management

There is a need to seek the support of development planning authorities in addressing current and future land uses that may affect cultural landscapes. Hence, it requires promotion of a disciplinary and integrated approach to the management of these cultural landscapes. What is also more important is the development of an integrated natural and cultural heritage research that studies the biodiversity and cultural diversity values, and assesses the contribution of proper management of cultural landscapes to biodiversity conservation. Conservation agencies should also facilitate the meeting and sharing of information between local communities within and around cultural landscapes, the developers and all key stakeholders. The management planning of these landscapes should also be linked with the broader regional land use planning so that they can be seen as an integral component of the broader region.

8.5.2.1. Management Strategies for Mining Industry

Most mining companies have realized the negative effects mining operations have on the management and conservation of cultural landscapes and other protected areas. As such, mining companies are under increased international pressure to mine responsibly and respect national and international regulations and policies applicable in protected areas of the countries they operate. The mining industry has also started to play a more prominent role in local and regional socio-economic development through sustainable development. In order for this to happen, the mining industry needs to be committed to international best practice standards pertaining to mine design and mine closure, environmental management, and socio-economic development.

Strategic Area 1: Governance and Institutional Support

Mining companies need to contribute to government capacity in cultural landscape management and support site management and conservation programmes. Hence there is a need to encourage all those involved in the mining industry to better understand ecosystem management and adopt these principles. Government institutions should be encouraged to develop communication mechanisms that will promote dialogue among local communities and other affected organizations. Mining companies should also contribute to the development of local government capacity in cooperation with international and national agencies and interest groups. They also need to respect the authority of national and regional governments, taking into account their development objectives and support the sharing of economic benefits generated by the mining

operations. Further to this, they need to adopt structured biodiversity and cultural diversity approaches that begin with avoiding unacceptable impacts, minimizing the impacts that occur, restoring areas that are impacted, and then offsetting the residual net loss of cultural landscapes.

Strategic Area 2: Mine Planning and Closure

Mining companies should design mining activities that maximize economic, social and environmental benefits and minimize consequences and side effects within or beyond natural boundaries. They should also ensure that mining activities operating in close proximity to cultural landscapes are designed, operated and closed in consideration of the socio-cultural values and contribute to the conservation of those values. They should ensure that adequate financial resources are in place to meet the requirements of the mine closure. Further to this, they need to develop closure plans from the initial phases of mining that addresses environmental and community-related issues as well as cultural landscape values in consultation with stakeholders.

Strategic Area 3: Socio-Economic Development

Mining companies should ensure that they employ risk management strategies and best practices that take into account the local cultures and economic and environmental circumstances in the design, construction, operation and decommissioning of the mine. In addition, they also need to assess the local, cultural, environmental and economic impacts of proposed activities and engage local communities and other affected organizations in the design of community development strategies, including mine closure. Mining companies should also mitigate to the greatest extent adverse effects on communities by activities associated with exploration, extraction and mine closure. They should also ensure that the development of social and labor plans are integrated with local and regional socio-economic development policies and strategies.

Strategic Area 4: Stakeholder Relations

Mining companies should ensure that commercial interests respect the value systems of conservation and management of cultural landscapes and that both stakeholders respect cross-cultural values. They also need to increase awareness about mining and recognize that mining companies may be key stakeholders. Further, they need to establish communication mechanisms with all affected stakeholders.

Strategic Area 5: Effective Cultural Landscape Management

Mining companies need to conduct environmental assessments of exploration, infrastructure development, mining or processing activities, including secondary effects and plan and design accordingly. There is also need to ensure that assessments of the cultural diversity and biodiversity have been undertaken in order to increase the scientific understanding of the ecosystems and contribute to the conservation of the landscapes by exploration, extraction and processing activities. There is also a need to support research in order to expand scientific knowledge and develop improved technologies to protect the landscapes. Mining companies also need to work with government and other relevant agencies in developing sound economic and equitable environmental standards. They also need to comply with all applicable laws and regulations and ensure that environmental management and social development strategies comply with international best practices and guidelines. Further to this, they need to adopt an approach where risk and impact identification consider direct and indirect project-related impacts on all attributes and values of the landscape.

8.6 Chapter Summary

This chapter set out to develop and apply an integrated strategic management planning methodological framework to Mulanje Mountain cultural landscape of Malawi. Integral to that development was a management plan content analysis of Mapungubwe cultural landscape of South Africa. It was clear from the case study that there are some inherent problems with the framework of heritage management currently in place for cultural landscapes. Firstly, there was limited capacity to undertake a coordinated and truly collaborative strategic planning and review process. Secondly, partnership structures and decision-making framework was complex, difficult to coordinate and lacked a commitment to true collaboration. Finally, the continuous participation of multiple stakeholders throughout the management process was shown to be problematic and initiated only when necessary.

The application of the management planning methodological framework has shown that the governance in place for Mulanje Mountain cultural landscape conformed to the requirements for a long-term and holistic planning process and the participation and empowerment of multiple stakeholders in that process. The developed framework has provided a comprehensive level of

technical support for decision-making in Mulanje Mountain cultural landscape. Given the fact that every cultural landscape is unique in terms of its environmental, cultural, socio-economic and political context, and every mining operation is also different in nature, more detailed considerations are needed in each case where mining and cultural landscape conservation can potentially co-exist. In order to facilitate the potential integration of cultural landscape conservation and mining development, all key stakeholders need to be committed to a collaborative approach to land use planning, decision-making, natural and cultural resource management, socio-economic development and stakeholder engagement.

The following and final chapter will conclude the thesis by summarizing what has been discussed in the last chapters and then provide key recommendations that need to be followed by all relevant stakeholders of cultural landscapes.

CHAPTER NINE

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Thesis Summary

Like all cultural landscapes around the world, sub-Saharan African cultural landscapes are adversely impacted by various development pressures, which calls for a holistic and integrated approach in their management. This research was carried out using two case studies. The main aim of the research was to contribute to the methodological gap in cultural landscape planning by developing and applying an integrated strategic management planning methodological framework. This framework has proposed strategic solutions to challenges faced when managing Sub-Saharan African cultural landscapes that are threatened by various development activities such as mining. Specifically, the study examined the existing cultural landscape management theories and concepts in order to understand the key elements to be integrated into the strategic management planning methodological framework. It also evaluated the impact of mining development on the conservation and management of African cultural landscapes. The study has also understood the stakeholder's views and perception about the impact of mining activities on cultural and natural heritage attributes of the landscapes. Further, it has assessed the effectiveness of strategic management planning framework for protection and management of cultural landscapes.

To achieve these objectives, the literature was reviewed, firstly to determine the dimensions of cultural landscapes, and secondly, to determine the dimensions of mining development in World Heritage cultural landscapes. The literature reviewed in chapter 2 has provided a theoretical and conceptual understanding of the concept of cultural landscape in Sub-Saharan African context. Specifically, the two concepts of 'Landscape' and 'Cultural Landscape', has been defined and discussed based on different academic viewpoints. Three theoretical perspectives have been reviewed and discussed in the context of African cultural landscapes. These perspectives included either viewing cultural landscapes as symbolic environments, or as cultural products, or as cultural processes. A brief overview of the cultural landscapes of Africa has been discussed with reference to the theoretical perspectives discussed. This has been followed by a discussion on the general traditional management systems applicable to some African cultural landscapes. On the last part

of this chapter is the discussion on the international legal and administrative instruments for the management and conservation of cultural landscapes.

The literature reviewed in chapter 3 has provided a critical analysis of the impact of different phases of mining development on the attributes and values of cultural landscapes. An overview of African World Heritage cultural landscapes and other protected areas which are under threat from mining activities has been presented. Legal and policy frameworks for the management of impacts attributable to mining operations in African cultural landscapes have been evaluated. This has been followed by specific examples of Malawi and South Africa regulatory measures on cultural landscapes, where the two case studies have been drawn from. In the last section of this chapter is a general discussion of international policies on mining and heritage conservation. Particular emphasis has been put on the evaluation of the World Heritage Convention, IUCN and ICMM position statement as regards to their policies on mining in and around World Heritage properties. The chapter has concluded with a discussion on some of the practical aspects of mining and heritage conservation applicable in cultural landscapes. These included some best practices and initiatives that have been implemented as regards to issues of mining and World Heritage management and conservation.

Chapter 4 has discussed the methodologies used in the research. The chapter has demonstrated the use of case studies as an effective research strategy in the investigation of contemporary and inter-related phenomena in changing cultural landscapes which are threatened by modern development such as mining. A case study research strategy is concerned with providing a detailed description of a bounded system. Case studies allow the specifics of a case to be examined, revealing the complexity and details within a case and allowing comparisons across multiple cases. A case study research strategy was combined with other research methodologies. These research methods have been presented and broadly discussed on how they have been applied to achieve specific objectives of the research. These include interviews, focus-group-discussions, observations, field site surveys content analysis, and thematic analysis.

Chapter 5 has provided an overview of two case studies that have been used in the study in order to generate data for the thesis. This includes Mulanje Mountain Cultural Landscape in Malawi, a site on the UNESCO World Heritage Tentative List (until the publication of this thesis), and

Mapungubwe Cultural Landscape in South Africa, a site listed as a UNESCO World Heritage cultural landscape. A general historical, geographical, and social-cultural background of Mulanje Mountain and Mapungubwe cultural landscapes has been provided. Thereafter, an overview of the attributes and significance of the landscapes has been discussed and compared between the two cultural landscapes. The last part of the chapter has presented some of the factors affecting the conservation and management of each cultural landscape with a detailed discussion on the mining development as a specific threat which has been investigated. The information generated from the analysis of the two case studies has been a basis for the development of the integrated management planning methodological framework that has been suggested in this thesis.

Chapter 6 has provided the results of the perceptions of local people and other stakeholders on issues concerning mining and management of cultural landscapes. The focus has been on understanding how local people and other stakeholders perceive issues of mining and heritage conservation in African cultural landscapes. A participatory ethnographic research was carried out with an aim of soliciting stakeholders' views and perceptions on the effective use and management of cultural landscapes. Specific issues which were examined included levels of awareness from different stakeholders on issues concerning the protection of cultural landscapes which are at risk of mining development and also on how local people get involved in decision-making. Further to this, relevant stakeholders were identified and their roles in the conservation and management of different aspects of cultural landscapes were discussed. It was revealed that stakeholder identification is a key before implementing any development projects in cultural landscapes. Determining who will be a stakeholder representative is very important when planning for mining development initiatives in cultural landscapes. Therefore, based on the results of this chapter, it was concluded that most of the local people and other stakeholders who participated in the research were aware of the importance of the cultural landscapes in its totality and the various cultural and natural features within it.

Chapter 7 has provided results of the assessment of the management planning framework for Mapungubwe cultural landscape. The chapter has provided detailed results of how the management plan has achieved and incorporated the strategic objectives of the UNESCO's strategic action plan for the implementation of the World Heritage Convention 2012-2022. These included credibility, conservation, capacity-building, communication, and community

involvement. Further to this, the chapter has also provided results of the content analysis of the management planning framework. The focus has been on presenting the extent of the integration of various dimensions of the management planning instrument into the management planning system of the landscape. These include; situational analysis, strategic orientation, organizational structure, stakeholders identity, participation scope, and participation continuity. The last part of the chapter has presented the results of the semi-structured interviews and theme rationalization in relation to the various dimensions that have been used to evaluate the content of the management planning framework.

Chapter 8 has developed and applied an integrated strategic management planning methodological framework to Mulanje Mountain cultural landscape. Integral to that development was a management plan content analysis of Mapungubwe cultural landscape. It was clear from the case study that there were some inherent problems with the framework of heritage management currently in place for cultural landscapes. Firstly, there was limited capacity to undertake a coordinated and truly collaborative strategic planning and review process. Secondly, partnership structures and decision-making framework was complex, difficult to coordinate and lacked a commitment to true collaboration. Finally, the continuous participation of multiple stakeholders throughout the management process was shown to be problematic and initiated only when necessary.

The application of the management planning methodological framework has shown that the governance in place for Mulanje Mountain cultural landscape conformed to the requirements for a long-term and holistic planning process and the participation and empowerment of multiple stakeholders in that process. The developed framework has provided a comprehensive level of technical support for decision-making in Mulanje Mountain cultural landscape. Given the fact that every cultural landscape is unique in terms of its environmental, cultural, socio-economic and political context, and every mining operation is also different in nature, it was recommended to have different approaches on how mining and cultural landscape conservation can potentially co-exist. In order to facilitate the potential integration of cultural landscape conservation and mining development, all key stakeholders need to be committed to a collaborative approach to land use planning, decision-making, natural and cultural resource management, socio-economic development and stakeholder engagement. Figure 9. 1 summarizes how the thesis has progressed

from the initial problem identification, through data collection and analysis to the development and application of an integrated strategic management planning methodological framework for the integration of development into cultural landscape management planning processes.

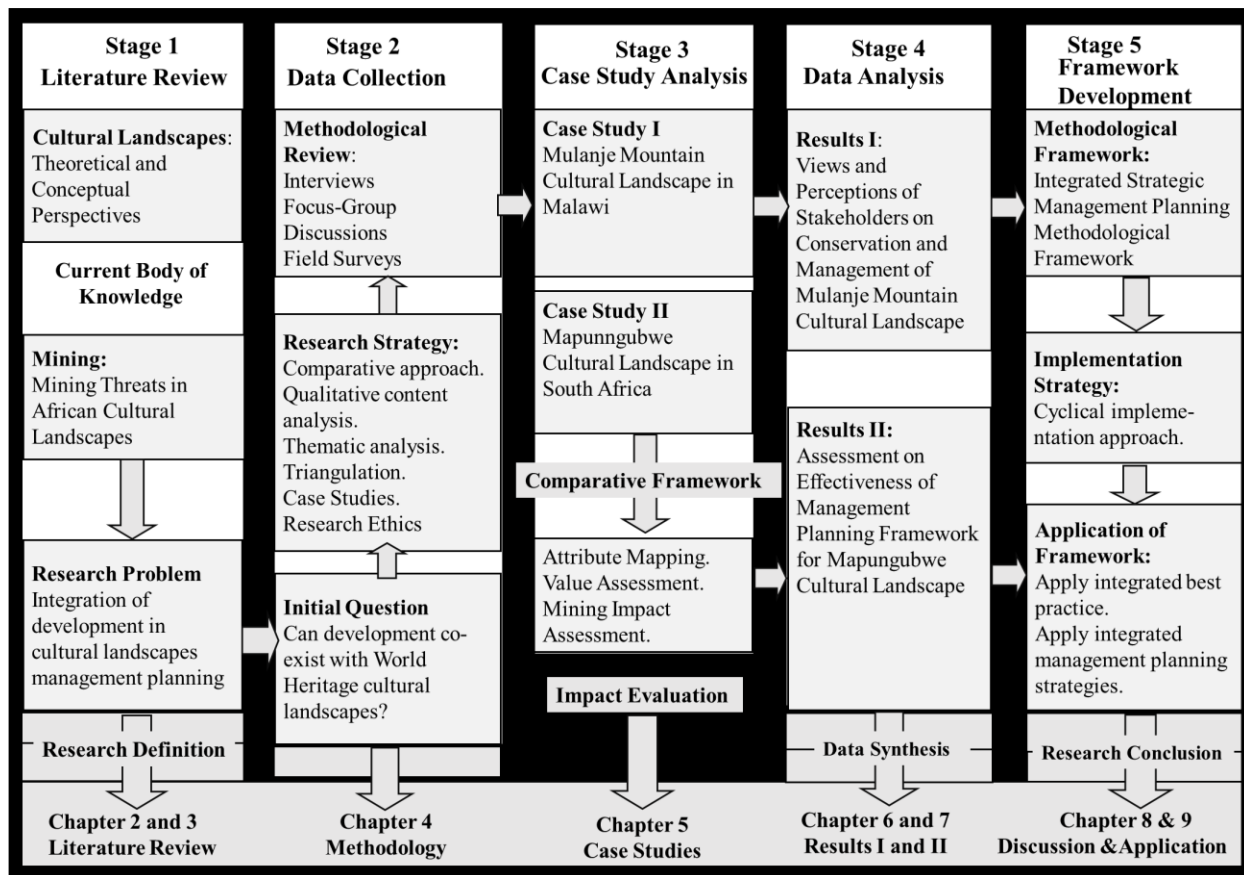


Figure 9. 1. Summary of the thesis progression from start to the end of the research.

9.2 Research Contribution

This research project has contributed to the theoretical and practical body of knowledge in the sustainable use, management, and protection of cultural landscapes threatened by development projects. A management planning methodological framework developed in Chapter 8 with key management planning strategies has been proposed on how best the two aspects of heritage conservation and mining development can be integrated into African cultural landscapes so that national economic developments should be in tandem with cultural heritage conservation programmes. Through this research project, the thesis has proposed innovative and promising contributions to the better management and conservation of African cultural landscapes. The

recommendations of this thesis can also be used by African States Parties as a baseline to develop site management plans and incorporation of the thesis ideas in their national cultural heritage strategic plans and policies.

This study has also contributed to the current debate on the sustainable use of cultural landscapes which usually has conflicting interests amongst different stakeholders, whereby all of them would like to exploit the cultural and natural resources from the cultural landscapes for national and local socio-economic purposes. Finally, this study has contributed to the body of literature on mining developments and sustainable use of cultural heritage with particular emphasis to cultural landscapes of sub-Saharan Africa.

9.3 Recommendations

With reference to the above discussions and aims of the study, general recommendations in terms of governance, land use planning, conservation and management, and mine planning and development have been drawn, as presented below:

9.3.1 Governance

1. Encourage the harmonization of policies and legislations, and where conflicting policies and legislations exists, a mechanism should be put in place to allow for inter-sectorial dialogue.
2. Provide integrated environmental licensing and permitting system for mineral extractive developments in order to deal with negative impacts on the OUV of World Heritage cultural landscapes.
3. Promote the use of best practice based Strategic Environmental Assessments (SEAs), Heritage Impact Assessments (HIAs), as well as specific Environmental and Social Impact Assessments (ESIAs) to inform good land use planning in order to ensure the maintenance of the OUVs for World Heritage cultural landscapes.
4. Develop formal agreements, frameworks, and procedures to facilitate trans-frontier cooperation between countries where World Heritage cultural landscapes are trans-boundary in nature.

9.3.2 Land Use Planning

- Define the legal status of buffer zones to World Heritage cultural landscapes as well as the regulatory measures to manage land use within these areas.
- Ensure that land use planning processes are effective in their ability to reconcile competitive land uses from an environmental, social and economic point of view, and this should include a good decision-making framework to allow for the evaluation of these competing natural resource use practices, including their opportunities and constraints.
- Implement land use planning and permitting processes that are transparent and inclusive, and allow for the participation of all key stakeholders in the development of land use plans and frameworks.
- Base land-use planning decisions and processes on good and relevant information to inform the planning process, including relevant and up to date information on mineral deposits in the area.
- Ensure that land use planning processes develop or improve existing mechanisms to facilitate the successful integration of biodiversity conservation, protected areas, and mining into the land use planning process.
- Adopt a regional approach to land use planning by using a landscape-level approach to identify the most suitable use, and balance social, economic and environmental actions and priorities in a holistic manner.
- Ensure land use planning has a long-term vision for land use, which allows for multiple and/or sequential land uses within the broader landscape. This would also allow for planning for mine closure to form an integral part of the land use planning process.
- Provide for an effective negotiation and/or arbitration system which can be used in the event of competing land use claims.

9.3.3 Conservation and Management of Cultural Landscapes

- Ensure a workable and practical buffer zone around World Heritage cultural landscapes and develop regulations that relate to all mining activities and any other development with the full participation of all stakeholders.
- Link cultural landscape area planning with broader regional land use planning so that the cultural landscapes are seen as an integral component of the broader region.

- Identify opportunities for mutually beneficial collaboration with other stakeholders such as the mining industry in the management of protected World Heritage cultural landscapes.
- Ensure the active participation of conservation managers in regional land use planning processes.
- Adopt an ecosystem service approach as a key strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way and also includes cultural and spiritual values.

9.3.4 Mine Planning and Development

- Promote the International Council on Mining and Metals (ICMM) sustainable development framework and principles as a basis for good practice for the mining and extractive industry.
- As with the ICMM position on protected areas, the mining and extractive industry should in principle adopt an approach that World Heritage cultural landscapes are ‘no-go’ areas.
- Consider development and conservation as complimentary processes for the management of World Heritage cultural landscapes. This could be achieved through effective stakeholder participation right from the outset of the project.
- Partner with relevant stakeholders to ensure the effective conservation and protection of World Heritage cultural landscapes.
- Employ risk management strategies and best practices that take into account local cultures and economic and environmental circumstances in the design, construction, operation and decommissioning of mines.
- Provide for a collaborative approach to landscape management and socio-economic development in the planning and operational phases of the mine.

With reference to this and the overall goal of the research, the following conclusions can be drawn:

- i. Sustainable use, conservation, and management of cultural landscapes are underpinned by a balance across economic, environmental and social-cultural dimensions that can be best achieved through a long-term and holistic planning process, and participation and empowerment of multiple stakeholders.

- ii. Adequate legal protection, operational capacity, and integration into broader national policy frameworks are required if sub-Saharan African World Heritage cultural landscapes are to successfully implement the WHC strategic objectives.
- iii. The conservation and management of cultural landscape values need to be integrated into the long-term and holistic planning process that addresses heritage values as an integral part of the management planning processes.
- iv. Cultural landscapes need to take into account the potential for developmental change in response to the stakeholder participation process and the need for integrated development. This will require more robust descriptions of heritage attributes that convey the significant values of the landscapes.

9.4 Limitations

As mentioned in Chapter 4, methodology, there are potentially two limitations in this research. The first limitation results from the complexity of the concepts being studied. These include cultural landscapes and mining. These concepts are very broad which cannot be understood by a single methodological approach. This limitation has been addressed through the use of a case study strategy and a combination of other methods to generate a theoretical management planning framework which is testable, logically coherent and based on sound evidence. The second limitation lies in the time and sample frame adopted in the research. The research was conducted solely by the author as a PhD candidate who had limited capacity in terms of resources and logistical challenges to meet all targeted research participants. This challenge was addressed by seeking additional support from working colleagues and sponsors of the study programme.

9.5 Future Research

The thesis has highlighted several areas for future research. The first area relates to the development of practical compatibility models for the integration of development projects into the management operational frameworks of cultural landscapes. The lack of evidence in relation to workable strategies, including coexistence of development projects and cultural landscape conservation, was a key feature of the literature review and the management planning assessment results. There is a need for a more research on the practical outcomes of the management planning

strategies suggested in the application of the strategic management planning framework developed through this research.

There is also a need for future research aiming at developing evaluation methods and development indicators for cultural landscapes. Research is needed in this area to develop functional approaches and common indicators that will enable cultural landscape managers and developers to respond to the aims of integrative development in a holistic way, and to benchmark progress toward those aims.

Another area that needs further research relates to integration of development within the overall World Heritage system. Although development programmes are needed in almost all developing countries, the World Heritage system discourages any development as it affects the integrity and authenticity of World Heritage sites. However, a stronger approach needs to be taken to consider future development in the nomination, management and reporting processes of World Heritage sites. This will need to be supported by the development of practical strategies and capacity building programs across all relevant stakeholders.

Finally, while this thesis has presented a strategic integrated management planning methodological framework for integration of development projects into cultural landscape management processes, further research is required to investigate both the validity of that framework and the existence of alternative frameworks. Such research could also build on this framework and the above suggestions to provide comprehensive guidelines for the better integration of development into cultural landscape management planning.

10 APPENDICES

10.1 Questionnaire/Interview Guide

Mining Development and conservation and management of African World Heritage Cultural Landscapes

My name is Oris Malijani, I am PhD candidate at Brandenburg Technical University, Cottbus, Germany. I am doing a research on the topic described above as part of my PhD programme. The aim of this PhD research is to develop an integrated strategic management planning framework that will propose technical solutions to challenges faced when managing African cultural landscapes that are threatened by developments. One of the specific objective is to find out the stakeholder's perceptions about the impact of mining activities on the cultural and natural heritage resources; and the effectiveness of the management planning frameworks and other policies on protecting cultural landscape resources.

Note: Data will be protected using the data protection act and all responses will be confidential and will be used for reporting purposes only.

Thank you for taking part in the questionnaire survey.

Instruction: Tick the appropriate box below.

Gender: Male Female

A. Stakeholder's perception and levels of awareness (Mulanje)

A1. Are you aware that Mulanje Mountain cultural landscape is of cultural importance to the local people and the whole nation?

Yes

No

A2. Are you aware that the Malawi Government through the Department of Culture has plans to make Mulanje Mountain cultural landscape as a UNESCO World Heritage Site?

Yes

No

A3. Are you aware that the Malawi Government through the Department on Mines has plans to explore and exploit the mineral resources found in Mulanje Mountain cultural landscape?

Yes

No

A4. Given two options, to choose between cultural heritage preservation and mineral resources exploitation within the cultural landscape, what would you choose?

Cultural and natural heritage preservation

Mineral resources exploitation

Not sure

A5. What cultural heritage resources do you need to be protected in case of mining development projects?

Shrines and sacred sites (graves, sacred pools, rock art/shelters)

Archaeological Heritage

Monumental Heritage

Other, please specify: _____

B. Effectiveness of legislations and policies

B1. Malawi's National Cultural Policy (2014) is contributing towards the development, management and protection of Mulanje Mountain Cultural Landscape.

[] [] [] [] []
Strongly Agree Agree Note Sure Disagree Strongly Disagree

B2. Environment Conservation Act of 73 of 1989 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

[] [] [] [] [] []
Strongly Agree Agree Note Sure Disagree Strongly Disagree

B3. National Environmental Management Act, 1998 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B4. Environmental Laws Rationalization Act, 1997 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B5. Minerals Act, No. 50 of 1991 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B6. Mine Health and Safety Act, No 29 of 1996 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B.7. Mines and Works Act No. 27 of 1956 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B8. Minerals and Energy laws Amendment Act, 1994 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B9. National Heritage Resources Act, No. 25 of 1999 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B10. National Heritage Council Act, No. of 1999 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B11. World Heritage Convention Act, 1999 contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

B12. Management Plan 2012.... contributing towards the development, management and protection of Mapungubwe Cultural Landscape.

Strongly Agree Agree Note Sure Disagree Strongly Disagree

C. Management Planning Framework

C1. What aspects need to be addressed in order to improve the conservation and management of cultural landscapes?

C2. What aspects need to be addressed in order promote the integration of development in cultural landscape planning?

C3. What aspects need to be addressed in order promote the sustainable utilization of the resources of cultural landscapes?

C4. How do management plans and related heritage policies influence the development of a sustainable utilization, management and conservation of cultural landscapes?

- C5. Please list four important stakeholders dealing with issues of mining and conservation of cultural landscapes?
- C6. What support needs to be provided to the stakeholders in question above order to assist them to scale up issues of development integration into cultural landscapes?
- C7. Please list (if any) important issues and aspects that can improve the management and conservation of cultural landscapes in Africa?
- C8. Please list (if any) important issues and aspects that can encourage the active participation of stakeholders to promote the utilization and protection of cultural and natural heritage resources found in cultural landscapes?
- C9. Please list (if any) cultural heritage typology and their related intangible aspects that require more management consideration in Mulanje Mountain/Mapungubwe cultural landscape?
- C10. Please list (if any) current or past aspects/initiatives that have assisted with improving the conservation and management of status Mulanje Mountain/Mapungubwe cultural landscape?

Appendix

10.2 Mining Heritage as World Heritage

Mining Cultural Landscapes as examples of organically evolved landscapes

World Heritage Sites	Description and cultural Significance
Mining Area of the Great Copper Mountain in Falun	<p>The enormous mining excavation known as the Great Pit at Falun is the most striking feature of a landscape that illustrates the activity of copper production in this region since at least the 13th century. The 17th-century planned town of Falun with its many fine historic buildings, together with the industrial and domestic remains of a number of settlements spread over a wide area of the Dalarna region, provide a vivid picture of what was for centuries one of the world's most important mining areas.</p> <p>Criterion (ii): Copper mining at Falun was influenced by German technology, but this was to become the major producer of copper in the 17th century and exercised a profound influence on mining technology in all parts of the world for two centuries.</p> <p>Criterion (iii): The entire Falun landscape is dominated by the remains of copper mining and production, which began as early as the 9th century and came to an end in the closing years of the 20th century.</p> <p>Criterion (v): The successive stages in economic and social evolution of the copper industry in the Falun region, from a form of “cottage industry” to full industrial production, can be seen in the abundant industrial, urban, and domestic remains characteristic of this industry that still survive.</p>
Cornwall and West Devon Mining Landscape	The landscapes of Cornwall and west Devon were radically reshaped during the eighteenth and nineteenth centuries by

	<p>deep mining for predominantly copper and tin. The remains of mines, engine houses, smallholdings, ports, harbours, canals, railways, tramroads, and industries allied to mining, along with new towns and villages reflect an extended period of industrial expansion and prolific innovation.</p> <p>Criterion (ii): The development of industrialized mining in Cornwall and west Devon between 1700 and 1914, and particularly the innovative use of the high-pressure steam beam engine, led to the evolution of an industrialized society manifest in the transformation of the landscape through the creation of smallholdings, railways, canals, docks and ports, and the creation or remodeling of towns and villages. Together these had a profound impact on the growth of industrialization in the United Kingdom, and consequently on industrialized mining around the world.</p> <p>Criterion (iii): The extent and scope of the remains of copper and tin mining, and the associated transformation of the urban and rural landscapes presents a vivid and legible testimony to the success of Cornish and west Devon industrialised mining when the area dominated the world's output of copper, tin and arsenic.</p> <p>Criterion (iv): The mining landscape of Cornwall and west Devon, and particularly its characteristic engine houses and beam engines as a technological ensemble in a landscape, reflect the substantial contribution the area made to the Industrial Revolution and formative changes in mining practices around the world.</p>
<p>Zollverein Coal Mine Industrial Complex in Essen</p>	<p>The Zollverein industrial complex in Land Nordrhein-Westfalen consists of the complete infrastructure of a historical coal-mining site, with some 20th-century buildings of outstanding architectural merit. It constitutes remarkable</p>

	<p>material evidence of the evolution and decline of an essential industry over the past 150 years.</p> <p>Criterion (ii): The Zollverein XII Coal Mine Industrial Complex is an exceptional industrial monument by virtue of the fact that its buildings are outstanding examples of the application of the design concepts of the Modern Movement in architecture in a wholly industrial context.</p> <p>Criterion (iii): The technological and other structures of Zollverein XII are representative of a crucial period in the development of traditional heavy industries in Europe, which were reinforced through the parallel development and application of Modern Movement architectural designs of outstanding quality.</p>
<p>Mines of Rammelsberg, Historic Town of Goslar and Upper Harz Water Management System</p>	<p>The copper, lead and tin mines of Rammelsberg mountain, in the Harz region, were worked continuously from the 11th century until the 1980s. They bear outstanding testimony to mining installations and practices in Europe, both in terms of surface and underground remains, particularly from the Middle Ages and the Renaissance period.</p> <p>Criterion (i): The historic mining network of the Mines of Rammelsberg, the Historic Town of Goslar and the Upper Harz Water-Management System constitutes one of the largest mining and metallurgical complexes for non-ferrous metals in Europe. Known to have existed since ancient times, it has been in continuous use since the Middle Ages, initially under the impetus of Cistercian monks, and in later periods under the control of regional princes and of the Holy Roman Empire, of which Goslar was one of the capitals. The ensemble is an outstanding example of human creative genius in the fields of mining techniques and industrial water-management.</p>

	<p>Criterion (ii): The historic mining network of the Mines Rammelsberg, the Historic Town of Goslar and the Upper Harz Water-Management System exhibits an important interchange of human values, in the field of mining and water management techniques, from the Middle Ages until the modern and contemporary periods in Europe. It was the inspiration for Agricola’s De re metallica, the authoritative work on metallurgy and mining in the Renaissance.</p> <p>Criterion (iv): The historic mining network of the Mines of Rammelsberg, the Historic Town of Goslar and the Upper Harz Water-Management System constitutes an outstanding and very comprehensive technological ensemble in the fields of mining techniques, non-ferrous metallurgy and the management of water for drainage and power. Its extent and its period of continuous operation are exceptional. It also provides a characteristic example of administrative and commercial organization in the Middle Ages and the Renaissance period, through the remains of the monastery of Walkenried and the town planning of the Historic Town of Goslar.</p>
<p>Neolithic Flint Mines at Spiennes (Mons)</p>	<p>The Neolithic Flint Mines of Spiennes occupy two chalk plateaux located to the south-east of the city of Mons. They cover an area essentially devoted to agriculture. The site appears on the surface as a large area of meadows and fields strewn with millions of scraps of worked flint. Underground, the site is an immense network of galleries linked to the surface by vertical shafts dug by Neolithic populations.</p> <p>Criterion (i): The Neolithic Flint Mines at Spiennes provide exceptional testimony to early human inventiveness and application.</p>

	<p>Criterion (iii): The arrival of the Neolithic cultures marked a major milestone in human cultural and technological development, which is vividly illustrated by the vast complex of ancient flint mines at Spiennes.</p> <p>Criterion (iv): The flint mines at Spiennes are outstanding examples of the Neolithic mining of flint, which marked a seminal stage of human technological and cultural progress.</p>
Major Mining Sites of Wallonia	<p>The four sites of the property form a strip 170 km long by 3–15 km wide, crossing Belgium from east to west, consisting of the best-preserved 19th- and 20th-century coal-mining sites of the country.</p> <p>Criterion (ii): Among the earliest and largest in Europe, the four Walloon coalmines are testimony to the early dissemination of the technical, social and urban innovations of the industrial revolution. They then played a major exemplary role on the technical and social levels through to recent times. Finally, they are one of the most important sites of interculturalism arising out of mass industry through the participation of workers from other regions of Belgium, Europe and later Africa.</p> <p>Criterion (iv): The ensemble of the four Walloon mining sites provides an eminent and complete example of the world of industrial mining in continental Europe, at various stages of the industrial revolution. It bears significant testimony to its industrial and technological components, its urban and architectural choices, and its social values, especially following the Bois-du-Cazier disaster (1956).</p>
City of Potosí	<p>In the 16th century, this area was regarded as the world’s largest industrial complex. The extraction of silver ore relied on a series of hydraulic mills.</p>

	<p>Criterion (ii): The “Imperial City” of Potosí, such as it became following the visit of Francisco de Toledo in 1572, exerted lasting influence on the development of architecture and monumental arts in the central region of the Andes by spreading the forms of a baroque style incorporating Indian influences.</p> <p>Criterion (iv): Potosí is the one example <i>par excellence</i> of a major silver mine in modern times. The industrial infrastructure comprised 22 <i>lagunas</i> or reservoirs, from which a forced flow of water produced the hydraulic power to activate the 140 <i>ingenios</i> or mills to grind silver ore. The ground ore was then amalgamated with mercury in refractory earthen kilns called <i>huayras</i> or <i>guayras</i>. It was then molded into bars and stamped with the mark of the Royal Mint.</p> <p>Criterion (vi): Potosí is directly and tangibly associated with an event of outstanding universal significance: the economic change brought about in the 16th century by the flood of Spanish currency resulting from the massive import of precious metals in Seville.</p>
Historic Town of Ouro Preto	<p>Founded at the end of the 17th century, Ouro Preto (Black Gold) was the focal point of the gold rush and Brazil’s golden age in the 18th century. With the exhaustion of the gold mines in the 19th century, the city’s influence declined but many churches, bridges and fountains remain as a testimony to its past prosperity and the exceptional talent of the Baroque sculptor Aleijadinho.</p> <p>Criterion (i): Set in a remote and rugged landscape, the aesthetic quality of the vernacular and erudite architecture and irregular urban pattern of Ouro Preto makes the town a treasure of human genius. The most notable of the city’s architectural works are represented by the religious</p>

	<p>monuments and administrative buildings, including the Palácio dos Governadores (Governors' Palace), today the School of Mines, and the former Casa de Câmara e Cadeia (Administrative and Prison House), home to the Inconfidência Museum. The Baroque churches carry sculptures by Antônio Francisco Lisboa, Aleijadinho, colonial Brazil's greatest artist, and the ceiling paintings of Manuel da Costa Athaide among others. These were the representatives of the initial expressions of an artistic form deemed genuinely national and developed in a region marked by difficult access and a scarcity of materials and labor in the 18th century.</p> <p>Criterion (iii): The built heritage of the Historic City of Ouro Preto bears exceptional testimony to the creative talents of a society built on pioneering mining wealth under Portuguese colonial rule. Although the architecture, paintings, and sculptures are based on underlying models introduced by Portuguese immigrants, the works vary significantly from the contemporary European art, not only with respect to their spatial conception, but in their decorative treatment, in particular the stone sculptures carved on the facades, distinctive for their originality and design and in the combined use of two materials, gneiss and soapstone. The absence of formal convents or monasteries, due to the edict of the Portuguese Crown which prohibited the establishment of religious orders in Minas Gerais, led to the construction of churches and chapels displaying the full splendor, quality, and originality of the syncretized artistic traditions of two cultures.</p>
Sewell Mining Town	Situating at 2,000 m in the Andes, 60 km to the east of Rancagua, in an environment marked by extremes of climate,

	<p>Sewell Mining Town was built by the Braden Copper company in 1905 to house workers at what was to become the world’s largest underground copper mine, El Teniente. It is an outstanding example of the company towns that were born in many remote parts of the world from the fusion of local labour and resources from an industrialized nation, to mine and process high-value natural resources.</p> <p>Criterion (ii): Sewell town in its hostile environment is an outstanding example of the global phenomenon of company towns, established in remote parts of the world through a fusion of local labour with resources from already industrialised nations, to mine and process high value copper. The town contributed to the global spread of large-scale mining technology.</p>
<p>Humberstone and Santa Laura Saltpeter Works</p>	<p>Humberstone and Santa Laura works contain over 200 former saltpeter works where workers from Chile, Peru and Bolivia lived in company towns and forged a distinctive communal pampinos culture. That culture is manifest in their rich language, creativity, and solidarity, and, above all, in their pioneering struggle for social justice, which had a profound impact on social history.</p> <p>Criterion (ii): The development of the saltpeter industry reflects the combined knowledge, skills, technology, and financial investment of a diverse community of people who were brought together from around South America, and from Europe. The saltpeter industry became a huge cultural exchange complex where ideas were quickly absorbed and exploited. The two works represent this process.</p> <p>Criterion (iii): The saltpeter mines and their associated company towns developed into an extensive and very distinct urban community with its own language, organisation,</p>

	<p>customs, and creative expressions, as well as displaying technical entrepreneurship. The two nominated works represent this distinctive culture.</p> <p>Criterion (iv): The saltpeter mines in the north of Chile together became the largest producers of natural saltpeter in the world, transforming the Pampa and indirectly the agricultural lands that benefited from the fertilizers the works produced. The two works represent this transformation process.</p>
<p>Nord-Pas de Calais Mining Basin</p>	<p>Remarkable as a landscape shaped over three centuries of coal extraction from the 1700s to the 1900s, the site consists of 109 separate components over 120,000 ha. It features mining pits (the oldest of which dates from 1850) and lift infrastructure, slag heaps (some of which cover 90 ha and exceed 140 m in height), coal transport infrastructure, railway stations, workers' estates and mining villages including social habitat, schools, religious buildings, health and community facilities, company premises, owners and managers' houses, town halls and more.</p> <p>Criterion (ii): The Nord-Pas de Calais Mining Basin provides exceptional testimony to the exchange of ideas and influences regarding the extraction methods used for underground coal seams, the design of worker housing and urban planning, as well as the international human migration that accompanied the industrialization of Europe.</p> <p>Criterion (iv): The living and evolving mining landscapes of the Nord-Pas de Calais Basin provide an eminent example of the large-scale development of coal mining in the 19th and 20th centuries, by large industrial companies and their considerable workforce. This is a space structured by urban</p>

	<p>planning, specific industrial structures and the physical vestiges of coal extraction (slag heaps and subsidence).</p> <p>Criterion (vi): The social, technical and cultural events associated with the history of the Mining Basin had international repercussions. They are a unique and exceptional illustration of the danger of mine-working and of the history of its major disasters (Courrières). They are testimony to the evolution of the social and technical conditions of coal extraction. They represent a major symbolic place of the workers' condition and their solidarity, from the 1850s to 1990. They are testimony to the dissemination of the ideals of worker unionism and socialism.</p>
<p>Iwami Ginzan Silver Mine and its Cultural Landscape</p>	<p>Iwami Ginzan Silver Mine pioneered the development of silver mines in pre-Modern Asia. It had contributed to exchange of values between East and West by achieving the large-scale production of high quality silver through the development of the Asian cupellation techniques transferred from China through Korea and the Japanese unique assemblage of numerous labor-intensive small businesses based upon manual techniques in the 16th century.</p> <p>Criterion (ii): During the Age of Discovery, in the 16th and early 17th centuries, the large production of silver by the Iwami Ginzan Silver Mine resulted in significant commercial and cultural exchanges between Japan and the trading countries of East Asia and Europe.</p> <p>Criterion (iii): Technological developments in metal mining and production in Japan resulted in the evolution of a successful system based on small-scale, labor-intensive units</p>

	<p>covering the entire range of skills from digging to refining. The political and economic isolation of Japan during the Edo Period (1603 to 1868) impeded the introduction of technologies developed in Europe during the Industrial Revolution and this, coupled with the exhaustion of commercially viable silver-ore deposits, resulted in the cessation of mining activities by traditional technologies in the area in the second half of the 19th century, leaving the site with well-preserved archaeological traces of those activities.</p> <p>Criterion (v): The abundant traces of silver production, such as mines, smelting and refining sites, transportation routes, and port facilities, that have survived virtually intact in the Iwami Ginzan Silver Mine Site, are now concealed to a large extent by the mountain forests that have reclaimed the landscape. The resulting relict landscape, which includes the surviving settlements of the people related to the silver production, bears dramatic witness to historic land-uses of outstanding universal value.</p>
<p>Røros Mining Town and the Circumference. (Norway)</p>	<p>Røros Mining Town and the Circumference consist of three sites within the Circumference, i.e. the area of privileges awarded by the Danish-Norwegian King to Røros Copper Works in 1646. The town and the cultural landscapes cover a large continuous area which includes the landscape surrounding the mining town, the urban agricultural areas, and the most important mining landscapes where agricultural practices and copper work operations were carried out.</p> <p>Criterion (iii): From the time copper ore was found in the mountains at Røros in 1644 until the copper works went</p>

bankrupt in 1977, with German mining technology as a starting point, employing German, Danish, Swedish immigrants, and Norwegian nationals,, a unique culture developed to extract the valuable copper in a remote and sparsely inhabited area. Today there is no mining in the area, but Røros Mining Town and the traces of mining, smelters, transport, and water management systems bear unique witness to the adaptation of technology to the requirements of the natural environment and the remoteness of the situation.

Criterion (iv): Røros townscape and its related industrial and rural landscapes, with their interlinked industrial activity and domestic and agricultural accommodation within an urban environment, illustrate in an outstanding manner how people adapted to the extreme circumstances in which they had to live and how they used the available indigenous resources to provide shelter, produce food for their sustenance, and contribute to the national wealth of the country.

Technologically, their buildings and installations evolved through the use of available indigenous materials to functionally satisfy the combined approach of mining and agrarian practices whilst at the same time accommodating the consequences of dealing with extreme climatic conditions.

Criterion (v): Røros Mining Town and the Circumference constitute a totality that is an outstanding example of traditional settlement and land-use. The various activities that have been carried out in the area constitute a coherent and interdependent unit. These activities have shaped a cultural landscape that provides a unique picture of how the mines and the mining town functioned as a complex and at times

	<p>vulnerable system that verged on the limits of what was possible in an inhospitable environment with a harsh climate.</p>
<p>Wieliczka and Bochnia Royal Salt Mines</p>	<p>The deposit of rock salt in Wieliczka and Bochnia has been mined since the 13th century. This major industrial undertaking has royal status and is the oldest of its type in Europe. The site is a serial property consisting of Wieliczka and Bochnia salt mines and Wieliczka Saltworks Castle.</p> <p>Criterion (iv): The Wieliczka and Bochnia Royal Salt Mines illustrate the historic stages of the development of mining techniques in Europe, from the 13th to the 20th centuries. The galleries, the subterranean chambers arranged and decorated in ways that reflect the miners’ social and religious traditions, the tools and machinery, and the Saltworks Castle which administered the establishment for centuries, provide outstanding testimony about the socio-technical system involved in the underground mining of rock salt.</p>
<p>Engelsberg Ironworks. (Sweden)</p>	<p>Sweden's production of superior grades of iron made it a leader in this field in the 17th and 18th centuries. This site is the best-preserved and most complete example of this type of Swedish ironworks.</p> <p>Criterion (iv): Engelsberg is an outstanding example of an influential European industrial complex of the 17th-19th centuries, with important technological remains and the associated administrative and residential buildings intact.</p>
<p>Blaenavon Industrial Landscape. (South Wales)</p>	<p>The area around Blaenavon is evidence of the pre-eminence of South Wales as the world's major producer of iron and coal in the 19th century. All the necessary elements can still be seen - coal and ore mines, quarries, a primitive railway</p>

	<p>system, furnaces, workers' homes, and the social infrastructure of their community.</p> <p>Criterion (iii): The Blaenavon Landscape constitutes an exceptional illustration in material form of the social and economic structure of 19th century industry.</p> <p>Criterion (iv): The components of the Blaenavon Industrial Landscape together make up an outstanding and remarkably complete example of a 19th century industrial landscape.</p>
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