

Sustainability, trans-boundary protection of resources and mining: the Coal of Africa case

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Abstract

This paper investigates the sustainability, trans-boundary protection of resources and mining with particular emphasis on the Coal of Africa case example. It explores the issues pertaining to the sustainability and trans-boundary protection of resources that were taken into account as part of the decision-making process with regard to mining by Coal of Africa in the Greater Mapungubwe area in South Africa. At the centre of the dispute was the mining of coal by Coal of Africa without obtaining a water use licence and other related legal authorisations. This was in violation of sector specific legislation such as the *National Environmental Management Act 107 of 1998* and the *National Environmental Management Biodiversity Act 10 of 2004*, to name just a few. The importance of the Mapungubwe area is that it has a world heritage site and the mining is taking place adjacent to the world heritage site. Therefore, the mining activities by *Coal of Africa* should be conducted in a sustainable manner and should take into cognisance the four pillars of sustainability, namely, the environment, economic, social and cultural aspects. Furthermore, the mining activities must also take into account principles of sustainable development. The role of the government in regulating mining activities in areas such as Mapungubwe to ensure trans-boundary protection of resources including mineral resources for the current benefit of the communities and future use. In addition, regional instruments such as the *African Charter on Human and Peoples' Rights*, the *Convention on the Conservation of Nature and Natural Resources*, the *Cultural Charter for Africa*, *SADC Treaty*, *SADC Protocol on Mining*, provide for sustainable development. Also, the *Revised SADC Protocol on Shared Watercourses* places an obligation to parties to a shared watercourse to consult before embarking on any activity that may have detrimental environmental consequences. This paper established that to a certain degree economic issues were considered, as mining has the benefits of job creation. However, the failure by *Coal of Africa* to obtain the water use licence in the beginning could have been avoided. It is recommended that for such future activities an Intergovernmental Mining and Sustainability Forum be established to deal with such issues. In order for such a Forum to effectively function, there is need to amend 2013 MPRDA Amendment Bill.

Keywords: Sustainable, trans-boundary protection of resources, Coal of Africa, sustainable development, mining

Opsomming

Hierdie skripsie ondersoek volhoubaarheid, die oorgrensbewaring van hulpbronne en mynbou met spesifieke verwysing na Coal of Africa as voorbeeld. Die skripsie ondersoek aangeleenthede wat verband hou met volhoubaarheid en oorgrensbeskerming van hulpbronne wat in ag geneem is tydens die verlening van vergunnings vir mynbou in die Groter Mapungubwe area in Suid-Afrika. Die saak handel oor die myn van steenkool deur Coal of Africa sonder dat die myn 'n waterlisensie en ander omgewingsvergunninge bekom het. Sodanige optrede was in stryd met sektorale wetgewing soos die *National Environmental Management Act 107* van 1998 en die *National Environmental Management Biodiversity Act 10* van 2004, om 'n paar te noem. Die belang van die Mapungubwe area is dat dit 'n wêrelderfenisgebied is en dat mynbou langs die gebied goedgekeur is. Coal of Africa moet dus mynbou op 'n volhoubare wyse beoefen sodat die vier pillare van volhoubaarheid, naamlik omgewing, ekonomies, sosiaal en cultureel in ag geneem word. Die myn moet ook die beginsels van volhoubare ontwikkeling in ag neem. Die reg van die staat in die regulering van mynaktiwiteite in gebiede soos Mapungubwe is om te verseker dat oorgrensbeskerming van natuurlike hulpbronne plaasvind (insluitend minerale hulpbronne) tot voordeel van huidige en toekomstige gemeenskappe en vir toekomstige gebruik. Regionale instrumente soos *African Charter on Human and Peoples' Rights*, *the Convention on the Conservation of Nature and Natural Resources*, die *Cultural Charter for Africa*, *SADC Treaty*, *SADC Protocol on Mining* maak ook voorsiening vir volhoubare ontwikkeling en moet in ag geneem word. Die *Revised SADC Protocol on Shared Watercourses* plaas 'n verpligting op partye wat waterhulpbronne deel om met mekaar oorleg te pleeg voordat enige aktiwiteit onderneem word wat moontlik negatiewe omgewingsgevolge kan inhou. Dit blyk uit hierdie skripsie dat ekonomiese oorwegings 'n rol gespeel het in die besluit om die myn goed te keur omdat mynbou werkskepping meebring. *Coal of Africa* het egter nie 'n waterlisensie gekry nie en sodanige optrede behoort die vergunning van die mynlicensie te verhoed het. Daar word voorgestel dat daar vir soortgelyke toekomstige akitwiteite 'n *Intergovernmental Mining and Sustainability*

Forum opgerig word om besluite te neem. Dit mag meebring dat die 2013 MPRD Wysigingswetsontwerp gewysig sal moet word.

Trefwoorde: Volhoubaarheid, oorgrensbeskerming van hulpbronne, Coal of Africa, volhoubare ontwikkeling, mynbou

List of abbreviations

CC	Constitutional Court
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DWA	Department of Water Affairs
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GG	Government Gazette
GMTFCA	Greater Mapungubwe Trans-frontier Conservation Area
GN	Government Notice
LIMCOM	Limpopo Watercourse Commission Agreement
MPRDA	Mineral and Petroleum Resources Development Act 28 of 2002
NEMA	National Environmental Management Act 107 of 1998
NEM:AQA	National Environmental Management Air Quality Act 39 of 2004
NEMBA	National Environmental Management Biodiversity Act 10 of 2004
NEMPAA	National Environmental Management Protected Areas Act 57 of 2003
NEMWA	National Environmental Management Waste Act 59 of 2008
NHRA	National Heritage Resources Act 25 of 1999
NWA	National Water Act 36 of 1992

PELJ

Potchefstroom Electronic Law Journal

SADC

Southern African Development Community

SAJELP

South African Journal of Environmental Law and Policy

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1 Introduction

Limpopo Coal (Pty) Ltd (hereafter Limpopo Coal), a subsidiary of the Australian mining company, Coal of Africa, commenced mining in terms of an authorisation issued in terms of the *Minerals and Petroleum Resources Development Act 28 of 2000* (hereafter MPRDA) in 2010. The mine, however, did not obtain a water use license and other relevant authorisations required in terms of other legislation such as the *National Environmental Management Act 107 of 1998* (hereafter NEMA) for example. In 2010, the directors were arrested for contravening the NEMA Act and the *National Environmental Management: Biodiversity Act 10 of 2004* (hereafter NEMBA).¹

The mine is located in the Limpopo Basin, adjacent to the Mapungubwe World Cultural Heritage Site, which forms part of the Greater Mapungubwe Trans-frontier Conservation Area (hereafter GMTFCA) which includes areas in Botswana, South Africa and Zimbabwe.² In addition, the Limpopo River which flows through the GMTFCA and from which the mine will obtain its water is "regulated" by the Limpopo Watercourse Commission Agreement (hereafter LIMCOM Agreement) that includes South Africa, Zimbabwe, Botswana and Mozambique.³ The LIMCOM agreement of 27 November 2003 is based on the Southern African Development Community's Revised Protocol on Shared Watercourses of 7 August 2000.⁴ Interested and affected parties raised concerns that the proposed open coal mine will harm the cultural heritage site, the quality and quantity of the water in the Limpopo River, as well as the health and well-being of the people living in adjacent areas. Other interested parties argued that the mine will bring economic development and job creation to the Limpopo Province as part of the South African Government Rural Development Programme.⁵

In 2010, the Save Mapungubwe Coalition (hereafter the Coalition), which consists of several leading non-governmental organisations (hereafter NGOs), including the Endangered Wildlife Trust, the Association of Southern African Professional

1 See par 4.1 for a detailed discussion on this.

2 See par 1.1.2 of Vele Colliery's Final Environmental Management Programme (hereafter Final EMP).

3 See LIMCOM agreement for a detailed discussion on this at <http://www.limcom.org>.

4 See <http://www.limcom.org> for a detailed discussion. See also par 2.3.

5 See par 5.1.2 for a detailed discussion on this.

Archaeologists, the Mapungubwe Action Group, the Wilderness Foundation South Africa, the World Wide Fund for Nature South Africa and Birdlife South Africa, launched interdict proceedings against Limpopo Coal and the Minister of Mineral Resources. The applicants launched the interdict application in an attempt to prevent further destruction of the area. Two days after the interdict was launched on 5 August 2010, the Department of Environmental Affairs (hereafter DEA) confirmed that its Environmental Management Inspectorate had issued a compliance notice to Limpopo Coal to cease with activities that were in contravention of the NEMA.⁶ Subsequent to being issued with the compliance notice by the DEA, Limpopo Coal submitted two applications for rectification under section 24G of the NEMA to the DEA.⁷ In 2011 after *Coal of Africa* had paid an administrative fine on behalf of Limpopo Coal in terms of section 24G(2A) of the NEMA, the DEA granted environmental authorisation.⁸ In the same year the Department of Water Affairs granted a water use licence to Limpopo Coal. The Coalition and other interested parties then initiated an action against *Coal of Africa* in the South Gauteng High Court, against the impact of mining and related activities of Limpopo Coal at the Vele Colliery near the World Cultural Heritage site at Mapungubwe.⁹ In 2011 the case was settled out of court and a Memorandum of Understanding (MoU) was signed between members of the Coalition, Limpopo Coal and *Coal of Africa*. The next stage was that of entering into a more detailed Memorandum of Agreement (MoA) by the parties. However, in December 2012 the members of the Coalition decided to withdraw from the MoU and negotiations to the MoA.¹⁰

Sustainable development requires resources in a country to be used in such a manner as to reserve them for use by other future generations. Diensendorf¹¹ states that: "Sustainable development comprises types of economic and social development which protect and enhance the natural environment and social equity" and that sustainability is the end result or outcome of sustainable development. In this regard, sustainability would therefore be attained if socio-economic development taking place in a country

6 See <http://www.savemapungubwe.org.za/appeal>.

7 See <http://www.savemapungubwe.org.za/appeal>.

8 See <http://www.savemapungubwe.org.za/appeal>.

9 See <http://www.savemapungubwe.org.za/appeal>.

10 See <http://www.savemapungubwe.org.za/appeal>.

11 Diensendorf "Sustainability and Sustainable Development" 3.

would do so without degrading the environment and also benefiting it. Sustainability rests on three pillars that must be integrated, namely the environment, economic development and social development.¹² Du Plessis and Rautenbach¹³ regard culture as the fourth pillar on which sustainability rests, as cultural considerations often influence social, economic and environmental decisions. In the *Coal of Africa* case it would be necessary to investigate if all the pillars of sustainability were taken into account with regard to the authorisation of the mining in Mapungubwe.

Trans-frontier conservation areas are defined as a part or components of a larger eco-region that straddles the border between two or more countries, encompassing one or more protected areas, as well as multiple resource areas for the use of communities and private land owners, managed for sustainable use of natural resources.¹⁴ The above definition suggests that other governments and other stakeholders should be involved in trans-boundary decision making in terms of the protection of resources in the area concerned. The mining activities of Limpopo Coal, although taking place in the Limpopo basin in South Africa, may impact on the natural and cultural resources of Botswana, Mozambique and Zimbabwe and may contravene the GMTFCA agreement, the LIMCOM agreement and SADC's Revised Protocol on Shared Watercourses.¹⁵ It would be necessary to investigate the contents of the South African legislation, the agreements and SADC protocols that impact on the *Coal of Africa* case.

The aim of this study is therefore to determine to what extent issues pertaining to sustainability and the trans-boundary protection of resources were taken into account in decision making with regard to authorising mining by *Coal of Africa* in the Mapungubwe area. The research aim will be illustrated by a case example based on coal mining activities by *Coal of Africa* in the Mapungubwe area. The case study is based on materials found on the internet, appeal notices pertaining to the *Coal of Africa* case, compliance notices issued to *Coal of Africa* and court documents pertaining to the *Coal of Africa* case. The rest of the study is a literature survey of the most important literature

12 Feris 2010 *PELJ* 80. See also par 21.

13 Du Plessis and Rautenbach 2010 *PELJ* 27. See also par 2.1.

14 See <http://www.dfa.gov.za>

15 See par 5.1.5 for a detailed discussion on this.

dealing with sustainability and trans-boundary protection of resources in the Mapungubwe area.

This study first provides a background, defines certain terminologies and lays a theoretical foundation for the study.¹⁶ It will further, discuss all regional and SADC instruments relating to the study¹⁷, discusses sector-specific legislation applicable to the case example¹⁸ and the case example itself¹⁹ in order to come to a conclusion and suggest recommendations for decision-making in similar cases in future.²⁰

2 Background, definitions and theoretical foundations

In this section sustainability and the trans-boundary protection of resources through case law and various theories that have been brought forth by different scholars, as well as its applicability to the *Coal of Africa* case. The initiatives that have been put in place for trans-boundary protection of resources shall also be highlighted by referring to the legal documents that govern the operation of these initiatives.

2.1 Sustainability

The idea of sustainability originated from the realisation that industrialisation and economic development are destroying the natural environment and that unrestrained development could no longer be allowed.²¹ Diesendorf²² states that sustainability is the end result or outcome of sustainable development. Sustainability would therefore be a state reached if the socio-economic development allowed to take place could be supported and sustained by the natural environment.²³ Sustainability rests on three pillars that must be integrated, namely the environment, economic and social development.²⁴ Du Plessis and Brits²⁵ also consider culture as the fourth pillar on which sustainability rests and affirm that sustainability will not be reached if all four pillars are

16 See chapter 2 for a detailed discussion on this.

17 See chapter 3 for a detailed discussion on this.

18 See chapter 4 for a detailed discussion on this.

19 See chapter 5 for a detailed discussion on this.

20 See chapter 6 for a detailed discussion on this.

21 Harsant 2004 *Journal of Contemporary History* 72.

22 Diesendorf "Sustainability and Sustainable development" 3.

23 Le Roux *Environmental Governance, Fragmentation* 5.

24 Feris 2010 *PELJ* 80.

25 Du Plessis and Brits 2007 *SALJ* 263. See also Du Plessis and Rautenbach 2010 *PELJ* 31.

not integrated when considering environmental authorisations. An internationally recognised definition of culture is that it is: "... a set of distinctive spiritual, material, intellectual and emotional features of society or a social group, that encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs."²⁶ In the Southern African context, culture is defined as: "the totality of people's way of living, the whole complex distinctive spiritual, material, intellectual and emotional features that characterise a society or social groups, including not only arts and letters but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs."²⁷ In the South African context, section 30 of the *Constitution of the Republic of South Africa, 1996* (hereafter Constitution) affords the right to everyone to "participate in the cultural life of their choice" and section 31 provides that "a member of a cultural community may not be denied the right to enjoy his culture together with members of that community."²⁸ These Constitutional provisions were put into effect in the case of *Oudekraal Estates (Pty) Ltd v The City of Cape Town*²⁹ where the court set aside an approval for the establishment of a township because of cultural, religious and environmental concerns voiced by the Muslim community and other inhabitants of the area. Similarly these concerns will have to be considered in relation to *Coal of Africa's* mining operations in the Greater Mapungubwe area.

26 See UNESCO's *Declaration on Cultural Diversity*, 2001. This definition of culture is said to be in line with the conclusions of the World Conference on Cultural Policies (MONDIACULT, Mexico City, 1982) of the World Commission on Culture and Development (Our Creative Diversity, 1995) and the Intergovernmental Conference on Cultural Policies for Development (Stockholm, 1998). See Du Plessis and Rautenbach 2010 *PELJ* 32.

27 *The Southern African Development Community's Protocol on Culture, Information and Sport*, 2000. Du Plessis and Rautenbach state that: "The Southern African Development Community (SADC) has been in existence since 1980, when it was formed as an informal alliance of nine majority ruled states in southern Africa known as the Southern African Development Coordination Conference." Its main aim was initially to coordinate development projects in order to lessen economic dependence on the then apartheid South Africa. Nowadays, South Africa is an active member of the SADC. The member States appear to be in agreement that culture plays a vital and central role in the process of integration and co-operation among them and as a result they have agreed to a Protocol on Culture, Information and Sport."

28 See sections 30 and 31 of the Constitution of the Republic of South Africa, 1996. See also Currie *Minority Rights* 35.

29 2004 6 SA 222 (SCA). See also Hoexter *Administrative Law* 486. See also Van der Walt *Constitutional Property Law* 292-382.

2.1.1. The origins of sustainable development

The concept of sustainable development was formally established in 1987 by the well-known Brundtland Report, which defines it as "...development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs."³⁰ The concept of sustainable development has also been endorsed by various international law instruments, like the Rio Declaration on Environment and Development, 1992 (hereafter Rio Declaration).³¹ At the heart of the Rio Declaration are principles 3 and 4. Principle 3 provides that "the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."³² Principle 4 provides that "in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it."³³ As such, it can be understood from both principles 3 and 4 of the Rio Declaration that the idea of development and environmental protection is central to the concept of sustainable development.³⁴ Another international law instrument that has endorsed the concept of sustainable development, is the Stockholm Declaration of the United Nations Conference on the Human Environment, 1972 (hereafter the Stockholm Declaration).³⁵ Principle 1 of the Stockholm Declaration exhibits the concept of sustainable development by stating that: "Man has the fundamental right to freedom and equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations." From the above, it can be deduced that environmental protection is at the centre of sustainable development. Hence, the South African government, before

30 Our Common Future 1987 United Nations General Assembly Resolution 422118611 11 December 1987. See also Sands *International Courts* 147. See also Kotze *A Legal Framework for Integrated Environmental Governance* 155.

31 See Rio Declaration on Environment and Development, 1992.

32 See Principle 3 *Rio Declaration (United Nations Conference on Environment and Development)*, 1992. On the Principles of the Rio declaration read Weiss *In Fairness to Future Generations* 6-15. See also Swanson and Johnston *Global Environmental Problems* 30.

33 See Principle 4 *Rio Declaration (United Nations Conference on Environment and Development)*, (1992). See also Kotze and Van der Walt 2003 *South African Journal of Environmental Law and Policy* 40.

34 Boyle and Freestone "International law and Sustainable Development" 26.

35 See Stockholm Declaration. See also Schreurs *Environmental Politics* 1.

granting *Coal of Africa* mining rights in the Mapungubwe area, should have balanced the economic gains of mining in light of both the present and future generations' enjoyment of the resources in the GMTFCA.

2.1.2 The principles of sustainable development

The concept of "sustainable development" has attached to it several additional principles namely the duty of states to ensure the sustainable use of natural resources, the principle of equity and the eradication of poverty, the principle of common but differentiated responsibilities, the principle of the precautionary approach to human health, natural resources and ecosystems, the principle of public participation access to information and justice, the principle of good governance and the principle of integration and interrelationship in relation to human rights and social, economic and environmental objects.³⁶ The first principle, which is the duty of states to ensure the sustainable use of natural resources, obliges states to manage natural resources in a rational, sustainable and safe way, taking into account the needs of future generations in determining the rate of use of natural resources, to ensure that all people (including indigenous people and future generations) benefit from the exploitation of resources and to have due care for the environment.³⁷ In light of the *Coal of Africa* case,³⁷ South Africa has a duty to ensure that it manages natural resources in the Mapungubwe area sustainably, taking into account indigenous people such as the Vhangona and the Ga-Machete, who are traditional communities within the Mapungubwe area, and future generations with regard to the effects of mining as it is an inherently unsustainable activity.³⁸

The second principle is that of equity and eradication of poverty.³⁹ Equity is a principle that is central to the attainment of sustainable development. This principle demands

36 See Weiss *In Fairness to Future Generations* 39. See also Sands *International Courts* 150.

37 Schrijver "Sovereignty over Natural Resources" 8-9. See also Report of the United Nations Conference on Environment and Development, 1992, as well as the Stockholm Declaration.

38 See Chapter 5 for a detailed discussion on the traditional communities who dwell in the Mapungubwe area.

39 Barnard 2012 *PELJ* 213. See also United Nations, *Report of the Expert Group Meeting on Identification of Principles in International Law for Sustainable Development* (UN Secretariat, September 1995). For further reading on the principles, See also Goepel "Formulating Future Just Policies: Applying the Delhi Sustainable Law Principles" 2010 *Sustainability* 2 1695. See also Cordonier, Segger and Khalfan *Sustainable Development Law: Principles, Practices and Prospects* Part 41.

that, while the present generation has the right to use and enjoy the resources of the earth, it is under an obligation to take into account the long term impact of its activities and to sustain the resource base and the global environment for the benefit of future generations of human kind.⁴⁰ In the light of this principle, while South Africa is entitled to allow companies like *Coal of Africa* to mine, it should take into account the effect of mining in close proximity to Mapungubwe and the effects that mining will have on the scarce natural resources like water in the area and how this will affect future generations.

In addition to this, the principle of poverty eradication enjoys attention in terms of the provisions of the Johannesburg Plan of Implementation (hereafter JPI).⁴¹ According to the JPI, poverty has various manifestations, which include a lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; unsafe environments; social discrimination and exclusion, it is also by a lack of participation in decision making and in civil, social and cultural life.⁴² *Coal of Africa's* mining activities may reportedly bring about an influx of temporary job seekers, which will strain the resources in the rural community of Mapungubwe. This may resultantly lead in manifestations of poverty as the local people will have limited basic services and the education as the population would have increased.⁴³

The third principle of common but differentiated responsibilities, evolved from the notion of common heritage of mankind and is a particular manifestation of the general principles of equity in international law.⁴⁴ In terms of the broad interpretation afforded to the principle in terms of the New Delhi Declaration, it entails "a duty to cooperate in the

40 See *Report of the World Summit on Sustainable Development*, Johannesburg, South Africa, 26 August - 4 September 2002, UN Doc. A/CONF.199/20 [JPOI]. See also, Hepburn and Khalfan *The Principle of Equity and the Eradication of Poverty* Centre for International Sustainable Development Law Draft Working Paper 3.

41 See Par 1 of the JPI.

42 See Chapter II of the JPI.

43 See Par 5 on Chapter 5 for a detailed discussion.

44 Sands *Principles of International Environmental Law* 217. See also *The Principle of Common but Differentiated Responsibilities: Origins and Scope* Centre for International Sustainable Development Law Legal Brief at www.cisd.org/pdf/brief_common.pdf.

achievement of global sustainable development."⁴⁵ The common responsibility component deals with the duty resting on states to protect the environment, or parts of it, at national, regional and global levels.⁴⁶ In addition to this, the common responsibility resting on states comes into play where resources are shared, under the control of a number of states; or under the sovereign control of a state, but subject to a common legal interest such as biodiversity.⁴⁷ In light of the *Coal of Africa* case study, the Limpopo River from which water for the mining activities will be extracted is a shared water resource for South Africa, Zimbabwe, Botswana and Mozambique.⁴⁸ Hence the principle of common but differentiated responsibilities is applicable to the Limpopo River, as countries who share this water resource have bound themselves in agreement to cooperate in the use and the development and the protection of the Limpopo River.⁴⁹

Furthermore, differentiated responsibility deals with the discrepancies in the capacities of developing and developed states contributing towards environmental protection.⁵⁰ This translates into the setting of differentiated environmental standards on the basis of a range of factors, including the future economic development of countries and their historic contributions to the creation of a given environmental problem.⁵¹ Based on the above the practical implementation of this principle in the context of climate change where it is used largely, for example, means that different environmental standards should be imposed upon developing and developed countries, taking into account their differential contribution to carbon emissions in the atmosphere, as developed countries that are highly industrialised have contributed much to climate change.⁵² In light of the *Coal of Africa* case, differential responsibility is not recognised over the Limpopo River among the states that share it. This is largely due to the fact that LIMCOM member states are all developing. However, differential responsibility should be recognised as

45 See *New Delhi Declaration*, 2002.

46 Hepburn and Ahmad *The Principle of Common but Differentiated Responsibilities* 3.

47 See also Smith *LEAD Journal* 287. See also Cullet (2003) cited in Fitzmarice *Contemporary Issues in International Environmental Law* 73. See also Rajamani *International Affairs* 616.

48 See Chapter 1 for a detailed discussion.

49 Par 7 (b) of the *Southern African Development Community's Revised Protocol on Shared Watercourses*, 2000.

50 Barnard 2012 *PELJ* 218.

51 CISDL Legal Brief www.cisd.org/pdf/brief_common.pdf.

52 Rajamani, "Climate Law and the CBDR Principle" 3.

there are economically powerful states such as South Africa and Botswana that obtain water from the Limpopo and hence their water demands for industry may be higher than, for example, Mozambique. Although Mozambique is currently engaging in heavy mining and gas exploration, the people in the country are still poor and pollution of the water in the Limpopo due to mining activities may consequently harm them.⁵³

The fourth principle of sustainable development is that of the precautionary approach to human health, natural resources and ecosystems.⁵⁴ The precautionary principle entails that the agent of activities which might lead to significant, serious irreversible harm is obliged to take measures to prevent this damage even if there is a lack of full scientific certainty as to the existence and the severity of the risk.⁵⁵ In light of *Coal of Africa's* mining operations, they may significantly impact on the archaeological and palaeontological historical remains of the culture of the people who dwelt in the Mapungubwe many years ago.⁵⁶ The precautionary principle is therefore a response to an important problem in decision making, namely the absence of complete scientific information concerning the environmental consequences of a particular activity.⁵⁷ As such, it can be deduced from the precautionary approach that harm may be prevented before its occurrence if the government takes into account scientific knowledge in determining the harm to be sustained while engaging in a particular activity and the effect and extent of such harm.

The fifth principle of sustainable development is that of public participation and access to information and justice.⁵⁸ The participation of the public in policy formulation is essential to sustainable development and good governance as it is a condition of responsive, transparent and accountable governance.⁵⁹ This principle enjoys substantial

53 See Par 5.1.1 on Chapter 5 for a detailed discussion on water pollution.

54 Barnard 2012 *PELJ* 213. See also, Hickey and Walker VR "Refining the Precautionary Principle in International Environmental Law" 436.

55 Hepburn, Segger and Gehring "The Principle of the Precautionary Approach to Human Health, Natural Resources and Ecosystems" 3.

56 See Par 5.4 for a more detailed discussion.

57 Cordonier, Segger and Khalfan *Sustainable Development Law* Part 4 3.

58 Barnard 2012 *PELJ* 217. See also section 32 of the Promotion of the Administration of Justice Act, which provided that everyone has access to information held by the state and any information that is held by another person that is required by another for the exercise of his or her rights.

59 Barnard 2012 *PELJ* 217.

support in various international legal instruments such as the *International Covenant on Economic, Social and Cultural Rights*⁶⁰ and the *United Nations Universal Declaration of Human rights*.⁶¹ In terms of article 12 of the *International Covenant on Economic, Social and Cultural Rights*, "...every citizen has the right to participate in the conduct of public affairs, directly or through freely chosen representatives..."⁶² *Coal of Africa* reportedly did not inform interested and affected parties in the Mapungubwe area, including traditional communities and member states to the GMTFCA, of its proposed coal mining activities.⁶³

The sixth principle of sustainable development is that of good governance.⁶⁴ Good governance is essential to the progressive realisation and codification of international law relating to sustainable development.⁶⁵ The principle is perceived as a normative principle of administrative law which obliges the state to perform its functions in a manner that promotes the values of efficiency and non-corrupibility responsiveness to civil society.⁶⁶ In the case of *Coal of Africa*, good governance was not employed as interested and affected parties were not adequately informed about the mining activities and the their effects. This shall be discussed in detail later.⁶⁷ In the South African context good governance is exhibited through the process of cooperative governance. This is provided for in chapter two of the Constitution, as well as the *Intergovernmental Relations Framework Act* 13 of 2005. However, due to the scope of this paper it will not be discussed in detail.⁶⁸ In the case of *Gabcikovo-Nagymaros* project the International Court of Justice highlighted the importance of the principle of integration by stating that "... the need to reconcile economic development with the protection of the environment

60 International Covenant on Economic, Social and Cultural Rights, 1996. See also, Bottriel and Cordonier Segger *The Principle of Public Participation* 3.

61 *The United Nations Universal Declaration of Human Rights*, 1948.

62 The International Covenant on Economic, Social and Cultural Rights of 1996 entered into force in 1976. The Covenant also highlights the importance of public participation in Article B where it provides that "...education shall enable all persons to participate effectively in a free society."

63 See Chapter 5 for a detailed discussion on this.

64 See Par 6 of *New Dehli Declaration*, 2002. See also, Chowdburny and Skarstedt *The Principle of Good Governance* 4.

65 Cordonier, Segger and Khalfan "Sustainable Development Law" 171.

66 See Barnard 2012 *PELJ* 219. See also Rosenau *Along the Domestic-Foreign Frontier* 1.

67 See Chapter 5 for a detailed discussion on good governance.

68 See Kotze 2006 *PELJ* 27. See also Kotze "Environmental Governance" 36.

is aptly expressed in the concept of sustainable development."⁶⁹ In light of the mining activities occurring in the Mapungubwe area, economic development should be balanced against the human rights of the local people, which include shelter, health care, employment and property to ensure sustainability is arrived at.⁷⁰

2.2 Resources and trans-boundary resources in the Mapungubwe area

The area where *Coal of Africa* is engaging in opencast and underground coal mining operations reportedly contains 362.5 mineable tonnes of coal.⁷¹ Coal mining has the benefits of enhancing energy production in the country, as well as the provision of steel and cement products that are made from coal.⁷² In addition, coal mining has the benefit of bringing employment creation. In South Africa the coal industry totals more than 12 percent of the mining workforce and this is equivalent to 65 000 workers each year.⁷³ Mining operations also provide revenue for government and a positive effect on national revenue. Companies pay taxes at both the local and national levels and may contribute royalties to help the government to fund other services, such as health, education, welfare and security.⁷⁴ Furthermore, in cases where coal is surplus to domestic energy needs, the coal produced is exported to other countries, earning valuable export income and supporting national foreign exchange reserves.⁷⁵

Trans-boundary resources are those resources that are shared by two or more states, towards the protection of a particular environmental resource.⁷⁶ In the Mapungubwe area, where *Coal of Africa's* subsidiary company, Limpopo Coal is mining, there are two shared resources between South Africa which are the GMTFCA and the Limpopo River.

69 1997 ICJ Rep. 781409. See also Sands "International Law in the Field of Sustainable Development" 338. See also, Jodion *The Principle of Integration and the Interrelationship in relation to Human Rights* 3. See also Cordonier, Segger and Khalfan *Sustainable Development Law* 102-103.

70 See Par 5.6 for a detailed discussion on this.

71 www.coalofAfrica.co/our-business/operations/operation-vele.

72 Volume 78, 2012 *Ecoal* available at www.worldcoal.org.

73 See Boocock "Environmental Impacts"1. See also, Volume 78, 2012 *Ecoal*. In South Africa it has been estimated that the impact of one employees' salary in the mining industry on the average feeds and clothes an equivalent of ten people, including children and the elderly.

74 See Kloppers and Du Plessis *Journal of Energy and Natural Resources Law* 91-119. See also Scholtz 2005 *SALJ* 73.

75 Boocock "Environmental Impacts" 7.

76 Mustapher "Rethinking the Application of the Principles of 'CBDR' in the International Climate Legal Framework" 2.

TFCA's promote conservation and sustainable use of both biological and cultural resources, while also advancing the goal of regional peace, co-operation and socio-economic development.⁷⁷ The other shared resource in the Mapungubwe area is the Limpopo River and the existing LIMCOM Agreement regulates the use of water by the Parties.⁷⁸

The pillars of sustainability, namely the environment, economic, social and cultural pillars may be applicable to the *Coal of Africa* case. The mining activities by Coal of Africa will for example require water, which forms part of the environment.⁷⁹ The water will be obtained from the Limpopo River and its quality and quantity may be impacted by the coal mining activities.⁸⁰ With regard to the economic pillar, the Mapungubwe area where mining activities are taking place has a well-developed agricultural sector which employs a number of people in the area.⁸¹ The mining activities may reportedly impact farming activities through straining water resources like the Limpopo River from which irrigation water for farming is accessed, as the mine will draw a lot of water from the river.⁸² This may resultantly lead to farms closing down, as well as loss of revenue for the government from farming activities. Ultimately, the mine may impact on the food security of the country.⁸³ With regard to the social pillar, there are traditional communities who live within the mining area, like the Ga-machete, who were reportedly not consulted regarding the mining and who may be affected by the mining activities.⁸⁴ The cultural pillar is applicable as the Mapungubwe area where the mining is taking place, contains rock art and paintings that depict the history and way of life of the people who lived in sub-Saharan Africa decades ago and from which present day South

77 See <http://www.peaceparks.org>, the GMTFCA has become recognised as a 'cultural TFCA' visitors flock to the area not only to see the magnificent sandstone formations, the wide variety of trees, notably the enormous baobab, game and birdlife, but also to experience the kinship of past generations.

78 See <http://www.limcom.org/en/About/Agreements> in this regard.

79 See Par 5.1.1. See also section 1 of the NEMA for the definition of environment.

80 See Par 5.1.1 for a detailed discussion on the impact of mining on water.

81 See Par 5.1.2 for a detailed discussion.

82 See Par 5.1.2 for a detailed discussion on this.

83 See Par 5.1.2 for a detailed discussion on this.

84 See Par 5.1.3 for a detailed discussion on this.

African culture originated from.⁸⁵ The rock art and painting may be impacted by Coal of Africa's mining activities in the area.⁸⁶

2.3 Sustainability definition for Coal of Africa case study

Sustainability for the purposes of this study is therefore the state that would be reached if social, cultural and economic development could be sustained by the natural resource protection in the GMTFCA. The ideal of sustainability when dealing with trans-boundary protection of natural resources is underpinned by various principles of sustainable development, namely the duty of states to ensure the sustainable use of natural resources, the principle of equity and the eradication of poverty, the principle of common but differentiated responsibilities, the principle of the precautionary approach to human health, natural resources and ecosystems, the principle of public participation, access to information and justice, the principle of good governance and the principle of integration and interrelationship in relation to human rights and social, economic and environmental objects.

3 African Union and SADC Instruments

It is now necessary to determine which regional instruments are applicable to sustainability and trans-boundary protection of resources and mining. The African Union instruments will be discussed first and thereafter the SADC instruments.

3.1 Regional African Union Law

In light of the *Coal of Africa's* mining activities in the Mapungubwe area in South Africa, it will be fundamental to discuss all regional instruments that govern and regulate management and use of natural and cultural resources that are found in the area that South Africa has signed and ratified. With regard to regional instruments, the *African Charter on Human and Peoples' Rights* (hereafter *African Charter*),⁸⁷ the *Convention on*

85 See Par 5.1.4 for a detailed discussion on this.

86 See Par 5.1.4 for a detailed discussion on this.

87 *African Charter*, 1981. South Africa signed and ratified the *African Charter* on 1996-07-09.

the Conservation of Nature and Natural Resources (hereafter *Algiers Convention*),⁸⁸ the *Revised Convention on the Conservation of Nature and Natural Resources* (hereafter *Revised Algiers Convention*),⁸⁹ the *Cultural Charter for Africa*,⁹⁰ and the *Charter for African Cultural Renaissance*,⁹¹ the *Constitutive Act of the African Union*⁹² and the *Treaty Establishing the African Economic Community* shall be discussed.⁹³

3.1.1 The African Charter on Human and Peoples' Rights

The *African Charter* was adopted to promote and protect human and peoples' rights and freedoms on the continent where human rights violations are the norm.⁹⁴ The African Charter was the first binding regional instrument expressly to embody a substantive environmental right.⁹⁵ Article 24 of the *African Charter* provides that "all people shall have the right to a general satisfactory environment favourable to their development".⁹⁶ The inclusion of this right in the Charter constitutes an acknowledgement by its framers of the importance of a healthy environment for Africa's socio-economic development, as well as for the realisation of other human rights in Africa.⁹⁷ This is based on the ground that the right aims to promote an environment of such quality that is favourable to the development of African people.⁹⁸ In terms of the content of the right to a satisfactory environment, the procedural content of this right is not contentious as it invariably implies procedural rights, such as the right to have access to information affecting one's environment, the right to participate in decisions affecting the environment including prior environmental assessment, a right to seek redress in the event of environmental

88 *Algiers Convention*, 1968. South Africa has not signed and/or acceded to the Convention. South Africa is still considering the financial and institutional implications of acceding to the Convention.

89 *The Revised Algiers Convention*, 2003 South Africa has not signed and/or acceded to the Convention.

90 *The Cultural Charter for Africa*, 1976. South Africa has not signed and ratified the Charter.

91 *Charter for African Cultural Renaissance*, 2006. South Africa has not signed or ratified this treaty.

The Constitutive Act of the African Union 2000. South Africa signed it on 08/09/2000, ratified it on 2001-03-03 and deposited it on 2001-04-23.

93 *Treaty Establishing the African Economic Community*, 1991.

94 Ouguergouz *African Charter on Human and Peoples' Rights* 37.

95 Amechi 2009 *LEAD Journal* 62.

96 See Article 24 of the *African Charter*, 1981.

97 Amechi 2009 *LEAD Journal* 62.

98 Amechi 2009 *LEAD Journal* 62.

degradation.⁹⁹ However, the substantive content is difficult if not impossible to define as the right is phrased in a vague and ambiguous manner.¹⁰⁰ This can be seen from the fact that the Charter gives no indication of what is meant by the phrase 'general satisfactory environment favourable to development' or the range of issues that it might embrace.¹⁰¹ This has led to different interpretations as to the exact meaning and substantive content of the right.¹⁰² In view of the difficulty of having a generally acceptable definition of the content of the right to a general satisfactory environment under the African Charter, it has been suggested that the best way out of this definitional muddle is to allow supervisory institutions and courts to develop their own interpretations.¹⁰³

The fact that supervisory institutions and courts are better placed to articulate the content of the right is evidenced in the decision of the African Commission in *Social and Economic Rights Action Centre for Economic and Social Rights (SERAC) v Nigeria, African Commission on Human and Peoples' Rights*.¹⁰⁴ This decision was pursuant to a complaint brought against the Federal Republic of Nigeria alleging *inter alia* the violation of article 24 of the African Charter.¹⁰⁵ The Communication provided the African Commission with the opportunity to formally interpret the content of this right and in its decision, the African Commission held that the right to a general satisfactory environment:

Requires the State to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation and secure ecologically sustainable development of use of natural resources. Government's compliance with the spirit of article 24 must also include ordering or at least permitting independent scientific monitoring of threatened environments, requiring and publicising environmental and social impact studies

99 *Social and Economic Rights Action Centre for Economic and Social Rights (SERAC) v Nigeria, African Commission on Human and Peoples' Rights* Comm No 155/96 (2001) Par 53.

100 Churchill 'Environmental Rights in Existing Human Rights Treaties' 90. See also Van der Linde *African Human Rights Journal* 174.

101 Churchill 'Environmental Rights in Existing Human Rights Treaties' 90. See also Van der Linde *African Human Rights Journal* 174.

102 Boyle 'The Role of International Human Rights Law in the Protection of the Environment' 59.

103 Amechi 2009 *LEAD Journal* 64.

104 No 155/96 (2001).

105 Serac and Communication 4.

prior to any major industrial development, undertaking appropriate monitoring and providing information to those communities exposed to hazardous material and activities and providing meaningful opportunities for individuals to be heard and to participate in the development decisions affecting their communities.¹⁰⁶

The above obligations as spelled out by the African Commission have both substantive and procedural aspects.¹⁰⁷ The procedural aspects reflect generally recognised procedural environmental rights and the substantive aspects of the obligations include the prevention of pollution and ecological degradation, promotion of conservation and securing ecologically sustainable development and use of natural resources.¹⁰⁸ Thus, it can be deduced that article 24 of the Charter recognises sustainable development within its ambit. This is so as a 'general satisfactory environment' under the Charter envisages not only the conservation of the environment and prevention of pollution and ecological degradation, but also socio-economic development, which are pillars of sustainability.¹⁰⁹ Hence, as a party to the African Charter South Africa should ensure that it adheres to the right enshrined in article 24 of the African Charter by ensuring that the coal mining activities by *Coal of Africa* strike a balance between economic development in the form of mining and social development by ensuring that mining will not impact on the health, well-being and livelihood of people inhabiting the Mapungubwe area. Moreover, the substantive obligations of the right entail that the states respect, promote and protect the environment through legislative and other measures.¹¹⁰ By so doing it may be argued that the above definition gives meaning to the substantive content of the right as the African Commission failed to pronounce itself on the core content and minimum obligation of article 24 of the Charter.¹¹¹ As a result, the African Commission left unanswered the question of the degree of pollution and environmental degradation that states are obliged to prevent and the degree that should be allowed in a given situation in order not to justify socio-economic development in the

106 See Par 52 and 53 of the *SERAC* case.

107 Amechi 2009 *LEAD Journal* 65.

108 Van der Linde and Louw 2003 *African Human Rights Journal* 178.

109 See 2 for a detailed discussion on this.

110 See *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism and others*, 2006 (5) SA 512, at 518 E-G.

111 Amechi 2009 *LEAD Journal* 66.

region.¹¹² In addition, it left open the question of the kind of conservation envisaged by the right. Concerning the latter, despite the omission, the environmental conservation envisaged is the type that will enhance the well-being of Africans by securing them an ecologically sustainable development and use of natural resources.¹¹³

3.1.2 Algiers Convention

The Algiers Convention is the principal instrument for biodiversity conservation in the region.¹¹⁴ In the Convention's preamble, sustainability and the principle of common but differentiated responsibility are acknowledged as it is mentioned that there is a need for joint action by states on the conservation, utilisation and development of these natural resources.¹¹⁵ Common responsibility regarding resource conservation, as highlighted in article II of the Algiers Convention, requires states to adopt measures to conserve water, soil, fauna and flora in accordance with scientific principles in the best interests of the people.¹¹⁶ In this regard, in the event that South Africa becomes a party to the Algiers Convention of 1968, it should undertake to ensure that its national laws and legislation are all in accordance with scientific principles and are in the best interests of the people who are citizens to countries that are member states in the LIMCOM agreement. These people rely on water in the Limpopo River, of which the quality and quantity will be impacted by Coal of Africa's mining activities.¹¹⁷

The *Revised Algiers Convention* is not yet in force, when in force it will replace the African Convention of 1968 for those African States that have ratified it.¹¹⁸ The Convention was borne out of the need to update and strengthen the 1968 Convention in order to bring it in line with the latest developments in thinking in international environmental law and sustainable development, as well as the latest scientific and

112 Amechi 2009 *LEAD Journal* 66.

113 Amechi 2009 *LEAD Journal* 66.

114 See Preamble of Algiers Convention.

115 See Preamble of Algiers Convention.

116 Article II of the Algiers Convention, 1968.

117 See par 5.1.1 for a detailed discussion of the pollution of the water in the Limpopo River.

118 See Article XXXIV of the African Convention on the Conservation of Nature and Natural Resources (Revised Version), Maputo, 11 July 2003 (not yet in force), available at <http://www.africaunion>.

technological developments in the environmental fields.¹¹⁹ The *Revised Algiers Convention* reveals a strong commitment to sustainability.¹²⁰ This is apparent from the Convention's preamble, in which the Heads of States and Government of the African Union acknowledge that Africa's natural environment and its resources are an irreplaceable part of the African heritage and constitute a capital of vital importance to the continent and to mankind as a whole, as well as the ever-growing importance of natural resources from economic, social, cultural and environmental points of view.¹²¹ This is a positive attribute of the Convention as it recognises the four pillars of sustainability, unlike the African Charter.¹²² More importantly, the *Revised Algiers Convention* states its objectives as enhancing environmental protection, fostering the conservation and sustainable use of natural resources; and harmonising and coordinating policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes.¹²³ These objectives correspond to key elements of sustainability.¹²⁴ The commitment to socio-economic development is further evidenced in the Convention's guiding principles, which include the right of all peoples to a satisfactory environment favourable to their development; the duty of states individually and collectively to ensure the enjoyment of the right to development and the duty of states to ensure that developmental and environmental needs are met in a sustainable, fair and equitable manner.¹²⁵ These principles are mandatory and hence, State Parties must observe them in the course of taking actions or implementing programmes towards conservation, management and sustainable use of land, soil, water, vegetation cover, maintaining and enhancing species and genetic diversity of plants and animals; or in establishing and maintaining conservation areas.¹²⁶ Thus, it would be contrary to the spirit of the Convention if member states were to adopt conservation measures without making an assessment of

119 See Decision on *the Revised Algiers Convention* at <http://www.africa.union.org>.

120 See Preamble of the *Revised Algiers Convention*, 2003.

121 See Preamble of the *Revised Algiers Convention*, 2003.

122 See Preamble of the *Revised Algiers Convention*, 2003. See also par 2.1.

123 Article II of the *Revised Algiers Convention*, 2003.

124 Amechi 2010 *LEAD Journal* 126.

125 See Preamble of the *Revised Algiers Convention*, 2003.

126 African Convention on the Conservation of Nature and Natural Resources (Revised Version), Maputo, 11 July 2003 (not yet in force), available at <http://www.africaunion.org>.

the potential social and economic impacts of an environmental project on the surrounding environment and community as a whole.

Furthermore, various articles, such as article IV of the Revised Convention, entitled Fundamental Obligations, place emphasis on the preventative and precautionary measures in respect of environmental protection, which are also principles of sustainable development.¹²⁷ Apart from this, article IX, the title of which has been changed from 'fauna resources' (African Convention,1968) to 'species and genetic diversity' gives particular attention to economically valuable, threatened, vulnerable and endangered species and policies to be adopted in respect to be placed on their conservation and utilisation.¹²⁸ Emphasis is also placed on the measures to ensure sound management and monitoring of such species in a framework of land use planning and sustainability.¹²⁹ Article XVIII, reads 'sustainable development and natural resources', hence specific reference is made to the concept of sustainable development.¹³⁰

3.1.3 The Cultural Charter for Africa

The opencast mining activities by *Coal of Africa*, which are occurring adjacent to the GMTFCA, which includes Mapungubwe Cultural Landscape, contains within it remains of three capital, namely Schroda, Leopards's Kopje and the final capital located around Mapungubwe Hill.¹³¹ The *Cultural Charter for Africa*¹³² will thus be applicable in the event that South Africa ratifies the Charter. The Charter will be relevant with regard to the conservation of the remains of the three capitals so as to educate present and future generations of the culture of the people of the area. The *Cultural Charter for Africa* recognises the importance of culture in its preamble, providing in its preamble that is governed by rules and principles that are also based on traditions and culture.¹³³ Apart from this, the *Cultural Charter for Africa* further recognises that all the cultures of the

127 See Article IV of the *Revised Algiers Convention*, 2003. See also Par 2.1.3.

128 See Article IX of the *Revised Algiers Convention*, 2003.

129 See Article IX of the *Revised Algiers Convention*, 2003.

130 See Article XVIII of the *Revised Algiers Convention*, 2003.

131 <http://whc.unesco.org/en/list/1099>.

132 The *Cultural Charter for Africa*, 1976.

133 Preamble *The Cultural Charter for Africa*,1976.

world are equally entitled to respect, just as individuals are equal when it comes to free access to culture.¹³⁴ Trans-boundary resource protection is acknowledged in the Charter, as it provides that it is vital to establish inter-African cooperation as a contribution to the mutual understanding of national cultures and enrichment of African culture.¹³⁵ Inter-African cooperation in terms of the GMTFCA would be fundamental as the Mapungubwe Cultural Landscape contains evidence of an important historical interchange of human values that led to far-reaching cultural and social changes in Southern Africa between 900 and 1300 AD.¹³⁶

3.1.4 The Charter for African Cultural Renaissance

The *Charter for African Cultural Renaissance* recognises trans-boundary resource protection in article 3 where it provides as one of its objectives, international cultural cooperation for a better understanding of the importance of culture within and outside Africa.¹³⁷ Apart from this, sustainability is highlighted in article 3, which advocates for the preservation of African cultural heritage.¹³⁸ In the event of South Africa, ratifying the *Charter for Cultural Renaissance* it will be obligated to ensure that *Coal of Africa's* mining activities do not hamper the significant preservation of the cultural heritage in the area and to ensure sustainability of culture in the GMTFCA for the benefit of present and future generations.

3.1.5 The Constitutive Act of the African Union

The *Constitutive Act of the African Union*, 2000, recognises the concept of sustainable development in its text.¹³⁹ Among the objectives of the Act is to promote and protect human and peoples' rights in accordance with the *African on Human and Peoples'*

134 Preamble *The Cultural Charter for Africa*, 1976.

135 Article 30 *Cultural Charter for Africa*, 1976.

136 See 2 for a detailed discussion.

137 Article 30 *Charter for African Cultural Renaissance*, 2006.

138 Article 3 *Charter for African Cultural Renaissance*, 2006.

139 South Africa signed the Act on 2000-09-08, ratified it on 2001-03-03, and deposited it 2001-04-23.

Rights.¹⁴⁰ This implies recognising and promoting the right to a general satisfactory right which is inclusive of sustainability as per the interpretation of the African Commission in the *SERAC* matter. An additional objective in the Act, which recognises sustainability is provided in article 3(j) which urges state parties to promote sustainable development at economic, social and cultural levels. With regard to South Africa, it has to ensure as a party to the Act that in its promotion of economic development by allowing *Coal of Africa* to mine it should ensure that such development is balanced against social and cultural development in order to achieve sustainability.

3.1.6 The Treaty Establishing the African Economic Community

The *Treaty Establishing the African Economic Community*, 1991 recognises sustainability in its text as it seeks to adhere to the principle of recognising, promoting and protection of human and peoples' rights in accordance with the *African Charter*.¹⁴¹ One such right in the African Charter the treaty seeks to protect is a right to a general satisfactory environment, which includes sustainable development as per the Commission interpretation of Article 24 in the *SERAC* case. Sustainability is further recognised in the Treaty as part of the objectives of the Community, which include promoting economic, social and cultural developments, which are all pillars of sustainability. South Africa, through promoting economic development in the country by allowing *Coal of Africa* to engage in its mining activities, should ensure that such development does not impact on the well-being and the livelihood of the community in the mining area, as well as the cultural resources that are shared by member states to the GMTFCA.

3.2 SADC law

South Africa is a party to various Southern African Development Community Protocols, which regulate various resources that are found in the Mapungubwe area, namely biodiversity, culture and water. Consequently, various Protocols which relate to the

140 Article 3(h) of the *Constitutive Act*, 2000.

141 Article 3(g) of the *Treaty Establishing the African Economic Community*, 1991. South Africa signed the treaty on 1997-10-10, ratified it on the 2001-05-31 and acceded on 2001-06-25.

resources in the GMTFCA in close proximity to where mining operations will take place will be discussed.

3.2.1 Treaty of the Southern African Development Community (hereafter SADC Treaty)

The *SADC Treaty* recognises sustainability in the utilisation of natural resources, as well as active protection of the environment as one of its objectives.¹⁴² In addition, the *SADC Treaty* advocates for trans-boundary resource protection by encouraging the people of the region and their institutions to take incentives to develop economic, social and cultural ties across the region and to participate fully in the implementation of programmes and projects of SADC.¹⁴³ One such initiative that corresponds with the *SADC Treaty* is the establishment of the GMTFCA, which aims at fostering economic, social and cultural ties and to promote sustainability of natural and cultural resources in the region and enhance good neighbour relations in the SADC community.¹⁴⁴ The element of common responsibility is exhibited in article 21, which provides that member states should agree to cooperate, for example, in the conservation of natural resources and the environment.¹⁴⁵ This places a duty on member states of the GMTFCA to cooperate in protecting the resources in that area as it is said that all states originally evolved from Mapungubwe, which was the first urban capital of sub-Saharan Africa.¹⁴⁶ However, differential responsibility is not taken into account in article 6, which provides that: "member States shall take all steps necessary to ensure the uniform application of this treaty."¹⁴⁷ The *SADC Treaty* nevertheless refers to differential treatment in terms of the utilisation of natural resources and environmental protection. Differential treatment ought to be present as some countries within the region have more natural resources preserved. This may hamper other developments that could bring about an increase in national revenue, such as mining.

142 Article 5(g) *SADC Treaty*, 1992. South Africa has not signed the *SADC Treaty* as yet.

143 Article 5(2)(b) *SADC Treaty*, 1992.

144 See <http://www.peaceparks.givengain.org>.

145 Article 21 (3)(e) *SADC Treaty*, 1992.

146 <http://whc.unesco.org/en/list/1099>.

147 Article 6 *SADC Treaty*, 1992.

3.2.2 SADC Protocol on Mining

The *SADC Protocol on Mining*,¹⁴⁸ which South Africa is a party to, is applicable to the opencast mining activities by *Coal of Africa* in the Mapungubwe Area. The *SADC Protocol on Mining* recognises sustainability and its principle of common responsibility in its preamble, where it provides that: "member states shall promote sustainable development by ensuring that a balance between mineral development and environmental protection is attained."¹⁴⁹ Hence in the case of South Africa, it has a duty as a member of the Protocol, to ensure that there is a balance between coal mining in the Mapungubwe area and protection of the GMTFCA to promote sustainability in the region. Moreover, trans-boundary protection of resources is recognised in the preamble where it states that: "members shall encourage a regional approach in conducting environmental impact assessments especially in relation to shared systems and cross border effects." In the case of *Coal of Africa's* mining activities, a regional approach in the case of environmental impact assessment for the GMTFCA and the Limpopo River reportedly did not take place and will be discussed in detail later.¹⁵⁰ Further, the element of common responsibility is recognised in the preamble of the Mining Protocol, by providing that member states of the Protocol jointly undertake to develop internationally accepted standards of health, mining safety and environmental protection.¹⁵¹

3.2.3 Revised SADC Protocol on Shared Watercourses

The *Revised SADC Protocol on Shared Watercourses*¹⁵² is applicable to mining activities in the Mapungubwe area as *Coal of Africa* will draw for its mining activities from the Limpopo River, which South Africa shares with other countries.¹⁵³ The Protocol's main objective is that of fostering closer cooperation for judicious, sustainable

148 *SADC Protocol on Mining*, 1997.

149 Preamble *SADC Protocol on Mining*, 1997.

150 See Chapter five for a regional discussion.

151 Preamble *SADC Protocol on Mining*, 1997.

152 *Revised SADC Protocol on Shared Watercourses*, 2000.

153 See LIMCOM Agreement, 2003.

and co-ordinated management, protection and utilisation of shared watercourses.¹⁵⁴ Sustainability and the element of common responsibility with regard to trans-boundary protection of resources is exhibited in the Protocol's objective.¹⁵⁵ Sustainability and trans-boundary protection of resources, is further provided in the Protocol, where it provides that parties to a shared watercourse should utilise the shared resource in an equitable and reasonable manner to achieve sustainable utilisation, taking into account the interests of other states using the watercourse and adequate protection of the watercourse for the benefit of both current and future generations.¹⁵⁶ The element of common responsibility is further brought to light in article 7 of the Protocol, which provides that: "watercourse States shall participate in the use, development and protection of a shared watercourse in an equitable and reasonable manner. Such participation entails that all the parties to the LIMCOM Agreement have the right to utilise the watercourse and the duty to co-operate in the protection and development of the Limpopo River thereof."¹⁵⁷ The element of common responsibility is driven by unity and coherence. The state parties to the Protocol all have a common responsibility to harmonise all water uses in a shared watercourse and to ensure that all necessary interventions are consistent with the sustainable development of all watercourse states.¹⁵⁸ In addition, all state parties to a shared watercourse have a common responsibility to observe the objectives of regional integration and harmonisation of their socio-economic policies and plans.¹⁵⁹ With regard to this, South Africa should ensure that its national law and policies conform to the Protocol's objectives of regional integration to ensure equitable use of shared water resource. The Revised SADC Protocol on Shared Watercourses, takes into account the element of differential responsibility in article 8(a), which provides that: "utilisation of a shared watercourse in an equitable and reasonable manner within the meaning of article 7(a) and (b) requires taking into account all relevant factors which include: (i) geographical, hydrological, climatical, ecological and other factors of a natural character (ii) the social economic

154 Article 2 *Revised SADC Protocol on Shared Watercourses*, 2000.

155 See 2 for a detailed discussion on this.

156 Article 7 (a) *Revised SADC Protocol on Shared Watercourses*, 2000.

157 Article 7(b) *Revised SADC Protocol on Shared Watercourses*, 2000.

158 Article 3 (1) *Revised SADC Protocol on Shared Watercourses*, 2000.

159 Article 3 (1) *Revised SADC Protocol on Shared Watercourses*, 2000.

and environmental needs of the watercourse states concerned; (iii) the population dependent on a shared watercourse in each watercourse state; (iv) the effects of the or use of a shared watercourse in one watercourse state on other watercourse states." The provisions in article 8 were reportedly not taken into account as South Africa, in allowing *Coal of Africa* to mine and obtain water from the Limpopo River, did not make any assessment of the hydrology or geohydrology on the Zimbabwean and Mozambican side, regardless of the fact that all these three countries share the Limpopo River.¹⁶⁰

3.2.4 SADC Protocol on Fisheries

The *SADC Protocol on Fisheries*¹⁶¹ is applicable to *Coal of Africa's* mining activities in the Mapungubwe area, as it is reported that the mining activities, which include dewatering, excavation, stockpiling and dirty water from mining, will result in acid mine drainage that may pollute the Limpopo River.¹⁶² Fish life is particularly vulnerable to water pollution and thus the aquatic ecosystem in the Limpopo River may be greatly affected.¹⁶³ The Protocol is founded on sustainability and its principle of common, but differentiated responsibility with regard to aquatic ecosystems.¹⁶⁴ Sustainability and common responsibility of state parties in terms of trans-boundary protection of aquatic resources is also exhibited in article 14, which provides that, "state Parties shall conserve aquatic ecosystems, including their biodiversity and unique habitats, which contribute to the livelihood and aesthetic values of the people and the regions."¹⁶⁵ The element of common responsibility is additionally exhibited in the Protocol by the emphasis on cooperation between member states to achieve its objectives.¹⁶⁶ In order to foster cooperation in the management of shared resources, a duty is placed on states

160 Notice of Appeal in terms of section 96(1) of the MPRDA No. 28 of 2002 par 31.6,144 (hereafter Notice of Appeal).

161 *SADC Protocol on Fisheries*, 2001.

162 Notice of Appeal par 34.6.5, 145.

163 Notice of Appeal par 25.5, 130.

164 See Preamble, "...Convinced by the necessity for joint co-operative and integrative actions at a regional level to optimize the sustainable use of the living aquatic resources of the Region for the continued benefit of the people in the Region." See also Article 3, which provides that: "...the objective of the Protocol is to promote responsible and sustainable use of living aquatic resources and aquatic ecosystems of State Parties."

165 Article 14(1) *SADC Protocol on Fisheries*, 2001.

166 Article 4 (1) *SADC Protocol on Fisheries*, 2001.

to harmonise fisheries legislation.¹⁶⁷ This harmonisation of fisheries legislation also advances the objective of the Protocol to ensure sustainability and trans-boundary protection of aquatic resources. Trans-boundary protection of aquatic resources is further provided for in the Protocol by the provision that states that: "state Parties shall apply the precautionary principle to ensure that the activities within their jurisdiction and control do not cause excessive trans-boundary adverse impacts."¹⁶⁸ Hence, South Africa should ensure that it applies precaution with regard to the effect that coal mining will have on the Limpopo River to ensure that pollution will not have a detrimental impact on the aquatic ecosystem in the Limpopo River on which countries like Zimbabwe, Botswana and Mozambique are dependent on for food and the generation of national revenue. The principle of common but differentiated responsibility is not highlighted in the principle, as article 14 of the Protocol provides that, "state Parties shall address the causes of aquatic environmental degradation by undertaking measures in conformity with the Treaty and its Protocols and other international treaties and conventions of relevance to the environment."

167 Lubbe "Straddling the Borders and Legimes" 142. See also Article 8 of the SADC Protocol on Fisheries, 2001.

168 Article 14(2) *SADC Protocol on Fisheries*, 2001.

3.2.5 SADC Protocol on Wildlife and Law Enforcement (hereafter SADC Protocol on Wildlife)

The *SADC Protocol on Wildlife* is applicable to the conservation and sustainable use of wildlife resources, excluding forestry and fishery resources.¹⁶⁹ Hence it is applicable to the Mapungubwe area where coal mining is taking place, as the GMTFCA adjacent to the mine reportedly is home to a variety of wildlife. The main objective of the Protocol is to have SADC and individual state parties establish common approaches towards sustainable use of wildlife resources.¹⁷⁰ As such, member states to the GMTFCA should ensure that within their jurisdictions they develop policy, as well as national law aimed at ensuring that there is sustainability in the use of wildlife resources. In addition sustainable development and its principle of common but differentiated responsibility, is exhibited in the Protocol's emphasis on cooperation among state parties in the development of common approaches with regard to conservation and sustainable use of wildlife and collaboration to achieve objectives in international agreements that apply to the conservation and sustainable use of wildlife to which they are party to.¹⁷¹ This aim of establishing common approaches within the region to achieve sustainability also exhibits further harmonisation of law and policy.¹⁷² Moreover, common responsibility with respect to trans-boundary protection of resources is recognised in article 3, which provides that "each Party shall ensure that activities within its jurisdiction or control do not cause damage to wildlife resources of other States or in areas beyond the limits of the national jurisdiction."¹⁷³ This means that South Africa's coal mining operations should not have any detrimental impacts on countries such as Zimbabwe and Mozambique. Trans-boundary resource protection is further recognised in the Protocol through its specific provision for the establishment of trans-frontier conservation areas and additional accompanying provisions regarding the exchange of information and cooperation in law enforcement.¹⁷⁴ The GMTFCA, which is in close proximity to the mining area, was established with the aim of encouraging cooperation with respect to

169 Article 2 *SADC Protocol on Wildlife*, 1999.
170 Article 4 (1) *SADC Protocol on Wildlife*, 1999.
171 Article 3 *SADC Protocol on Wildlife*, 1999.
172 Lubbe "Straddling the Borders and Legal Regimes"141.
173 Article 3 *SADC Protocol on Wildlife*, 1999.
174 Articles 4(2)(c) and 4(2)(d) *SADC Protocol on Wildlife*, 1999.

wildlife conservation.¹⁷⁵ These provisions are there to foster a foundation for cooperation between member states and promote conservation and sustainable use of wildlife in trans-frontier conservation areas.¹⁷⁶ As such, they should have been considered in the process of the mining application.

3.2.6 SADC Protocol on Forestry

The *SADC Protocol on Forestry*¹⁷⁷ regulates all activities relating to the development, conservation, sustainable management and utilisation of all types of forests, trees and trade in forest products in the region, which includes the Mapungubwe area where *Coal of Africa* will be engaging in mining activities. The area is situated in the Musina Mopane Bushveld, the Limpopo Ridge Bushveld and Subtropical alluvial vegetation.¹⁷⁸ Sustainability as one of the objectives of the Protocol includes the promotion of development, conservation, sustainable management and utilisation of all types of forests and trees to achieve effective protection of the environment and the safeguarding of the interests of both present and future generations.¹⁷⁹ Trans-boundary protection of resources is provided for in the Protocol through the provision that stipulates the recognition of the trans-boundary nature of some forests in the region and the resulting importance of implementing trans-boundary management strategies to conserve these forests.¹⁸⁰ In order to facilitate this trans-boundary protection of resources provision is made to allow state parties to the Protocol, where appropriate, to establish programmes or to enter into agreements to promote the co-operation and integrated management of trans-boundary forests and protected areas.¹⁸¹ This trans-boundary protection of resources is further enhanced by cooperation between member states,¹⁸² research and development¹⁸³ and exchange of information among member

175 See Memorandum of Understanding for the establishment of GMTFCA.

176 Articles 8 and 9 *SADC Protocol on Wildlife*, 1999.

177 *SADC Protocol on Forestry*, 2002.

178 Biodiversity Report 17.

179 Article 3 (a), (b) *SADC Protocol on Forestry*, 2002.

180 See Preamble *SADC Protocol on Forestry*, 2002.

181 Article 14 *SADC Protocol on Forestry*, 2002.

182 Article 20 *SADC Protocol on Forestry*, 2002 provides that; "State Parties shall endeavour to obtain the assistance and co-operation of other States and organisations in achieving the objectives of this Protocol."

183 Article 20 *SADC Protocol on Forestry*, 2002.

states.¹⁸⁴ The principle of common responsibility with respect to sustainable development is brought out in Parties' agreement to assist and support each other to address issues of common concern including deforestation, genetic erosion, and climate change in a manner that makes best use of the technical, financial and other resources in the region.¹⁸⁵ With regard to trans-boundary protection of resources, there is an additional common responsibility in the Protocol for State Parties to take all necessary legislative, administrative and enforcement measures to address natural and human induced threats to forests, particularly those trans-boundary impacts.¹⁸⁶

3.2.7 SADC Protocol on Culture, Information and Sport (hereafter SADC Protocol on Culture)

The *SADC Protocol on Culture*¹⁸⁷ specifically addresses the importance among member states to preserve cultural heritage in the region.¹⁸⁸ The GMTFCA, which is adjacent to the coal mining area, is the heart of Sub-Saharan Africa's cultural heritage for the region and thus should be preserved for present and future generations. The *Protocol on Culture* places a common responsibility on member states to establish policy guidelines for the preservation and promotion of the region's cultural heritage with the intention of establishing harmonisation. Hence it places a duty on South Africa and countries in the region to ensure that all national laws and policies within their jurisdiction are all aimed at preserving the cultural heritage in the region. As a party to this Protocol South Africa should ensure that economic development in the form of coal mining should take place in a manner that preserves the region's heritage in the GMTFCA for the benefit of present and future generations. This will include areas such as Mapungubwe.

3.2.8 Evaluation

The various instruments in the African Union and SADC recognise the concept of sustainability in their ambit by specifically acknowledging the principle of sustainable development and by taking into account the various pillars of sustainability to be

184 Article 21 *SADC Protocol on Forestry*, 2002.
185 Article 3(2)(a) *SADC Protocol on Forestry*, 2002.
186 Article 15 *SADC Protocol on Forestry*, 2002.
187 *SADC Protocol on Culture*, 2001.
188 Article 13 *SADC Protocol on Culture*, 2001.

adhered to for development to be regarded as sustainable. Hence, South Africa should adhere to the various obligations in the African Union and SADC instruments that are directed at achieving sustainability through the mining activities in the Mapungubwe area it duly authorised. The interpretation of article 24 of the African Charter based on the interpretation of the *SERAC* matter, recognises the precautionary approach as it obliges states, including South Africa as a party to the Charter, to take reasonable and other measures to prevent ecological degradation and ensure sustainability in the use of natural resources by ordering and permitting scientific research of threatened environments such as. In addition to this, although the *Revised Algiers Convention* is not yet in force, it also places emphasis on the precautionary approach, which is a principle of sustainable development. Furthermore, the principle of CBDR is recognised in the Cultural Charter for Africa and the Charter for African Cultural Renaissance, as they provide within their ambit for inter-African cooperation in the protection of trans-boundary cultural resources.

Furthermore, the various SADC instruments to which South Africa is a party to, applicable to the mining activities by *Coal of Africa*, all recognise the element of common responsibility in terms of managing trans-boundary protection of resources in order to achieve sustainability. However, it is the SADC Revised Protocol on Shared Watercourses that only recognises the element of differential responsibility in terms of shared resources as it advocates to states to use a shared watercourse in an equitable manner, as well as the difference in population and economic demands of water of states to a shared watercourse. Furthermore, the integration of human rights to the principles of sustainability is recognised in all the above SADC instruments as they are all aimed promoting sustainable development for the benefit of current and future generations.

4 Sector-specific legislation

This chapter discusses the legislation applicable to sustainability, trans-boundary protection of resources and mining in the *Coal of Africa* case, specifically in relation to the South African context.

4.1. NEMBA

The biodiversity legislation applicable to this discussion is the NEMBA and National Environmental Management: Protected Areas Act¹⁸⁹ (hereafter NEMPAA). The NEMBA is the primary mechanism for implementing the policies and goals relating to wildlife (both plant and animal conservation).¹⁹⁰ It is necessary to discuss the NEMBA as mining activities are taking place adjacent to the GMTFCA, which is a biodiversity hotspot and these activities may impact on the biodiversity in the area.¹⁹¹ Sustainability is one part of the aims of the NEMBA, as the Act seeks within the framework of the NEMA to provide for the consistent management and conservation of South Africa's biodiversity, the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.¹⁹² In addition to this emphasis on the importance and recognition of sustainability with regard to biodiversity, is highlighted in section 7 of the NEMBA which calls for the application of the Act to be guided by the national environmental management principles set out in section 2 of the NEMA.¹⁹³ In addition, the element of common responsibility is recognised by the NEMBA in section 2(b), which reads as follows: "to give effect to ratified international

189 See NEMPAA 57 of 2003.

190 Fuggle and Rabie *Environmental Management in South Africa* 400. Section 4(1)(b) of the NEMBA also provides that the Act applies to human activity affecting South Africa's biological diversity and its components.

191 See paragraph 5.1.1 for a detailed discussion on this.

192 Kidd *Environmental Law* 102. Kidd also further states that these objectives should be considered in the light of the *Convention of Biological Biodiversity* which includes (1) the conservation of biological diversity, (2) the sustainable use of the components of biodiversity, (3) the fairness and equitable sharing of benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies and (4) by appropriate funding. This is so as the primary objectives set out in section 2(a) of the NEMBA are essentially the objectives of the *Convention on Biological Diversity* to which the NEMBA is supposed to give domestic effect.

193 Section 7 of the NEMBA, 2004 as discussed above in par 4, the NEMA principles are all centralised on sustainability.

agreements relating to biodiversity which are binding on the Republic."¹⁹⁴ This shows the common desire to cooperatively engage with the international community in adhering to ratified international agreements with regard to biodiversity protection and conservation. In light of the mining activities by *Coal of Africa*, in the Mapungubwe area, which is a biodiversity hotspot, the NEMBA requires that *Coal of Africa* to have obtained various permits in the planning phase of its mining project and *Coal of Africa* reportedly did not do so.¹⁹⁵ The NEMBA requires *Coal of Africa* to obtain permits for regulating the undertaking of restricted activities involving specimens of listed threatened or protected species,¹⁹⁶ alien species¹⁹⁷ and listed invasive species that may be found in the mining area.¹⁹⁸ It is important to note that, in the event that *Coal of Africa* seeks to eradicate any alien species that are exempted by the Minister by notice in the *Government Gazette* from the mining area, it may do so without a licence.¹⁹⁹ In addition to this, *Coal of Africa* is required in terms of the NEMBA to obtain a permit to carry out multiple restricted activities such as the spreading of any specimen of a listed invasive species through activities such as growing them in an offset programme²⁰⁰ and releasing any specimen of a listed invasive species.²⁰¹

4.2 NEMPAA

The purpose of the NEMPAA is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes.²⁰² Sustainability is provided in section 2 of the Act that reads: "to promote sustainable utilisation of protected areas for the benefit of people in a manner that would preserve the ecological character of such areas."²⁰³ In addition, sustainability with regard to the protection of biological resources is exhibited

194 Section 2 of NEMBA. Section 5 of NEMBA also exhibits the principle of common responsibility, which provides that: "this Act gives effect to ratified international agreements affecting biodiversity to which South Africa is a party and which bind the Republic."

195 See Chapter 1 for a detailed discussion on this.

196 See section 57(1) NEMBA.

197 See section 65(1) NEMBA.

198 See section 71(1) NEMBA.

199 See section 66(1) and (2) NEMBA.

200 See regulation 13(a) and 22(1) in GN R506 of GG 36683 of 19 July 2013.

201 See regulation 13(b) and 22(1) in GN R506 of GG 36683 of 19 July 2013.

202 See preamble NEMPAA, 2003.

203 See Section 2(e) of the NEMPAA.

in section 17 of the NEMPAA where it is provided that one of the purposes of the declaration of areas as protected areas are: "...to provide for the sustainable use of natural and biological resources."²⁰⁴ The NEMPAA also aims to contribute to human, social, cultural, spiritual and economic development, although the section falls short by not making reference to the environmental pillar of sustainability.²⁰⁵ *Coals of Africa's mining activities* take place adjacent to the GMTFCA, in which the Mapungubwe National Park is situated. In addition to this, there are two private nature reserves within the mining area namely "Skutwater Ranch Nature Reserve" and the "Sighetti Private Nature Reserve." Section 48 of the NEMPAA prohibits mining in such protected areas, unless written permission is obtained from the minister and the cabinet member responsible for mineral resources.²⁰⁶ *Coal of Africa* seems to have violated this provision, as it is currently mining in the private nature reserves.²⁰⁷ Moreover, *Coal of Africa* is required to adhere to any regulations that have been promulgated by the Minister of Water and Environmental Affairs for the proper administration of special nature reserves, national parks and world heritage sites.²⁰⁸ Any employees' of *Coal of Africa* are prohibited from hunting, catching, capturing or killing any living specimen of a listed threatened species.²⁰⁹ They are also prohibited from gathering, collecting or plucking any specimen of a listed threatened or protected species,²¹⁰ picking parts of, or cutting, chopping off, uprooting, damaging or destroying, any specimen of a listed threatened or protected species²¹¹ and possessing or exercising physical control over any specimen of a listed threatened or protected species²¹² within the mining and adjacent areas. In terms of the regulations they have to ensure that species are

204 Section 17(h) of the NEMPAA.

205 Section 17(k) of the NEMPAA.

206 See section 48(1)(b) of the NEMPAA.

207 See chapter 5 for a detailed discussion of the nature reserves. Section 48 of the NEMPAA reads as follows: "Despite other legislation, no person may conduct commercial prospecting or mining activities- (a) in a special nature reserve, national park or nature reserve; (b) in a protected environment without the written permission of the Minister and the Cabinet member responsible for minerals and energy affairs; or (c) in a protected area referred to in section 9(b),(c) or (d)."

208 See General Notice 1052 in GG 36969 of 25 October 2013.

209 See regulation 45(i) in General Notice 1052 in GG 36969 of 25 October 2013.

210 See regulation 45(ii) in General Notice 1052 in GG 36969 of 25 October 2013.

211 See regulation 45(iii) in General Notice 1052 in GG 36969 of 25 October 2013.

212 See regulation 45(iv) in General Notice 1052 in GG 36969 of 25 October 2013.

conserved for the benefit of the present and future generations who will live in and visit the Mapungubwe area.

4.3 LEMA

The Limpopo Environmental Management Act²¹³ (hereafter LEMA) is applicable to *Coal of Africa's* mining activities as they are taking place in the Limpopo Province in South Africa. Sustainability is exhibited in the objectives of the LEMA, as it seeks to secure ecologically sustainable development and responsible use of natural resources in the Province.²¹⁴ The LEMA prohibits mining activities in private nature reserves in the absence of the necessary approval by the Executive Council of the Limpopo Province. *Coal of Africa* is currently mining in Sighetti and Skutwater private nature reserves.²¹⁵ There is no evidence in *Coal of Africa's* Environmental Management Programme, that the procedure for obtaining the approval in terms set out in section 28(2)-(5) of the LEMA had been initiated, or even that *Coal of Africa* intended to initiate such a process.²¹⁶

Coal of Africa or any of its workers is required to obtain a permit before engaging in the hunting of wild and exotic animals in the Mapungubwe area.²¹⁷ Apart from this, *Coal of Africa's* workers will have to obtain a permit in order to catch specially protected wild animals, protected wild animals, game and non-endemic wild animals.²¹⁸ The LEMA also prohibits any of *Coal of Africa's* workers from leaving or making openings in certain fences in the absence of a permit on land upon which wild animals are found or likely to be found and which is fenced in such a manner that wild animals cannot readily escape.²¹⁹ *Coal of Africa's* employees are further forbidden from removing any wild animal that has not been hunted or caught lawfully unless the employees of *Coal of Africa* obtain written permission from the owner of the land on which they found such animal, or the environmental officer or the officer in charge at the nearest police station

213 LEMA No.7 of 2003.

214 See section 2 of the LEMA.

215 Section 28(1) of the LEMA.

216 Environmental Management Programme, Annexure C, par 4, 89.

217 See section 31(1) of the LEMA.

218 See section 35(3) of the LEMA.

219 See section 6 of the LEMA.

in cases where the owner is absent.²²⁰ The LEMA also requires *Coal of Africa's* workers to obtain a permit in order to poison wild and exotic animals²²¹ and acquiring, possessing or conveying any specially protected wild animal.²²² In addition to this, *Coal of Africa's* employees will be required to obtain a permit in order to catch fish in the Limpopo River and any aquatic system in the Mapungubwe area, unless it is by means of angling.²²³ Moreover, *Coal of Africa* is required to obtain a permit in the event that seeks to pick, sell, import or export, or convey from the province a specially protected plant or protected plant.²²⁴ In respect to fauna and flora the LEMA requires *Coal of Africa* to obtain a permit in terms of the *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, to convey through the Limpopo Province to another Province or foreign country fauna and flora in the event that the flora and fauna were imported from a foreign country.²²⁵

4.4 NEMA

The NEMA is South Africa's framework legislation with regard to environmental issues.²²⁶ Additionally, the NEMA creates the framework for natural resource use and conservation, pollution-control, waste management and land-use planning and development in South Africa.²²⁷ It is also necessary to discuss the NEMA as it will in future regulate development activities such as the mining of coal in the Mapungubwe area.²²⁸ The NEMA recognises sustainability in its preamble and it states that: "sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations."²²⁹ Furthermore, sustainability is highlighted in the NEMA section 2 principles, which provide that

220 See section 37(1) of the LEMA.

221 See section 40 of the LEMA.

222 See section 41 of the LEMA.

223 See section 54(1)(a) of the LEMA.

224 See section 64(1) of the LEMA.

225 See section 69(1)(c) of the LEMA.

226 Fuggle and Rabie *Environmental Management* in South Africa 400.

227 Fuggle and Rabie *Environmental Management* in South Africa 400.

228 The NEMAA will come into operation on the 8th of December 2014.

229 See Preamble of and also section 1(xxix).

"development must be socially, environmentally and economically sustainable."²³⁰ However, this section fails to take into account culture, which is also a pillar of sustainability.²³¹ The principles were directly applicable to mining before section 37 of the MPRDA was repealed.²³² *Coal of Africa* should therefore have taken the section 2 sustainability principles of the NEMA into account before it commenced its mining operations.

The MPRDAA repealed section 5(4) of the MPRDA, which provided that no person may prospect or mine without an approved Environmental Management Plan (hereafter EMP) or Environmental Management Programme respectively (hereafter EMPR). The repealed section was substituted by section 5A whose wording is similar to section 5(4) except that the reference to an approved EMP or EMPR is substituted by reference to an environmental authorisation that will eventually have to be obtained by mining companies in the future in terms of section 24 of the NEMA. The MPRDAA further repealed section 39 of the MPRDA, which required applicants to submit to and empowered the Minister of Mineral Resources to approve such EMPs or EMPRs. It seems that the coming into operation of the MPRDAA creates a dilemma of a possible gap regarding environmental enforcement as the 2008 NEMA amendment provides that provisions relating to mining will only come into effect 18 months after the MPRDAA.²³³ This causes much uncertainty as it is not clear which environmental authorisations are currently needed for mining and prospecting, as well as over the EMP reporting requirements. A solution over the uncertainties surrounding authorisations would be to operate as if the relevant provisions still remain in force, based on section 11 of the *Interpretation Act* 33 of 1957, which reads as follows: "When a law repeals wholly or partially any former law and substitutes provisions for the law so repealed, the repealed law shall remain in force until the substituted provisions come into operation."²³⁴

230 See Section 2 of the NEMA.

231 See Par 2.1 for a detailed discussion on this.

232 Section 37(1)(a) of the MPRDA has been repealed and substituted by section 32 of the MPRDAA, 2008.

233 The MPRDAA came into operation in June 2013 and the NEMAA will come into operation in December 2014. Section 14(2) of the NEMAA determines that the provisions of the NEMAA relating to prospecting, mining, exploration and production related activities will only come into operation on a date 18 months after the commencement of the MPRDAA.

234 See also Du Plessis *Re-Interpretation of Statutes* 77-78.

Furthermore, section 8 of the MPRDA has been repealed by section 32 of the MPRDA and substituted by section 38A of the MPRDAA, which states that the Minister of Mineral Resources will implement the environmental provisions of the NEMA relating to prospecting, mining, and exploration and production activities in relation to such areas.²³⁵

Furthermore, *Coal of Africa* will require environmental authorisation for closure purposes. In addition to this *Coal of Africa's* Vele colliery will also be liable for future pollution, notwithstanding the issuing of a closure certificate. The financial provision will not be paid out by closure, but will be retained for 20 years to determine if there is not further pollution and degradation to the environment and this may assist the state with issues such as acid mine drainage which mining activities by *Coal of Africa* will potentially bring about.²³⁶ The 2008 amendments as well as new proposed 2013 amendments make provision that mines will have to pump extraneous water, which is an improvement on the 2002 MPRDA.

Section 23 of the NEMA makes provision for integrated environmental management and recognises sustainability within its ambit. Section 23(2)(b) refers to sustainability and the necessity of identifying, predicting and evaluating the actual and potential impact of an activity on the pillars of sustainability.²³⁷ In relation to *Coal of Africa's* mining activities, the mining takes place in an area where communities such as the Vhagona and Gamachete live.²³⁸ The mining area is also adjacent to the GMTFCA, which is a biodiversity hotspot and houses the Mapungubwe World Cultural Heritage site, which contains the trans-boundary cultural resources of the GMTFCA member parties and is a

235 The wording of section 38 of the MPRDAA is similar to that of the *Mineral and Petroleum Resources Development Amendment Bill* [B15-2013] (hereafter MPRDA Amendment Bill). The MPRDA Amendment Bill gives the Minister of Mineral Resources more powers on environmental matters than he or she previously had. According to the Bill, if the Bill is accepted the decision-making will not be transferred to the Minister of Water and Environmental Affairs after 18 months. The Minister of Mineral Resources will now be the sole decision-maker on all environmental matters relating to mining on mining land. Only issues totally unrelated to mining will be decided by the Minister of Water and Environmental Affairs.

236 See MPRDA Amendment Bill.

237 Section 23 (2)(b) of the NEMA reads "identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage."

238 See par 5.1.4 for a detailed discussion on this.

popular tourism resort and hence evaluating the impact of the mining on the communities, as well as on the cultural and natural resources that generate money for the nation through tourism in the GMTFCA will consequently be necessary.²³⁹ According to Le Roux, although section 23 lends itself to a more sustainable development paradigm it fails to set out the procedure that must be followed in order to identify, predict and evaluate the impact of any activity on the environment, socio-economic conditions or cultural heritage.²⁴⁰ The environmental impact assessment (EIA) regime is one of the tools employed by the NEMA to facilitate the goal of environmental protection and is provided for in section 24 of the NEMA.²⁴¹ According to Wood²⁴² EIA is defined as "the evaluation of the effects likely to arise from a major project or other action significantly affecting the natural and man-made environment." Apart from this, Wood further states that consultation and participation are integral appendages of the EIA process because they lie at the centre of the studies to establish social and economic sustainability.²⁴³ In the case of the coal mining activities in the Mapungubwe area, EIA will in future be necessary and it will involve the consultation of members of the community who dwell in the mining area to ensure that the mining operations will not affect their livelihood and well-being.²⁴⁴ Although Coal of Africa's EIA would have been taken in terms of the MPRDA²⁴⁵, some of its activities require an EIA to be done in terms of the NEMA.²⁴⁶ As part of the EIA process adjacent landowners such as the member parties to the GMTFCA will have to be made aware of activities in the mining

239 See chapter 5 on a detailed discussion on the social, economic and cultural impacts of the mining activities by *Coal of Africa* in the Mapungubwe.

240 Le Roux *Environmental Governance, Fragmentation* 40.

241 Le Roux *Environmental Governance, Fragmentation* 40. Section 24(1) of the NEMA provides that: In order to give effect to the general objectives of integrated environmental management laid down in this Chapter. the potential impact on—

(a) the environment;

(b) socio-economic conditions: and

(c) the cultural heritage,

of activities that require authorisation or permission by law and which may significantly affect the environment, must be considered. investigated and assessed prior to their implementation and reported to the organ of state charged by law with authorizing, permitting, or otherwise allowing the implementation of an activity.

242 Wood *Environmental Impact Assessment* 1.

243 Wood *Environmental Impact Assessment* 1.

244 See chapter 5, for a detailed discussion.

245 See section 5(4) of the MPRDA, 2002.

246 See NEMA EIA Regulations in GN R543, GN R544 and GN R 545 in GG 33306 of 18 June 2010.

area as their opinion regarding whether the activities will be detrimental to the resources that they own is necessary as an interested and affected party.²⁴⁷ Section 2 of the NEMA, stipulates that sustainability requires decision making processes to include effective participation by the public, not only by endorsing decisions about the type of development desired, but also in making the most appropriate and therefore sustainable choices.²⁴⁸ Barton²⁴⁹ is of the view that public scrutiny can lead to good decisions and sustainable decisions and thus the EIA as a technique of implementing sustainable development is one of the effective frameworks within which public participation in environmental decision making can take place.

In light of environmental liability, section 28 of the NEMA provides that the holder of a mining right like *Coal of Africa* is responsible for any damage, pollution or ecological degradation as a result of its mining operations which may occur inside or outside the boundaries of the area the mining right relates to.²⁵⁰ Non-compliance with section 28 on the part of *Coal of Africa* will amount to an offence.²⁵¹ The introduction of environmental management inspectors in terms of sections 31A-Q of the NEMA envisages that all mines will receive regular visits from teams of environmental management inspectors and face possible criminal prosecution in the event that they are found to be contravening legislation.²⁵² However, the NEMA 2013 Bill proposes that the Minister of Mineral Resources will be empowered to appoint Mineral Resources Inspectors for compliance monitoring and enforcement of the NEMA in relation to mining activities.²⁵³

247 See Regulation 31(2)(e)(ii) of GN R543 in GG 33306 of 18 June 2010.
248 Murombo 2008 *PELJ* 7. According to Murombo, Sections 2(4) (f) and (g) of the NEMA, provide for the principles of public participation as one of the factors which must be considered if sustainable development is to be achieved.
249 Barton "Underlying Concepts for philosophical underpinnings idea of public participation."
250 See in this regard Kotze´ and Du Plessis 'Absolving Historical Polluters from Liability through Restrictive Judicial Interpretation' 161-193.
251 See section 28(14) of the NEMA.
252 See section 31 A-Q of the NEMA.
253 National Environmental Management Laws Amendment Bill [B26-2013].

4.5 MPRDA

The MPRDA is the primary legislation governing all stages of mining and is therefore applicable to *Coal of Africa's* mining activities in the Mapungubwe area. The preamble of the MPRDA provides for sustainability where it states that: "the objective of the Act is to make provision for equitable access to and sustainable development of the nation's mineral and petroleum resources and to provide for matters connected therewith." The preamble further recognises sustainability, where it provides that:

mineral resources are non-renewable natural resources and that the state has an obligation to protect the environment for the benefit of present and future generations, to ensure ecologically sustainable development of mineral and petroleum resources and to promote economic and social development.

Furthermore, sustainability is further affirmed in the Act's definition of "sustainable development" which provides that: "sustainable development is the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that mineral and petroleum resources development serves present and future generations." In addition, the MPRDA specifically provides that the sustainability principles set out in section 2 of the NEMA are applicable to all mining activities in the repealed section 37(1) of the Act. This has been replaced by section 30 of the MPRDAA. Section 37(1) of the MPRDA reads as follows:

The principles set out in section 2 of the National Environmental Management Act (a)apply to all prospecting and mining operations, as the case may be and any matter relating to such operation and (b) serve as guidelines for the interpretation, administration and implementation of the environmental requirements of this Act.

Section 30 that amends the above section reads as follows"...(a)apply to all prospecting and mining operations, as the case may be, and any matter or activity relating to such operation." The sustainability principles set out in section 2 of the NEMA will therefore no longer directly be applicable to mines, but only to decision making affecting mines.

In light of the MPRDA, *Coal of Africa* in its planning phase of its mining activities was required to have obtained a mining right in terms of the procedure set out in section 22 of the MPRDA. The section now provides that any person who wishes to apply to the

Minister of Mineral Resources for a mining right must simultaneously apply for an environmental authorisation.²⁵⁴ In section 22(2) it is further provided that: "the regional manager must within 14 days of receipt of the application accept an application for a mining right if such application is lodged at the office of the Regional Manager in the region where the mine is situated; (b) in the prescribed manner; and (c) together with the prescribed non-refundable application fee." In addition to this, no prior application for a mining right should have been accepted for mining coal on the same land that Coal of Africa is currently mining on.²⁵⁵ The MPRDA Amendment Bill states that the applicant must indicate that he or she has the ability to comply with the relevant provisions of the National Water Act and not that he or she had complied with the provisions.²⁵⁶

4.6 NWA

The NWA, together with GN R704²⁵⁷ promulgated in terms of Act, regulates the use of water by the mining industry. The regulations are aimed at ensuring that water resources are protected by prescribing minimum standards that mining companies like *Coal of Africa* should follow. In light of the NWA, *Coal of Africa* should have registered its water uses and should have obtained licences for purposes such as taking water from a water resource,²⁵⁸ storing water,²⁵⁹ discharging water containing waste into a water resource through a pipe, canal, sewer, or conduit²⁶⁰ and disposing water in a manner that may detrimentally impact on water source.²⁶¹ Moreover, in terms of section 19 of the NWA *Coal of Africa* should ensure that it takes reasonable measures to prevent and remedy the effects of pollution of water sources in its mining area, this is so

254 See section 22(1)(a) of the MPRDA.

255 See section 18 (c) of the MPRDAA.

256 The section to be amended is section 17(1)(g) of the NWA.

257 GN R704 in GG 20119 of 4 June 1999 (hereafter GN R704). GN R704 defines the activities regulated as: (a) any mining related process on the mine including the operation of washing plants, mineral processing facilities, mineral refineries and extraction plants and (b) the operation and the use of mineral loading and off-loading zones, transport facilities and mineral storage yards, whether situated at the mine or not, (i) in which any substance is stockpiled, stored, accumulated or transported for use in such process; or (ii) out of which process any residue is derived, stored, stockpiled, accumulated, dumped, disposed of or transported.

258 See section 21(a) of the NWA.

259 See section 21(b) of the NWA.

260 See section 21(f) of the NWA.

261 See section 21(g) of the NWA.

as the coal mining may resultantly lead to the occurrence of acid mine drainage.²⁶² *Coal of Africa* reportedly commenced its mining activities in 2010 in the absence of a water use licence.²⁶³ The land on which *Coal of Africa* is currently mining is within two private nature reserves and in order to use any water found underground on such land Coal of Africa was required to have obtained a licence in the event that the state gives its consent.²⁶⁴

Sustainability is recognised in the preamble of the NWA, where it is stated that protection of the quality of water resources is necessary to enable sustainability of the nation's water resources in the interest of all water users.²⁶⁵ Additionally, sustainability is acknowledged through the reference of its pillars under the objective of the Act, which is to facilitate social and economic development, as well the equitable access and protection of water resources.²⁶⁶ Further, the social and economic pillars of sustainability are taken into account in section 27(1)(d), which provides that the Department of Water Affairs should consider the socio-economic impacts of authorising or not authoring a licence. A more substantive definition aimed at achieving sustainability is provided in the pricing strategy for water use that is enacted in terms of the NWA.²⁶⁷ The Act falls short by not addressing aspects of the cultural pillar within its ambit.

262 Section 19(2) provides for reasonable measures that can be taken to remedy and prevent pollution and they include (a) ceasing, modifying or controlling any act or process causing the pollution; (b) complying with any prescribed waste standard or management practice; (c) containing or preventing the movement of pollutants; (d) eliminate any source of the pollution; remedying the effects of pollution and (f) remedying the effects of any disturbance to the bed banks of a watercourse.

263 See Chapter 1 and par 5.1.1 for a detailed discussion on this.

264 See section 24 of the NWA.

265 See Preamble of the NWA.

266 See Section 2 of the NWA.

267 See GN R1353 of 12 November 1999, where it reads as follows: "South Africa is committed to following a path of development that is environmentally sustainable. In the case of water, this requires that the availability and quality of water resources inherited by future generations should be adequate to ensure human well-being and the maintenance of ecosystems. As part of overall water resource management, this means that we need to ensure that our levels of water consumption, use, and pollution, as well as the associated infrastructure to impound, supply, treat and dispose of the water, do not cause either unacceptable or irreversible impacts on the population or ecosystems." See also Le Roux *Environmental Governance, Fragmentation* 68.

4.7 NEM: AQA

A discussion of the NEM:AQA is necessary as the coal mining activities by *Coal of Africa*, which entail opencast and underground operations, may pollute the atmosphere.²⁶⁸ The NEM:AQA is there to reform air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development.²⁶⁹ The objective above of the Act recognises and places importance on sustainability. In addition to this, sustainability and its pillars are taken into account when considering an application for an atmospheric pollution licence in section 39, which provides:

When considering an application for an atmospheric emission licence, the licensing authority must take into account all relevant matters, including-

- (a) any applicable minimum standards set for ambient air and point source emissions that have been determined in terms of the Act;
- (b) the pollution being or likely to be caused by the carrying out of the listed activity applied for and the effect or likely effect of that pollution on the environment, including health, social conditions, economic conditions, cultural heritage and ambient air quality;
- (c) the best practicable environmental options available that could be taken
 - (i) to protect the environment, including health, social conditions, economic conditions, cultural heritage and ambient air quality,
 - (ii) from harm as a result of pollution.

The Act highlights trans-boundary protection of resources in section 50(1) of the Act which provides that:

The Minister may investigate any situation which creates, or may reasonably be anticipated to contribute to –

- (a) pollution across the Republic's boundaries; or
- (b) air pollution that violates, or is likely to violate, an international agreement binding on the Republic in relation to the prevention, control or correction of pollution.

268 See Lloyd "Coal mining and the environment" 1-7. Opencast mining activities reportedly lead to the creation of huge overburden dumps that are often contaminated with waste coal. The coals in such dumps may combust spontaneously and emit sulphurous fumes and smoke. In the case of underground coal mining, it entails the production of methane. Methane is a "greenhouse gas" that is 21 times more potent in its greenhouse effect than carbon dioxide and methane is accumulating in the atmosphere at a faster rate than carbon dioxide.

269 See Preamble of the NEM:AQA No.39 Of 2004. Section 2(a)(iii) provides that the object of the Act is- "securing ecologically sustainable development while promoting justifiable economic and social development".

Further, the *NEM:AQA* provides for ambient air quality standards that must be adhered to by *Coal of Africa*.²⁷⁰

In addition to this, the Act requires *Coal of Africa* to obtain a provisional atmospheric licence or an atmospheric emission licence for the drilling and rock blasting activities, which will resultantly cause dust pollution during the mining process.²⁷¹ Apart from this *Coal of Africa* may be required in terms of the Act to conduct EIAs in the event that an air quality officer reasonably suspects that it has contravened or failed to comply with the provisions of the Act or licence and such contravention has or may impact the pillars of sustainability.²⁷² Apart from this, in terms of regulations on the list of activities in terms of the Act, which result in atmospheric emissions that have or may have significant detrimental effects on the environment, including the pillars of sustainability, *Coal of Africa* is required to adhere to the storage and handling of coal of over a 100 000 tonnes outside its mining premises in terms of these regulations.²⁷³

In terms of the dust regulations, which prescribe general measures for dust control in all areas inclusive of mining areas, *Coal of Africa* is prohibited by regulation 3 to engage in any blasting or drilling of rock in such a manner that the dust generated will have detrimental effects on the pillars of sustainability or will contribute to the degradation of air quality beyond the mining area.²⁷⁴ Furthermore, regulation 4 of the dust regulations states that an air quality officer may require any employee of *Coal of Africa* to undertake a dust fall monitoring programme, which involves the implementation of all reasonable measures to effectively measure, report and verify compliance or non-compliance in terms of the regulation. Such a dust fall programme will have to be undertaken by *Coal of Africa* in the event that it has contravened regulation 3.

4.8 National Heritage Act and World Heritage Convention Act

The National Heritage Resources Act (hereafter NHRA) and the World Heritage Convention Act (hereafter WHCA) relate to culture. The NHRA will be necessary to

270 See section 9 of the NEM:AQA.

271 See section 22 and 21 of the NEM:AQA.

272 See section 30 of the NEM:AQA read with Section 24 of the NEMA.

273 See subcategory 5.1 in GN R893 in GG 37054 of 22 November 2013.

274 See regulation 3 GN R1059 in GG 36 023 of 21 December 2012.

discuss with respect to *Coal of Africa's* coal mining operations. This is so as the GMTFCA that is located in close proximity to the coal mine, contains within it common cultural resources of three modern countries namely South Africa, Botswana and Zimbabwe, which are member states to the GMTFCA.²⁷⁵ These cultural resources are generally associated with Iron Age settlement of around 1200 AD and these will be reportedly be impacted by Coal of Africa's coal mining activities.²⁷⁶ The NHRA aims to introduce an integrated and interactive system for the management of national heritage resources; to promote good government at all levels and to empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations.²⁷⁷ Although sustainability is not explicitly provided for, its aim of conservation, in this case of national heritage resources, so that they may be bequeathed to future generations forms part of sustainable development whose main aim is the use of resources by the present generation in a manner that they conserve them and can benefit future generations. Sustainability and its pillars namely, culture, social and economic development are exhibited in section 5(7) of the Act, which reads as follows:

The identification, assessment and management of the heritage resources of South Africa must-

- (a) take account of all relevant cultural values and indigenous knowledge systems;
- (b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
- (c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
- (d) contribute to social and economic development;
- (e) safeguard the options of present and future generations.

In light of the NHRA, *Coal of Africa* in the planning phase of its mining activities was required to have obtained a permit issued by the relevant heritage resources agency in the Limpopo Province in order to alter or demolish any structure or part of a structure on

275 See <http://www.whc.unesco.org>. See also chapter 5 for a detailed discussion.

276 See <http://www.whc.unesco.org>. The similarity in the ivory objects, pottery remains and imported glass beads excavated at different sites that spread across the modern borders of South Africa, Botswana and Zimbabwe attests to a cultural affinity of the people living in the area.

277 See the NHRA. See also Kidd *Environmental Law* 218.

its mining area older than 60 years.²⁷⁸ Section 35(4) also requires *Coal of Africa* to obtain a permit to destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site,²⁷⁹ or to destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object²⁸⁰ and also trade in, sell for private gain, export or attempt to export from South Africa any category of archaeological or palaeontological material or object,²⁸¹ bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assists in the detection of archaeological and palaeontological materials or objects within its mining area.²⁸² Furthermore, the NHRA requires *Coal of Africa* to have obtained a permit from the South African Heritage Resources Agency or heritage resources authority in the Limpopo Province to destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is found on its site.²⁸³

The WHCA incorporates the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage (hereafter CNHC) into South African domestic law.²⁸⁴ Sustainability is recognised in the WHCA, where it provides for the cultural and environmental protection and sustainable development of world heritage sites.²⁸⁵ *Coal of Africa's* mining activities will take place in close proximity to the Mapungubwe World Heritage site, which is part of the GMTFCA.²⁸⁶ Furthermore, the WHCA acknowledges sustainability by defining what the sustainable development of world heritage sites includes.²⁸⁷ In addition, sustainability is recognised among the fundamental principles

278 See section 34(1) of the NHRA, 1999.

279 See section 35(4)(a) of the NHRA.

280 See section 35(4)(b) of the NHRA.

281 See section 35(4)(c) of the NHRA.

282 See section 35(4)(d) of the NHRA.

283 See section 36(1)(b) of the NHRA.

284 See section 2 of the WHCA. South Africa ratified the CNHC in 1997 see section 1 of the WHCA in this regard. See also Vrancken *South Africa and the Law of the Sea* 55, See also Beukes "The protection and preservation of cultural heritage ten years into democracy in South Africa" 241.

285 See section 2 of the WHCA.

286 See Chapter 1 for a detailed discussion on this.

287 See Section 4(2) of the Act which provides that the sustainable development of world heritage sites requires that "(a) the unnatural disturbance of ecosystems and loss of biological diversity are avoided, or where they cannot be avoided, are mitigated; (b) pollution

set out in the Act, which should be recognised by the State and applied throughout South Africa to the actions of all organs of State and authorities in relation to world heritage sites, where it reads that: "...development must be socially, culturally, environmentally and economically sustainable."²⁸⁸

4.9 Conclusion

From the above discussion of various sector-specific legislation that *Coal of Africa* should have obtained various authorisations during the planning phase of its mining project. The authorisation process requires *Coal of Africa* to have taken into account the impact of mining activities to achieve sustainability.

5 Case Example

In this chapter, the case example, which involves the opencast mining operations by Limpopo Coal in close proximity to Mapungubwe World Cultural site and National Park shall be discussed in light of sustainability and trans-boundary protection of resources.

5.1 Location of the Coal Mine and Description of Mining Activities

The coal mine commonly known as Vele Colliery is located in the Limpopo Coalfield²⁸⁹ in the Limpopo Province and is adjacent to and its closest point is 5,4 kilometres from

and degradation of the environment are avoided, or were they cannot be avoided, are mitigated; (c) the unnatural disturbance of landscapes and sites that constitute the cultural and natural heritage of South Africa, must be enhanced;(d) waste is avoided, minimized and reused or recycled where possible and otherwise disposes of in a responsible manner;(e) the use an exploitation of non-renewable resources is responsible and equitable and takes into account the consequences of the depletion of the resource; (f) the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardized; (g) a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;(h) negative impacts on the environment and the environmental rights of the people must be anticipated and prevented, and where they cannot be prevented must be mitigated;(i) cultural and natural heritage may promote reconciliation, understanding and respect and contribute to the development of a unifying South African identity; and (j) cultural and natural heritage management must guard against the use of this heritage for purposes of threatening a culture based on equality and freedom or for party-political gain."

288 See section 4(1)(b) of the WHCA.

289 See par 1.1.2 of the Final Environmental Management Programme (hereafter EMP). The Limpopo Coalfield forms part of the greater Tuli Block Coalfield and is represented in South Africa by a relatively narrow deposit of the Karoo sequence rocks on the Southern Bank of the Limpopo River.

Mapungubwe Cultural Landscape which was inscribed by the United Nations Education, Scientific and Cultural Organ ("UNESCO").²⁹⁰ The mineral resource is estimated to contain 720.847 million (*in situ*) tonnes of coal.²⁹¹ Limpopo Coal intends to mine the coal resource by both opencast and underground methods for a period of twenty-nine years.²⁹² In terms of opencast mining operation, there are two opencast pits, designed to produce up to 10 million ROM tons per annum.²⁹³ The first pit to be mined will be the East Pit and once this has been mined out, the West Pit will be accessed.²⁹⁴ The opencast layout has been designed to produce an average of 800,000tpm, depending on the overburden thickness being mined and the number of working shifts per month.²⁹⁵ The overburden is planned to be moved by truck and shovel and the operation is planned to operate on a 24/7 basis, utilising 4 rotating seams working 12hr shifts per day.²⁹⁶ To access the opencast reserves, topsoil must initially be stripped to a depth of 1m by a truck and shovel operation and stored for later rehabilitation.²⁹⁷

In terms of underground mining operations, five continuous miner sections will be required to mine the 4.5 million ROM tons required to achieve the monthly saleable tonnage.²⁹⁸ For underground access, a decline will be sunk on the border with the

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- 290 The Cultural Landscape was inscribed by UNESCO in the World Heritage List in 2003 and Claimed by the then Minister of Environmental Affairs and Tourism under the World Heritage Convention Act 49 of 1999 on 30 January 2009.
- 291 See par 1.1.2 of the Final EMP. The estimated mineral resource can be defined as follows: (1) strata strike in a NE-SW direction, (2) General NW direction of 2 degrees, (3) Coal seam thickness varies between 7 and 9,5m (4) Sulphur content 1.2 percent, (5) Ash content (raw) 34 Primary Product 12 percent, (6) Semi-soft/potentially hard coking coal with thermal coal fraction, (7) Primary yield of 25 percent, middlings yield of 35 percent, Primary Production 5 million tonnes per annum (mtpa), (8) Secondary (middlings) product 6,5 mtpa.
- 292 See par 1.3.1 of the Final EMP. Both the opencast and underground development will occur concurrently and last for the same number of years.
- 293 See par 1.3.1.1 of the Final EMP.
- 294 See par 1.3.1.1 of the Final EMP.
- 295 See par 1.3.1.1 of the Final EMP.
- 296 See par 1.3.1.1 of the Final EMP. Maintenance of equipment will be done based on industry norms.
- 297 See par 1.3.1.1 of the Final EMP. Initial topsoil stripping will be done by utilizing contractors. The overburden stripping is then performed by truck and shovel. Interburden will be stripped by means of a truck and shovel fleets and separate coaling fleets will transport the coal from the Pit to the ROM tip.
- 298 See par 1.3.1.2 of the Final EMP. Each section will be equipped with a high seam continuous miner, 4 coal haulers, 2 roofbolters, a feederbreaker and an LHD.

opencast reserves and the underground development will continue in a northerly direction and have main developments mining East and West.²⁹⁹

5.1.1 Environmental Issues

The definition of "environment" in section 1 of the NEMA includes water within its ambit, as such the author of this chapter shall discuss it under environmental issues. The mining operations by Limpopo Coal in the Mapungubwe area, reportedly will be largely reliant on water.³⁰⁰ According to the Environmental Management Programme (hereafter EMP) the water for the mining operations by Limpopo Coal, will be abstracted from the Limpopo River during high flow periods, as well as from primary aquifers by boreholes (existing or new) situated along the floodplain of the Limpopo River.³⁰¹ The Limpopo River is already a stressed water system and is likely to become further stressed with the building of the new Eskom dam on the Crocodile, as well as the Diklathong dam on the upper Shashe River.³⁰² The mining operations will result in additional water supply usage stress, which may seriously affect downstream users in South Africa and Mozambique.³⁰³ The water use for the coal mining operations by Limpopo Coal may thus have trans-boundary effects on downstream water users in Mozambique. This is in contravention of the *Revised SADC Protocol on Shared Watercourse Systems*, upon which the LIMCOM Agreement is based, requires Watercourse States to participate in the use, development and protection of a shared watercourse in an equitable and reasonable manner and such participation includes both the right to utilise the watercourse and the duty to co-operate in the protection and development thereof.

299 See par 1.3.1.2 of the Final EMP.

300 Final EMP, par 13.4, 17.

301 Final EMP par 13.4, 17.

302 Zhu and Ringler Climate Change Implications for Water Resources in the Limpopo River Basin' 1. The Limpopo River in South Africa is one of the dry regions of the world, Rainfall is highly seasonal in the area and unevenly distributed spatial with about 95 percent occurring between October and April, typically concentrated in a number of isolated rain days and isolated locations. See also <http://www.csir.co.za>, Dr Ashton, the principle researcher and unit fellow at the Centre for Environmental Rights says that: "the Limpopo River Basin is particularly water stressed and that every tributary in the basin has been exploited to limits possible by conventional engineering approaches".

303 The Mapungubwe Action Group Notice of Appeal in terms of section 96 of the MPRDA No.28 of 2002 at Par 8.3.9 (hereafter Notice of Appeal in terms of the MPRDA).

Downstream users of water in Mozambique are at a disadvantage as a result of the water requirements of the coal mining operations.³⁰⁴

Furthermore, coal mining by Limpopo Coal may significantly affect the water quality in the Mapungubwe area. Surface and groundwater contamination as a result of mining operations may reportedly occur when excavation is conducted in rocks that contain pyrite.³⁰⁵ In the case of coal, which is sulphur rich, pyrite and sulphur combine with water to form sulphuric acid, enhancing the water's ability to dissolve other elements in the rock. This is commonly known as acid mine drainage (hereafter AMD) or acid rock drainage (hereafter ARD).³⁰⁶ The Biodiversity specialist suggests that AMD could impact on ecosystem functioning and river health and proposed that the negative effects of AMD be investigated. However, no indications of such an investigation can be found.³⁰⁷ In addition, possible contamination as a result of acid mine drainage and leachate is noted in the Environmental Management Programme (hereafter EMP) and this will reportedly have trans-boundary impacts and affect countries like Zimbabwe.³⁰⁸ In addition to this, the Limpopo River is a shared water source between South Africa and Zimbabwe. Despite this, it appears from the EMP that the surface and groundwater assessments were limited to the impacts for South Africa.³⁰⁹ In addition to this, no assessment of the hydrology and geohydrology on the Zimbabwean side of this shared

304 Article 3(7)(b) of the *Revised SADC Protocol on Shared Watercourses*. See also Article 3(7)(a) of the *Revised SADC Protocol on Shared Watercourses*.

305 See Williams *et al* "Effects of Mine Drainage on Streams and Rivers" 95. Pyrite can be found in the coal seams and shale and sandstone strata adjacent to the coal beds. In addition to this, as pyrite is oxidized, oxidation products are transported from the oxidation site through subsurface flow systems by ground water or infiltrating precipitation to receiving streams. Furthermore, water quality is reportedly severely degraded when mine discharges such as acidity, iron, manganese, aluminium and sulphate enter rivers and streams, a common scene throughout the coal regions of Pennsylvania and West Virginia. See also Koryak & Michael, "Origins and Ecosystem Degradation Impacts of Acid Mine Drainage." See also Lewis "Quality of Water in the Upper Ohio River Basin and at Erie Pennsylvania: US Geological Survey Water Supply Paper" 161. Acid mine drainage results from the formation of sulphuric acid in the oxidation of iron sulphide minerals such as pyrite

306 See James *et al* "Effects of Coal-Mine Drainage on Stream Water Quality in the Allegheny and Monongahel River Basins-Sulphate Transports and Trends." See also, Toler, 'Some Chemical Characteristics of mine drainage in Illinois: US, Geological Survey Water Supply Paper 1078,47.

307 See Biodiversity Report at par 60.

308 Notice of Appeal in terms of the MPRDA par 148.

309 Notice of Appeal in terms of the MPRDA par 31.4. and 31.5, 148.

water source has been conducted on the Zimbabwean side.³¹⁰ Consequently, the EMP does not assess the impact of the AMD on water quality on the Zimbabwean side of the Limpopo River.³¹¹ In addition, water pollution will affect aquatic life with trans-boundary effects as far as Mozambique.³¹² South Africa is a party to the *SADC Protocol on Fisheries*, and it should have considered the effect of mining on Mozambique's fish resources Article 14 of the Protocol provides that, "State Parties shall conserve aquatic ecosystems, including their biodiversity and unique habitats, which contribute to the livelihood and aesthetic values of the people and the regions." Furthermore, South Africa did not consider the effects of ADM on the Zimbabwean and Mozambican side of the Limpopo River and hence contravened the *Revised SADC Protocol on Shared Watercourses*, which requires states to consider the effects of their use of a shared watercourse on other States.³¹³ Moreover, the NEMA, which requires development to be environmentally sustainable because mining activities will impact on the quality and quantity of water, thereby rendering this activity environmentally unsustainable.³¹⁴

Moreover, initially when Limpopo Coal began its mining operations, it did so without the necessary water use licence. This is in contravention of section 21 of the NWA which requires a mine to register its water uses and obtain a water use licence.³¹⁵ This is also applicable in the case of water used for mining activities. Apart from this, applications for water licences must contain an assessment of the impact on the necessary resource quality, which, in turn, must be factored into the EMP as required by the NWA.³¹⁶ The EMP, before the granting of the integrated water use license on 29 March did not

310 Notice of Appeal in terms of the MPRDA par 31.6, 148.

311 Notice of Appeal in terms of the MPRDA par 31.7, 148.

312 The DEA has noted that fish is a source of protein for subsistence farmers along the Limpopo River as far as Mozambique.

313 Article 3(6) of the *Revised SADC Protocol on Shared Watercourses*.

314 Section 2(3) of the NEMA.

315 For a detailed discussion of section 21 of the NWA see Thompson *Water Law*. See also Le Roux *Environmental Governance, Fragmentation* 66.

316 Section 41(2) (a)(ii) of the NWA. See also regulation 68(2) of the regulations promulgated in terms of the Act, that is [GNR 527 published in GG 26275 of 23 April 2004] reads as follows: "(1) The provisions of the National Water Act, 1998(Act 36 of 1998) shall apply to the water management and pollution control at all proposed or existing prospecting or mining operations." Subsection (2) reads "An assessment of impacts relating to water management and pollution control at proposed prospecting or mining operations, where appropriate, must form part of the environmental impact assessment report and environmental management programme or environmental management plan, as the case may be."

provide any information concerning an application for a water use licence.³¹⁷ Apart from this, the NWA requires a permit for the construction of berms, however, there is was no indication in the EMP that Limpopo Coal had made such applications and the EMP should not have been approved without such crucial information.³¹⁸ Moreover, although the EMP recognises the risk that mining will result in contamination of both surface and groundwater, it does not set out the procedures for treating contaminated water, despite the requirements of section 21 of the NWA.³¹⁹

Another component of the environment that may be affected by opencast mining operations in the Mapungubwe area is that of biodiversity.³²⁰ The *Biodiversity Report*³²¹ identifies three major categories of impacts on biodiversity, namely impacts on habitat resulting in loss, degradation or fragmentation³²², direct impacts on fauna and flora, for example, threatened plants and animals³²³ and impact on natural environmental processes and ecosystem functioning, which may lead to an accumulated effect on both habitat and species.³²⁴

The EMP provides a description of the natural vegetation, noting the presence of Mopane Bushveld as the primary vegetation type in the area.³²⁵ More specifically, the mining area is situated in the Musina Mopane Veld, the Limpopo Ridge Bushveld and the Subtropical Alluvial Vegetation.³²⁶ The Department of Environmental Affairs (hereafter DEA) observed that the vegetation type likely to be subjected to the greatest impact is "Aza 7: Subtropical Alluvial Vegetation", which has a conservation target of 31

317 Notice of Appeal in terms of the MPRDA par 30.6, 145.

318 Notice of Appeal in terms of the MPRDA par 30.7, 145.

319 Section 22 (2) (c) of the NWA provides that in the case of discharge or disposal of waste or water containing waste contemplated in section 21(f), (g), (h) and (j), must comply with any applicable waste standards or management practices prescribed under section 26(l) (h) and (i) unless the conditions of the relevant authorisation provide otherwise.

320 Section 1 of the NEMA provides that " 'environment' means the surroundings within which humans exist and that are made up of – (ii) micro-organism, plant and animal life".

321 Nel & Nel 'Description of the Natural Environment and Biodiversity Impact Assessment of the Planned Vele Colliery April 2009.'

322 Notice of Appeal in terms of the MPRDA par 16.1.1, 106 as per Biodiversity Report.

323 Notice of Appeal in terms of the MPRDA par 16.1.2, 106 as per Biodiversity Report.

324 Notice of Appeal in terms of the MPRDA at par 16.1.3, 106 as per Biodiversity Report.

325 EMP par 49.

326 Biodiversity Report 17.

percent that had not been met.³²⁷ DEA stated that, given the importance of the Limpopo River's system to the economy of the area it is thus crucial to conserve what remains and that the conservation of this vegetation type is closely linked to the quality and status of the river and the water in it.³²⁸ According to DEA, this vegetation type will be severely impacted by the mine itself and the impact could stretch as far down as the river flows, including the Makulele Ramsar Site, Kruger National Park, the Kruger Trans-frontier Conservation Area and into Mozambique.³²⁹ Thus the impact of the coal mining on alluvial vegetation has trans-boundary effects as far as Mozambique and this was not taken into account by South Africa. Moreover, it was submitted by DEA that the rehabilitation procedures suggested in the EMP are totally inadequate for the environment in the Mapungubwe and if followed, a dry area with reduced topsoil will be created within months.³³⁰ This exhibits no definite commitments regarding rehabilitation measures regarding biodiversity in terms of the EMP, as it violates the NEMA, which provides that sustainability requires that the disturbance of biological diversity be avoided, or where it cannot be altogether avoided be minimized or remedied.³³¹

Furthermore, opencast mining operations by Limpopo Coal may adversely impact the soil in the Mapungubwe Area. It is reported that topsoil will be stripped in the initial stages of the mining operations in order to prepare the area for opencast mining.³³² Once the vegetation is removed and the topsoil has been stripped, major environmental damage will have been done and all the problems associated with dust will be initiated as topsoil stripping is a radical step with long-lasting effects.³³³ The then Department of Agriculture, Forestry and Fisheries (hereafter DAFF) stated that there was no indication in the EMP as to how the topsoil will be handled.³³⁴ DAFF requested that Limpopo Coal "clearly indicate measures that are going to be implemented in order to protect the soil from losing its fertility while stockpiled."³³⁵ Finally, DAFF requested to be informed

327 Notice of Appeal in terms of the MPRDA par 18.7, 111.
328 Notice of Appeal in terms of the MPRDA par 18.7, 111.
329 DEA Comments Par 3.0.8.4 (incorrectly numbered 2.0.8.4.) 4th and 5th bullet points.
330 DEA Comments Par 3.0.8.4 (incorrectly numbered 2.0.8.4.) 7th bullet point.
331 Section 2(4)(a)(i) of the NEMA No.108 of 1998.
332 Original EMP 7; Final EMP 7.
333 Original EMP7, Final EMP 7.
334 Notice of Appeal in terms of the MPRDA par 18.16, 114.
335 DAFF Comment Par 3.

where Limpopo Coal will obtain the soil for rehabilitating the pit after mining and these issues remain unresolved.³³⁶ In addition to this, the EMP drawing on the Biodiversity Report, identifies the protected species of flora in the Mapungubwe area where mining will take place, acknowledging that a high diversity of protected species (22) occur in that area.³³⁷ A major concern with regard to opencast mining impacts on flora arises from dust and the DEA expressed concern over this, as the dust will have an effect on the growth of plants, as well as their availability as a food source for animals and this is not adequately addressed in the EMP.³³⁸ In addition to protected flora species found in the mining area, the EMP does not indicate what measures will be adopted to protect these specific plant species "of concern" from the impact of proposed mining operations, simply noting their presence.³³⁹

Moreover, with respect to protected flora species, there has not been any application for a permit under the Threatened or Protected Species Regulations, 2007³⁴⁰ (hereafter TOPS Regulations) by Limpopo Coal, nor is there any statement to the effect that Limpopo Coal intends to obtain such permit, as the EMP does not contain any single reference to the TOPS Regulations.³⁴¹ Apart from *flora* species there are fauna species present in the mining area.³⁴² There is a diversity of faunal species, including a number of protected species.³⁴³ The biodiversity report records that the habitat of the Mapungubwe area where mining activities are occurring is suitable for all mammalian species that occur in the region.³⁴⁴ A list of protected species have also been identified

336 DAFF Comments Par 4.

337 Original EMP 53; Final EMP 53.

338 Notice of Appeal in terms of the MPRDA par 19.4, 115.

339 See paragraphs 19.5.1. to 19.5.10 of the Notice of Appeal in terms of section 96(1) of the MPRDA No.28 of 2002.

340 See regulation 10 of GN R152 In GG 29 657.

341 Notice of Appeal in terms of the MPRDA par 26.11,134. The LEMA likewise prohibits activities in relation to species listed in the Schedules to the Act and require that a permit be obtained for activities impacting on such species, the EMP contains no reference to this aspect of the LEMA as well.

342 The Biodiversity Report contains a desktop study listing the known species of mammals, herpetofauna (reptiles and amphibians), avifauna(bird life) and pisces (fish) known to exist in the Mapungubwe area where mining operations are taking place.

343 The EMP acknowledges, that there are 46 protected species in an adjacent to the study area, of which 20 have been confirmed to occur in the Mapungubwe area where mining will take place. The protected species present in the study area of the region are listed in Table 2.1.1.8. of the EMP on 56 of the Original EMP.

344 Notice of Appeal in terms of the MPRDA par 21.1, 118.

in the mining area, although species such as the elephant, wild dog cheetah and lion that fall under the category of, 'protected species' occur sporadically in the area.³⁴⁵ The Biodiversity report acknowledges that increased traffic may result in animals being killed on roads, especially nocturnal species, as they attempt to move throughout their home range.³⁴⁶ The Biodiversity report refers to studies in KwaZulu-Natal that have indicated that deaths of animals on roads could have a significant impact on numbers of especially protected species, since their numbers are already of concern.³⁴⁷ The EMP has a shortcoming as it does not include the mitigation measures in relation to the risk to mammals posed by increased traffic.³⁴⁸ The mining operations by Limpopo Coal are also reportedly going to impact on habitats in the Mapungubwe area. The Biodiversity report, referring to a study by Braack³⁴⁹ notes that proposed construction and mining activities will alter and or destroy habitat and land capability. The Biodiversity report further provides that the semi-arid environment in the Mapungubwe area will take many years to return to its original state if it ever does.³⁵⁰ This reveals the effect that the opencast mining activities will have on habitats, as this will largely lead to the disturbance of ecosystems.³⁵¹ Additionally, as a result of the large demand of water for mining activities, it is reported that a reduction in underground water may impact the survival of animals in the area that are dependent on water from springs and perennial pools that are maintained by underground water.³⁵² Furthermore, the noise from blasting, drilling and moving traffic from mining activities will reportedly result in panic

345 See Skinner and Smithers (1990) 'The Mammals of the Southern African Sub-region' University of Pretoria. See also Hall-Martin (1992) 'Distribution and status of African elephant *Loxodonta africana* in South Africa', 1652-1992. See also, Cumming, *et al* ' Elephants, Woodlands and Biodiversity in Southern Africa.

346 See Seiler ' Ecological Effects of Roads' 19-20. See also, Putman 'Deer and Road Traffic accidents: Options for Management' *Journal of Environmental Management* 51. See also Forman and Alexandra 'Roads and Their Major Ecological Effects' *Annual Review of Ecology and Systematics* 29.

347 Biodiversity Report 70.

348 Notice of Appeal in terms of the MPRDA par 21.4, 120.

349 Braack *Report on survey of Hepetofauna on the Proposed Mining Site: Vele Colliery, Musina.*

350 Notice of Appeal in terms of the MPRDA par 21.5, 120.

351 See Lawrey 'The relative decomposition potential of habitats variously affected by surface coal mining' *Canadian Journal of Botany*, 1544-1552 For a detailed discussion on ecosystem disturbance.

352 Biodiversity Report 71. The Report notes that in the dryer seasons, many animal species are totally reliant for their water on these water resources.

among animals, which may result in accidental injury, as animals could fall, run into objects or become trampled in panic.³⁵³

The area over which the mining rights were allocated forms part of the Birdlife South Africa Important Bird Area (SA 001 Vhembe Nature Reserve) and a total of 470 bird species have been recorded in the GMTFCA and it is home to several highly localised species in Southern Africa.³⁵⁴ It is reported that each year during the early summer thousands of Lesser Spotted and Steppe Eagles pass through or stop over this area before dispersing east into the Lowveld regions or south and south-west into the northern Bushveld areas in the mining area.³⁵⁵ Many other migrants enter the northern parts of South Africa via the Greater Mapungubwe region and these and other small migratory birds, including several warblers and quail species, fly long distances by night.³⁵⁶ It has been proven that bright lights have a significant disorientation effect on small migratory birds and the major artificial light sources that will be introduced in the Mapungubwe area as a result of mining activities, may have catastrophic effects.³⁵⁷ In this regard it is particularly the nocturnal birds that would be greatly affected by vehicles travelling at night, such as Night jars, of which the area hosts six of the seven southern African species.³⁵⁸

When it comes to fish species, it is reported that there is minimal consideration of the impact of the mining activities by Limpopo Coal in the EMP.³⁵⁹ The EMP further falls short by making no reference to invertebrate species and hardly any to *herptofauna*. This shortcoming means that South Africa is in violation of the SADC Protocol on Mining, which requires member states to promote sustainability by ensuring that a

353 Biodiversity Report 74.

354 See Van der Walt and De Beer, Bird Checklist-Ludwigslust game Farm P.O. Box 2008 Musina. The bird species in the Greater Mapungubwe Trans-frontier Conservation Area reportedly represent nearly half of all the bird species found within the entire South African sub-region.

355 Notice of Appeal in terms of the MPRDA par 22.5,123.

356 Notice of Appeal in terms of the MPRDA par 22.5 -22.6,123.

357 See Forman & Hersperger 'Road Ecology Road Density In Different Landscapes, with International Planning and Mitigation Solutions' 1-23.

358 Notice of Appeal in terms of the MPRDA par 22.7,123.

359 Notice of Appeal in terms of the MPRDA par 25.1, 129.

balance between mineral development and environment protection is attained.³⁶⁰ This is so as Mining is placed at the forefront, while the protection of what constitutes part of the environment is not considered.

As stated before there are two private nature reserves within the mining area and these are Skutwater Ranch Nature Reserve and the Sighetti Private Nature Reserve.³⁶¹ Each of these two private nature reserves were reportedly proclaimed both as a "game reserve" and a "native floral reserve" under section 11(d) of the *Transvaal Game Ordinance* 23 of 1949 and under section 2(2) of the *Transvaal Native Flora Protection Ordinance* 9 of 1949.³⁶² Skutwater and Sighetti "private nature reserves" are both governed by the provisions of the LEMA.³⁶³ Section 28 of the LEMA contains an absolute prohibition on mining operations on private nature reserves.³⁶⁴ Nothing in the EMP suggests that the two private nature reserves have either been deproclaimed or that the Executive Council has given the approval required by section 28(1)(a) of the LEMA.³⁶⁵ In addition to this, no suggestion has been made in the EMP that the procedure for obtaining such approval set out in section 28(2)-(5) of the LEMA has been initiated, or even that Limpopo Coal intends to initiate that process.³⁶⁶ Apart from the LEMA, the NEMPAA prohibits mining activities in private nature reserves and this is exhibited in section 48(1), which reads as follows:

Despite other legislation, no person may conduct commercial prospecting or mining activities-

- (a) in a special nature reserve , national park or nature reserve;
- (b) in a protected environment without the written permission of the Minister and the Cabinet member responsible for minerals and energy affairs; or

360 Article 8 SADC Protocol on Mining, 1997. See also Van Der Walt 'Re-Environmental Impact Assessment: Coal of Africa-Vele Colliery Project, Limpopo Valley Herb Project' P.O.Box 2008 Musina 0900.

361 See par 4.2 Skutwater Ranch Private Nature Reserve, was proclaimed under that name on 27 January 1965 under Proclamation 14 of 1965. The Sighetti Private Nature Reserve was proclaimed under that name on 28 July 1965 under proclamation 224 of 1965.

362 Notice of Appeal in terms of the MPRDA par 7.2, 54.

363 Notice of Appeal in terms of the MPRDA par 9.1, 58.

364 Section 28(1)(a) of the LEMA reads-" No person may conduct prospecting, mining or related operations-...within a Provincial Nature Reserve, a Protected Environment, a Private Nature Reserve or a Resource area, except with the approval of the Executive Council".

365 Notice of Appeal in terms of the MPRDA par 9.3, 59.

366 EMP, Annexure C, Par 4, 89.

(c) in a protected area referred to in section 9(b), (c) or (d).

There are no circumstances under which the provisions of section 48(1) of the NEMPAA can be ignored, bypassed or reserved.³⁶⁷ In addition to this, no permit can be granted by any official, including the Minister, for such mining and since the approval of the EMP therefore purports to approve conduct that is on its face prohibited and unlawful, this renders it unlawful.³⁶⁸ By allowing mining activities in a private nature reserves, South Africa has violated the Convention on Biological Diversity, which it has signed and ratified, specifically Article 8 (c), which requires each contracting party to "regulate or manage biological resources important for the conservation of biological diversity, whether within or outside protected areas, with a view to ensuring their conservation and sustainable use."³⁶⁹ Allowing mining in private nature reserves jeopardises sustainability.

5.1.2 Economic issues

The Socio-Economic Impact Assessment of the mining project (hereafter SIA), identifies that the well-developed agricultural sector in the Mapungubwe area is currently generating more employment opportunities in Musina than any other sector.³⁷⁰ Employment of citizens of a country has the benefits of ensuring that the country's gross domestic product is high, as and this enhances the economic wealth of a country, thereby making agriculture an economically sustainable activity in terms of section 2 of the NEMA.³⁷¹ In assessing the impacts on the existing use of land falling within the immediate ambit of the project area, some reference is made to neighbouring farms that border the project area, but no assessment was done on the impacts on the present land use of neighbouring farms.³⁷² The impacts on the neighbouring farms may be

367 Notice of Appeal in terms of the MPRDA par 10.5, 60.

368 Notice of Appeal in terms of the MPRDA par 12.1, 60.

369 South Africa has signed and ratified the 1992 Convention on Biological Diversity, which was incorporated into South African Law by the National Environmental Management: Biodiversity Act of 2004.

370 Notice of Appeal in terms of the MPRDA par 39.1.9, 174.

371 Section 2(3) of the NEMA reads: "Development must be socially, environmentally and economically sustainable."

372 Notice of Appeal in terms of the MPRD par 39.2,1 -39.2.1.1, 174.

severe.³⁷³ One of the neighbouring farmers is reportedly the producer of fifty percent of tomatoes for All Gold tomato sauce in the country.³⁷⁴ The Macro-economic Assessment (hereafter MEA) of the mining project neglected altogether to factor in and assess the impact on agriculture in neighbouring countries, notwithstanding the fact that other experts involved in the EMP recognize the impacts on activities across the borders into Botswana and Zimbabwe.³⁷⁵ Mining activities by Limpopo coal may have trans-boundary effects on countries like Botswana and Zimbabwe who are parties to the LIMCOM Agreement, and this is largely due to pollution of water by ADM and leachate and also large demands of water for mining, resulting in less for irrigation for farming purposes from the Limpopo River.³⁷⁶

In the light of eco-tourism in the Mapungubwe area, the National Park (hereafter MNP), the World Heritage Site (hereafter WHS) and the GMTFCA are the areas presently spurring the development of the eco-tourism industry in the Limpopo.³⁷⁷ The Mapungubwe area serves as a regional growth point for tourism and conservation because of the proximity of the area to international boundaries.³⁷⁸ It is reported that the mining activities by Limpopo Coal may have an impact on the sense of the place which largely affect eco-tourism activities in the area. The sense of the place of the mining area itself is described by the EMP as follows:

Visiting the area is an experience of calmness. Together with the generally low presence of people in the area, the Mopane veld in the isolated occurrence of the Baobab and granite koppies gives a distinct character to the stretched out plains of the study area. The sense of the place can be described as quiet and peaceful. Night time experiences are very quiet with complete darkness during moonless nights. This allows for excellent views of night skies and the brightness of stars contrasted against the black darkness.

373 Notice of Appeal in terms of the MPRDA par 39.2,1 -39.2.1.1, 174.

374 Notice of Appeal in terms of the MPRDA par 39.2.1.1, 174.

375 Notice of Appeal in terms of the MPRDA par 39.2.5.2.4, 177.

376 See par 5.1.1 above for a detailed discussion on water pollution. It is reported that the damage to water resources due to pollution from a quantity perspective will result in the loss of a water supply of approximately 50 million cubic meters per annum, or 6000 hectares currently under irrigation, just from groundwater use from the primary alluvial aquifer alone. This will result in severe damage and loss to irrigation farmers on both sides of the Limpopo River.[See par 32.10.-32.11 of the Notice of Appeal in terms of the MPRDA].

377 Notice of Appeal in terms of the MPRDA par 39.1.3, 1

378 Notice of Appeal in terms of the MPRDA par 39.1.3.2, 172.

The negative impacts on the sense of the place will be due to the negative impacts on the sensitive landscapes as a result of the light, noise and dust created by the mining activities.³⁷⁹ It is reported that the viewshed studies contained in the visual impact study of the mining area prove that the mining area will be visible from a range of locations in the MNP, the MCL and the GMTFCA.³⁸⁰ In addition, it is evident that night time light pollution will affect the sensitive landscapes, even in areas where there is no line of site to the mine.³⁸¹

The mining activities may also cause noise impacts in the Mapungubwe area. The EMP recognises that certain sounds generated from the open pit operations will be continuous (over 24 hours), while others will be intermittent.³⁸² The opencast mining noise footprint reportedly covers a large area of approximately 21km.³⁸³ The noise footprint is said to extend about 4 km across the Limpopo River into Zimbabwe. As such the impacts of the mining activities by Limpopo Coal will have trans-boundary effects as far as Zimbabwe. Moreover, the sense of the place will reportedly be impacted by dust generated from the opencast mining activities.³⁸⁴ It is reported that, should dust cloud be visible in the air, they are likely to have negative aesthetic effects which will affect the "sense of the place" of the sensitive landscapes and negatively impact on the enjoyment of undisturbed landscapes by visitors to such landscapes.³⁸⁵ Apart from this, in the event that dust settles in amenities such as lodge accommodation, hotel rooms and restaurants, this may be negatively perceived by tourists and visitors to the sensitive landscapes and negatively impact on their enjoyment of these amenities, with a negative effect on tourism incomes.³⁸⁶ This is given that those visiting the sensitive landscapes (especially the MNP, the MCL and the GMTFCA) do so especially in order

379 EMP par 2.2.5, 112.

380 EMP par 2.2.6.2, 126-129.

381 See Visual Impact Assessment For Vele Colliery Par 6.6 19. See also Berry *et al* "Exposure Surface Analysis for Assessing Relative Visual Vulnerability and Aesthetics" Paper 4, Geo Tech Conference 2003.

382 Notice of Appeal in terms of the MPRDA par 6.4.2, 47.

383 The open cast mining 35dBA noise footprint covers a large area approximately 21km in a Southwest to North-west direction and in places 13km in a North-west to South-east direction.

384 EMP, figure 2.1.1.2(b), 37.

385 Should dust coat cultural artefacts such as rock art, it may cause irreversible damage.

386 Notice of Appeal in terms of the MPRDA par 6.44.5, 49.

to experience the sense of the place described above.³⁸⁷ Thus, it may be reasonably concluded that any negative impact that mining activities may have on the sense of the place of these landscapes will be amplified.³⁸⁸

In addition, the SIA acknowledges that the main stakeholders involved in the TFCA regard the potential for tourism as a land use, and it relies largely on an unspoiled environment, the scenic beauty and "wilderness character" of the area.³⁸⁹ Thus the SIA runs counter to principle 2(4)(g) of the principles under the NEMA in that in restricting the ambit of its inquiry, it fails to provide an adequate basis on which to determine the socio-economic interests and needs of all interested and affected parties, that is the stakeholders of the GMTFCA, whose current developmental plans for the region are focused largely on expansion of tourism.³⁹⁰ Apart from this, the mining activities shall impact on game farming activities in the area and there is a consideration of game farming facilitating large scale eco-tourism operations, which utilisation is believed to provide a significant economic boost in the area.³⁹¹

5.1.3 Social issues

Social issues may also be significantly impacted by mining activities by Limpopo Coal in the Mapungubwe area. Any application for a mining right requires that those affected by the proposed mining operations be consulted.³⁹² The importance of the consultation and

387 Notice of Appeal in terms of the MPRDA par 6.24, 39.

388 Notice of Appeal in terms of the MPRDA par 6.24, 39. The then Department of Environment and Tourism during the EMP consultation process, allowing the mine to proceed on the border of the MCL may have a negative effect on South Africa's relationship with UNESCO and the possibility of future inscriptions of South African sites as a World Heritage Site.

389 SIA 54.

390 Notice of Appeal in terms of the MPRDA par 39.2.1.5, 175. The MEA also ignores the draw-card of the region for international tourism and the consequent positive and growing contribution to this, not only to the region, but also to South Africa as a whole. The Mapungubwe area is prominently advertised on entry to all international airports in South Africa. The loss of international tourism in the area as a result of the coal mining activities by Limpopo Coal, have far reaching economic consequences to South Africa as a whole.

391 SIA 55.

392 See *Begwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* 2011 (4) SA 113 (CC), (*Begwenyama*). See section 33 of the Constitution. See also Section 3(1) of the Promotion of Administrative Justice Act (hereafter PAJA) that provides that "administrative action which materially and adversely affects the rights or legitimate expectations of any person must be procedurally fair." The minimum standards for procedural fairness of administrative action in terms of PAJA are found in section 3(2)(b), which provides that "in order to give effect to procedurally fair administrative action, an administrator, subject

access to information in relation to mining was recognised by the Constitutional Court in *Bengwenyama*, where the Court held that: "the exercise of prospecting rights is highly invasive of the use by owners of their land, even if only restricted to surface use of the land...the granting and execution of a prospecting right represents a grave and considerable invasion of the use and enjoyment of the land on which the prospecting will happen."³⁹³ The EMP alleges that all direct neighbours within a ten kilometre radius of the mining area were identified and key interviews held with affected parties.³⁹⁴ However, this is in fact not the case. In particular, there was no effective consultation with landowners of neighbouring land (including land in Botswana and Zimbabwe) such as Northern Tuli Game Reserve and Nottingham Estate, Sentinel Ranch and Maramani. In addition to this, it is reported that there was a failure to consult the farm worker community prior to the finalisation, submission and approval of the EMP. This constitutes a contravention of the requirements of procedural fairness and a contravention of section 2(4)(f) of the NEMA, which prescribes that the effective participation of all interested parties in environmental governance must be promoted and that in particular participation by vulnerable and disadvantaged persons must be ensured.³⁹⁵ Apart from this, the EMP and the SIA do not report any consultations with traditional communities in the Mapungubwe area, particularly the Ga-Machete community specifically as land claimants, in order to establish the relevant baseline information and the specific socio-economic impacts and the suggested mitigation measures in respect of the community as land claimants.³⁹⁶ This exhibits a

to subsection (4), must give a person referred to in subsection (1) - (i) adequate notice of the nature and the purpose of the proposed administrative action; (ii) a reasonable opportunity to make representations; (iii) a clear statement of administrative action; (iv) adequate notice of any right of review or internal appeal, where applicable; and (v) adequate notice of the right to request reasons in terms of section (5). "See also section 6(1) of the MPRDA which states that "subject to the Promotion of Administrative Justice Act 3 of 2000, any administrative process conducted or decision taken in terms of this Act must be conducted or taken, as the case may be, within a reasonable time and in accordance with the principles of lawfulness, reasonableness and procedural fairness."

393 See par 40 and 63.
394 EMP, Annex N, Par 3.4.4, 8.
395 Notice of Appeal in terms of the MPRDA par 43.16, 187.
396 Notice of Appeal in terms of the MPRDA par 45.7, 193. The Ga-Machete community gave Limpopo Coal notice on 20 October 2009 of the fact that relevant land may, as contemplated in section 6(3) of the *Restitution of Land Rights Act* 22 of 1994, be the subject of a court order by the Land Claims Court and is land in respect of which the Ga-Machete community is

contravention by Limpopo Coal of section 2(4)(g) of the NEMA, which requires decisions to take into account the interests, needs and values of all interested and affected parties, including recognising all forms of knowledge inclusive of traditional knowledge.³⁹⁷

Furthermore, the mining activities by *Coal of Africa* in the Mapungubwe area shall have an effect on the employment of farm workers.³⁹⁸ The economic impact of the mining activities on farming operations will inevitably impact on farm workers, who will be at risk of losing their livelihoods with the downscaling of agricultural and game farming activities on the farms.³⁹⁹ The downscaling of agriculture is as a result of a strain on water resources from which water for irrigation is drawn. The social and environmental well-being of the thousands of farm workers and their dependents on the project farms clearly will be negatively impacted by, *inter alia*, the noise, dust and pollution arising from the mining and mining-related activities.⁴⁰⁰ The mining activities by Limpopo Coal will bring about the influx of temporary workers and job seekers and thereby impact on the basic services and health of the people and impact on crime and safety.⁴⁰¹ The EMP indicates that during the construction phase, it is likely that there will be 2500 temporary workers employed on the site and provision is made for a worker's compound that will house up to 1600 temporary workers on site.⁴⁰² This represents a massive increase in the number of residents in the deep rural community, bringing with it an increase in noise, movement, risks associated with prostitution, alcohol abuse, poaching theft and more violent crimes.⁴⁰³ These risks will be borne by the existing communities resident in the area and as such will be detrimental to the inhabitants of the Mapungubwe area.⁴⁰⁴

entitled to claim restitution of a right in land.[See par 45.5.3. of the Notice of Appeal in terms of the MPRDA.]

397 Section 2(4)(g) of the NEMA.

398 The SIA expressly recognises that "the labourers who live on the farms will also be affected by the open cast and infrastructure activities." [SIA 70].

399 Notice of Appeal in terms of the MPRDA par 43.7, 185.

400 Notice of Appeal in terms of the MPRDA par 43.6, 185.

401 Notice of Appeal in terms of the MPRDA par 44, 188.

402 Notice of Appeal in terms of the MPRDA par 44.1, 188.

403 Notice of Appeal in terms of the MPRDA par 44.1, 188.

404 Notice of Appeal in terms of the MPRDA par 44.1, 188.

In addition, the temporary workers and job seekers will settle in informal areas, leading to conflict among local communities, social disintegration and pressures on existing infrastructure and basic services.⁴⁰⁵ In terms of the impact on housing and other basic infrastructure, the mitigation measures do not include any consideration of the impact that will arise from the likely influx of job seekers into informal settlements, as they depend on the local authority to provide access to basic resources.⁴⁰⁶ This will strain the basic services of the local community and thus contravenes section 2(3) of the NEMA, which requires development to be socially, environmentally and economically sustainable. With regard to health risks, the SIA addresses only STDs and HIV/AIDS, it does not address the health impacts of *inter alia*, health risks associated with an increase in informal settlements giving rise to diseases linked to lack of proper sanitation, poor living conditions and consumption and use of polluted water.⁴⁰⁷

5.1.4 Cultural issues

The Mapungubwe area is reportedly one of a handful of places in sub-Saharan Africa where rock paintings and rock engravings co-occur in the same landscape.⁴⁰⁸ The farms immediately north and west of the area where Limpopo Coal is engaging in mining activities, has been extensively surveyed for rock art and almost every farm has been shown to have rock art.⁴⁰⁹ The rock art in the Mapungubwe region is said to stand out because it is the only place south of the Zambezi where one finds hunter-gatherer, pastoralist and farmer rock art together in one landscape and at a significant number of sites (in excess of 1000 sites).⁴¹⁰ It is also the only place where paintings and engravings are found together, one site has the only painted engraving in southern

405 SIA 89.

406 SIA 77-8.

407 Notice of Appeal in terms of the MPRDA par 44.3.2.4. In addition, no mention is made in terms of health risks associated with an increase in crime and robberies, as well as the health risks associated with an increase in traffic accidents.[Par 44.3.2.2-44.23.2.3 of the Notice of Appeal in terms of the MPRDA].

408 Notice of Appeal in terms of the MPRDA par 14.11.2, 67.

409 Notice of Appeal in terms of the MPRDA par 14.11.2, 67.

410 See Van Door Num., 'Tshisiku Shelter and the Limpopo-Shashe confluence Area Hunter Gatherer sequence' 17-67. See also, SADR, K 'Hunter-gatherers and herders of the Kalahari during the late Holocene'.

Africa were women occur in a higher proportion to men.⁴¹¹ Rock art sites have reportedly not been identified in the area in which mining will take place, although it is unclear whether the entire mining area has been thoroughly searched.⁴¹² Rock art is said to be certainly present to the west with the MNP and to the north on the Zimbabwean side.⁴¹³ The presence of rock art as far as Zimbabwe brings to light the trans-boundary cultural resources in the Mapungubwe area. It has been reported that there is the assumption that there is no evidence of rock art in the area that Limpopo Coal is engaging in mining activities. There is however, a number of potential impacts that the mining that could cause permanent damage to rock painting as far as the eastern sector of the MNP. Mines create dust, dust clings strongly to sandstone and becomes bonded onto shelter surfaces and if rock sites are situated where the prevailing wind carries dust onto the painted surfaces, the dust will accumulate on the walls of rock surfaces and becomes fixed there by the silica that is drawn to the surface by moisture.⁴¹⁴ When the moisture evaporates, a thin, hard film is left behind and cannot be removed without destroying the paintings.⁴¹⁵ A further issue is that of vibration. Mines create vibration and this exacerbates rock decay and collapse. With particular effect on painted rock shelters and natural formations that are already prone to collapse.⁴¹⁶

The GMTFCA is said to be home to a variety of rock art traditions and techniques that can be correlated with the cosmology of San hunter-gatherers, Khoekhoe herders and Iron Age farmers who lived there during the last 5000 years.⁴¹⁷ The multiple traditions of

411 See UNESCO document 1099 of 2002. The Mapungubwe area also has a high percentage of paintings of women's aprons, designs very rare or entirely absent in other places. This suggests that the Mapungubwe area had an important local set of gender power relations that are unlike those found in pre-colonial societies of other areas.

412 Notice of Appeal in terms of the MPRDA par 14.11.5, 68.

413 Notice of Appeal in terms of the MPRDA par 14.11.5, 68.

414 See Van Vollenhoven and Antony 'Mapungubwe, Ancient African Civilisation on the Limpopo' 227-229.

415 See Dederen and Jean-Marie 'New Light on Dark History? Mapungubwe: Ancient African civilization on the Limpopo 239-242.

416 Notice of Appeal in terms of the MPRDA par 14.11.10, 69.

417 See Van Doornum, 'Sheltered from Change: hunter-gatherer occupation of Balerno Main Shelter, Shashe-Limpopo Confluence. The Limpopo-Shashe area now GMTCA was a crossing point for the Khoekhoe and Iron Age immigrants who moved into South Africa within the last 2000 years and changed the landscape with the introduction of domestic animals and

art co-occurring in the GMTFCA provide a unique potential in terms of understanding the history of settlement in southern Africa; how different identities arose, influenced one another and the processes that created the complex mix of societies that made up indigenous southern Africa.⁴¹⁸ It is reported that, well-known and important rock sites immediately occurring north and west of were Limpopo Coal will be engaging in mining activities, will be impacted in serious and unacceptable ways by the opencast mining operations.⁴¹⁹ Moreover, no mitigation or monitoring measures are in place to protect the existing rock art from dust, vibration or drop in the water table.⁴²⁰ The potential for research on rock art of the Mapungubwe Cultural Landscape is indisputably high.⁴²¹

Moreover, heritage resources shall be impacted by mining activities in the Mapungubwe area. Mapungubwe is a very important area historically, as it is known to be "the first urban centre" and "the first state" in South Africa.⁴²² The Mapungubwe is also is known for its gold objects and by 1220AD gold objects had already started being locally manufactured Mapungubwe produced unique items such as the golden rhinos.⁴²³ The specialist heritage resources report identifies 26 sites in the mining area containing archaeological and historical remains, of these 3 are Stone Age remains, 18 are Iron Age remains and 2 are historical remains and 3 are grave sites.⁴²⁴ Roodt⁴²⁵ has found what he has identified as Acheulean and Middle Stone Age tools in his survey, the Middle Stone Age contained segments that could be representative of the Howieson's Poort industry. This would be a very significant finding, as this industry was the first occurrence anywhere in the world with such style.⁴²⁶ The EMP confirms that opencast

crops. See also, Eastwood & Smith 'Fingerprints of the Khoekhoen: geometric and handprinted rock art in the central Limpopo Basin'63-76.

418 Huffman "Mapungubwe: Ancient Civilisation on the Limpopo" 312.

419 Notice of Appeal in terms of the MPRDA par 14.11.2, 67.

420 Notice of Appeal in terms of the MPRDA par 14.11.3, 67.

421 Notice of Appeal in terms of section of the MPRDA par 14.11.18, 72. Citation indices shows that research on the rock of this area is amongst the most cited of all rock art research in southern Africa and that southern Africa is the most cited area for rock art research in the world.

422 Huffman "Mapungubwe: Ancient Civilisation on the Limpopo" 311.

423 Miller *African Journal of Science* 298.

424 EMP Par 2.1.1.13 80. See also, Hanisch "An Archaeological Interpretation of Certain Iron Age sites in the Limpopo-Shashe Valley". See also, Huffman 'Handbook of the Iron Age. The Archaeology of Pre-colonial Farming Societies in Southern Africa.'

425 Roodt, 2009a 'Heritage Impact Assessment Report: Proposed Vele Colliery, Weipe District'.

426 Notice of Appeal in terms of the MPRDA par 14.21.1.4, 77.

mining operations in the Mapungubwe area will definitely destroy all evidence of the existence of Iron Age sites.⁴²⁷

Furthermore, paleontological remains are said to be present in the mining area. The mine is said to be situated in the Ecca age strata, which is by nature fossiliferous.⁴²⁸ The fossils expected to occur include plant fossils (mainly of the extinct plant *Glossopteris*) and dinosaur fossils.⁴²⁹ The latter fossils are reportedly scientifically important and need to be excavated and collected for research purposes and preserved *in situ*.⁴³⁰ There is also reportedly a "strong possibility" that "very scarce" *Euskelosaurus* fossils will be found in the mining area.⁴³¹ However, the desktop report states that all the activities associated with the mine may have a detrimental impact on fossils and fossiliferous strata in the mining area and they could be potentially exposed, damaged and destroyed during the mining process.⁴³² Apart from this, the EMP states that coal mining would impact on the fossiliferous strata between the coal seams and that it will be impossible to avoid encountering fossiliferous horizons during the mining process due to the presence of plant fossils.⁴³³

Allowing mining activities have detrimental impacts on trans-boundary cultural resources that occur in the Mapungubwe area and this is in contravention of The *SADC Protocol on Culture* to which South Africa is a party, which specifically addresses the importance of member States preserving cultural heritage in the region.⁴³⁴ Moreover, the open cast mining activities in the Mapungubwe area will reportedly impact traditional communities that reside in the Mapungubwe area, namely the Vhangona and Ga-

427 EMP Par 2.4.3.

428 EMP, Annexure 1, desktop report, par 1, 5.

429 See Fleminger 'World Heritage Sites of South Africa: Mapungubwe Cultural Landscape' 119. Dinosaur fossils dating back 200 million years have been found, other objects of palaeontological interest include fossils of flowering plants, whole-bodied insects and termite mounds. Some dinosaur footprints have also been identified, imprinted in fine-grained mudstone.

430 EMP, Annexure 1, desktop report, par 4, 11-12.

431 See par 15.9.2. of the Notice of Appeal in terms of section 96(1) of the MPRDA *Euskelosaurus* is reportedly the oldest of the South African dinosaur *genera* and one of the oldest on earth. See also Badenhorst *et al* 'Faunal Remains from test excavations at Middle and Stone Age Sites in the Limpopo Valley, South Africa' 23-31.

432 EMP, Annexure 1, desktop report, Par 2, 5.

433 EMP, Annexure 1, surface survey 1.

434 Article 13 of the *SADC Protocol on Culture*.

machete. The Vhangona community has ancient links in the land falling within the Mapungubwe area; they claim to be the original inhabitants of the area that was known in ancient times as Lukungurubwe.⁴³⁵ The bones of the ancestors of the Vhangona community are said to be buried throughout the Mapungubwe area and many of the animals found within the area are regarded as sacred to the Vhangona people and the community still performs sacred rituals in the area.⁴³⁶ These rituals and the sanctity of the area depend on the stillness and quietness that predominates and any disturbance from the mining activities is regarded as taboo around the ancient sacred sites, particularly the burial sites.⁴³⁷

5.5. Conclusion

From the above discussion, it can be deduced that coal mining activities by Limpopo Coal, may impact on the environmental, economic, social and cultural pillars of sustainability and that it may have additional trans-boundary impacts on member parties to the GMTFCA. South Africa has a duty to ensure the sustainable use of natural resources, hence South Africa is obliged to manage the natural resources in the GMTFCA in a rational and sustainable manner, taking into account the needs of future generations of GMTFCA member states and the traditional communities such as the Vhangona, Ga-machete and Tshivula who have to benefit from these resources.⁴³⁸ Apart from this, as per the sustainable development equity principle, South Africa, although entitled to allow companies such as *Coal of Africa* to mine, should take into account the effects that mining in close proximity will have to the GMTFCA, as well as the scarce resource such as water in the Limpopo Coal field area, which may gradually be depleted by mining activities. The decision-making has to ensure that such

435 See Murombo *LEAD Journal* 41. There are multiple land claims in the Limpopo Province where COAL is mining with the Ga-Machete, Vhangona and Tshivula communities all making claims. In addition, Murombo is of the view that while mining could anchor economic development, minerals have also been referred to as a curse as the extraction of minerals can physically damage the environment and natural resources, thus affecting water resources, forests and wildlife upon which the local communities depend for their livelihood. See also, Murombo, *The Extractive Industry In Southern Africa: Issues, Actors, Challenges and Opportunities*10.

436 Notice of Appeal in terms of the MPRDA par 45.11.6, 195.

437 Notice of Appeal in terms of the MPRDA par 45.11.6, 195.

438 See par 2.1.3, 5.1.3 and 5.1.4 above for a detailed discussion.

resources are sustainably used for the benefit of future generations.⁴³⁹ With regard to the above, it can be deduced that South Africa may have not considered the equity principle. Furthermore, although mining activities in the Mapungubwe area are perceived to bring about job creation and an increase in the GDP in the country, the sustainability principle of eradication of poverty may be contravened by *Coal of Africa's* mining operations. Farms in the surrounding area may have to close down due to water scarcity issues. This will bring about job losses for many farm workers and their dependents who rely on farming for their livelihood.⁴⁴⁰ Moreover, the principle of common but differentiated responsibilities over shared resources may have been contravened by South Africa. This principle is applicable over member states of the GMTFCA and Limpopo River, as States under the GMTCA and the LIMCOM are obliged to consult with each other regarding the use of shared resources. South Africa reportedly did not consult other state parties to both agreements regarding the mining activities and its impact on the shared resources.⁴⁴¹ South Africa, as the agent of mining activities which may lead to significant and adverse irreversible harm to the resources in the GMTFCA and water in the Limpopo River, is obliged to take measures to prevent destruction of the natural resources and pollution of water to the detriment of other users of such resources as per the precautionary principle.⁴⁴² From the above, it seems that the South African government did not take into account scientific knowledge regarding problems such as AMD and its trans-boundary effects on water supplies due to coal mining activities.⁴⁴³

6 Conclusion and Recommendations

Limpopo Coal, a subsidiary of the Australian mining company *Coal of Africa*, commenced its mining operations an authorisation in terms of the MPRDA. The mining activities reportedly in the absence of a water use licence and other relevant authorisations in terms of the NEMA and the NEMBA, which constitute some of the various fragmented pieces of legislation for which authorisation is required before an

439 See par 2.1.3 and 5.1.1 above.

440 See par 2.1.3 and 5.1.3 above.

441 See par 2.13, 5.1.1 to 5.1.4 above for a detailed discussion.

442 See par 2.1.3 and 5.1.1.

443 See par 5.1.1.

activity such as mining takes place.⁴⁴⁴ The mine is located in the Limpopo Basin adjacent to the GMTFCA and the Limpopo River, which flows in the area which is regulated by members to the LIMCOM Agreement.⁴⁴⁵ Apart from this, interested and affected parties under the banner of Save the Mapungubwe raised their concerns regarding the impact the mining activities may have on the health and well-being of the people in the area.⁴⁴⁶

The aim of this dissertation is to determine to what extent issues pertaining to sustainability and trans-boundary protection of resources were taken into account in decision-making in relation to the authorisation of mining in the Mapungubwe area.⁴⁴⁷ Sustainability for the purposes of this study is defined as the state that would be reached if social, cultural and economic development could be sustained by the natural resource protection in the GMTFCA. The ideal of sustainability when dealing with trans-boundary protection of natural resources is underpinned by various principles of sustainable development namely the duty of states to ensure the sustainable use of natural resources, the principle of equity and the eradication of poverty, the principle of common but differentiated responsibilities, the principle of the precautionary approach to human health, natural resources and ecosystems, the principle of public participation access to information and justice, the principle of good governance and the principle of integration and interrelationship in relation to human rights and social, economic and environmental objects.⁴⁴⁸

The following AU instruments were found to be applicable to the mining activities, the *African Charter on Human and Peoples' Rights*, the *Convention on the Conservation of Nature and Natural Resources*, the *Cultural Charter for Africa*, and the *Charter for African Cultural Renaissance*, the *Constitutive Act of the African Union* and the *Treaty Establishing the African Economic Community*.⁴⁴⁹ In addition to this, the SADC instruments that were found applicable to the mining activities in the Mapungubwe area

444 See chapter 4 for a detailed discussion on this.
445 See chapter 1 for a detailed discussion on this.
446 See chapter 1 for a detailed discussion on this.
447 See Chapter 1 for a detailed discussion on this.
448 See par 2.3. for a detailed discussion on this.
449 See par 3.1 for a detailed discussion on this.

include: the *SADC Treaty*, *SADC Protocol on mining*, *Revised SADC Protocol on Shared Watercourses*, *SADC Protocol on Fisheries*, *SADC Protocol on Wildlife and Law Enforcement*, *SADC Protocol on Forestry* and *SADC Protocol on Culture, Information and Sport*.⁴⁵⁰ Moreover, before any mining activity can commence, the mine must obtain authorisation in terms of the following environmental legislations: NEMA, MPRDA, NEM:WA, NEMPAA. NWA, NHRA, NEM:AQA and NEMBA.⁴⁵¹

The main findings of the study are that, in the decision-making to allow mining in the Mapungubwe area, the economic issues were taken into consideration taking into account the benefits of the mine for example employment creation, for the people in the surrounding area and the whole of South Africa.⁴⁵² However, the impact of the mine on the adjacent farming community, as well as the contribution of farming to the economy of the country seems not to have been considered.⁴⁵³ The impact of tourism as an economic activity in the area seems to have not been considered either. In addition to this, the environmental impacts of the mine had to be considered in the mine's EMP, however, it seems that *Coal of Africa* did not obtain all its other environmental licences such as a water use licence and other authorisations in terms of sector specific legislation namely, NEMA, MPRDA, NEM:WA, NEMPAA. NHRA, NEM:AQA and NEMBA.⁴⁵⁴

Moreover, the social impacts had to be considered by the mine in its social and labour plan. It is not clear whether the impact of possible job losses of workers on adjacent farms were considered should the farms become economically unviable due to the mining activities.⁴⁵⁵ The fact that the mine was approved in the vicinity of a world heritage site with a high cultural value seems to show that the cultural impacts have not been considered.⁴⁵⁶ It is also not clear from the EMP and other appeal documents that that cultural issues were given proper consideration. As stated above, trans-boundary issues have not been taken into consideration as could have been determined by

450 See par 4.1-4.8 for a detailed discussion on this.

451 See par 5.1.2. for a detailed discussion on this.

452 See par 5.1.2. for a detailed discussion on this.

453 See par 5.1.2. for a detailed discussion on this.

454 See par 5.1.1. for a detailed discussion on this.

455 See par 5.1.3 for a detailed discussion on this.

456 See par 5.1.4 for a detailed discussion on this.

studying the EMP, appeal documents and other court documents pertaining to the *Coal of Africa* case.⁴⁵⁷ The impact of the mine on trans-boundary resources, namely the Limpopo River and the GMTFCA, were not obtained before embarking on the mining activities.⁴⁵⁸ These decision-making problems in the *Coal of Africa* case cannot be solved by the amendments to the MPRDA and proposed amendments MPRDA 2013 Bill, as the decision making in terms of mining is fragmented.

In order to move towards sustainability in the mining industry in a trans-boundary context, it is proposed that an Intergovernmental Forum on Mining and Sustainability be established to ensure cooperative governance amongst the different stakeholders.⁴⁵⁹ Mining is a crucial activity in developing countries like South Africa as it brings about job creation and revenue gains for the state through taxes and imports. It is unlikely that mining activities will be abandoned any time soon.

The Intergovernmental Mining and Sustainability Forum should be chaired by the Minister of Mineral Resources, who in future will be the sole decision maker of all matters relating to the environment.⁴⁶⁰ Such a forum should be aimed at raising issues of mineral resource exploitation in a sustainable manner so as to ensure that such exploitation does not hamper future generations from benefiting from the environment. Furthermore, it should take social, economic, cultural and environmental issues into account, as well as trans-boundary impact on shared resources and the principles of sustainable development. The committee should consist of the Minister of Mineral Resources or his or her representative, senior members of the Department, representatives from the provincial departments, responsible for the environment, agriculture and social issues. This Forum should also consist of *ad hoc* members of both district and local municipalities, as well as members in committees dealing with trans-boundary shared resources. Depending on where mining activities will take place, the *ad hoc* members of the committee could engage in advising the Minister on the decision making of issues relating to the pillars of sustainable development.

457 See par 5.1.1 for a detailed discussion on this.
458 See par 5.1.1 for a detailed discussion on this.
459 See Intergovernmental Framework Act 13 of 2005.
460 See par 4.5 for a detailed discussion on this.

The current amendment to the MPRDA and NEMA do not provide for this type of cooperative governance, neither do the proposed 2013 amendment bills. It is proposed that the 2013 MPRDA Amendment Bill should include a section dealing with the establishment of such a forum where mining may have trans-boundary impacts on natural resources and sustainability.

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