

**Environmental Governance, Fragmentation and Sustainability in the Mining
Industry**

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ABSTRACT

As a developing country, South Africa is in dire need of socio-economic development and upliftment, especially in the light of past inequalities. Mining generates massive amounts of revenue and creates employment for the masses and could therefore contribute successfully towards socio-economic development, especially in a country which is richly endowed with mineral resources. Mining seems unsustainable due to the fact that it leads to the destruction of the natural environment and the depletion of non-renewable resources. Mining companies must nonetheless strive to achieve sustainability.

The *Constitution* stipulates that the State should establish an environmental governance framework to, amongst others, protect the environment and prevent pollution while ensuring justifiable social and economic development. While the *Constitution* emphasises the importance of the integration, the question remains as to how the notion of sustainable development should be interpreted in a country suffering from severe poverty and a need for social and economic development. The aim of this study is to determine how the sustainability concept within mining and environmental legislation could be interpreted and given effect in order to ensure better environmental governance within the mining sector. This study indicates that the current environmental governance framework regulating the mining industry is fragmented and lacks the necessary criteria to ensure sustainability.

For the purposes of this study, a sustainability model was developed for the mining industry along the lines of the different layers of an "onion" to illustrate the interdependence of the different layers of sustainability. To ensure better sustainability within the environmental governance framework, currently regulating the mining industry, sustainability criteria should be developed, clearly indicating how the different layers of sustainable development should be weighed, balanced and integrated by decision-makers.

Key words: Environmental law, fragmentation, sustainability, mining and environmental management.

OPSOMMING

Suid-Afrika is 'n ontwikkelende land met 'n geweldige behoefte aan sosio-ekonomiese groei en ontwikkeling, veral in die lig van die ongelykhede wat in die verlede bestaan het. Die mynbou-industrie kan 'n waardevolle bydra in dié opsig lewer veral aangesien Suid-Afrika ryk is aan minerale. Die mynbou-industrie is egter nie volhoubaar nie aangesien dit die omgewing vernietig en natuurlike hulpbronne uitput. Suid-Afrika is egter afhanklik van die mynbou-industrie en daarom moet die industrie steeds streef na volhoubaarheid.

Die *Grondwet* bepaal dat die regering deur wetgewing en ander instrumente 'n reguleringsraamwerk daar moet stel wat die omgewing beskerm maar ook gelyktydig sosio-ekonomiese groei aanwakker. Alhoewel die *Grondwet* stipuleer dat ekonomiese, sosiale en omgewingsfaktore geïntegreer moet word is dit steeds moeilik om die konsep van volhoubare ontwikkeling te interpreteer en toe te pas in 'n land soos Suid-Afrika wat probleme soos armoede en werkloosheid in die gesig staar. Die doel van die studie is om die volhoubaarheidskonsep in mynbou en omgewingswetgewing te bestudeer ten einde te bepaal hoe volhoubaarheid geïnterpreteer en toegepas moet word om te verseker dat die mynbou-industrie beter gereguleer word. Die studie het bevind dat die huidige reguleringsraamwerk in die mynbou-industrie oor verskeie wette heen versprei is en dat die wetgewing nie altyd volhoubaarheid bewerkstellig nie.

'n Volhoubaarheidsmodel is geformuleer vir die mynbou-industrie aan die hand van die verskillende lae van 'n "ui" om die interafhanklikheid van die verskillende lae van volhoubaarheid te illustreer. Om volhoubaarheid in die mynbou-industrie te bewerkstellig sal die huidige reguleringsraamwerk aangepas moet word om volhoubaarheidskriteria daar te stel wat gebruik kan word om die verskillende lae van volhoubaarheid te interpreteer, balanseer en veral te integreer.

Trefwoorde: Omgewingsreg, omgewingsfragmentasie, volhoubaarheid, mynbou en omgewingsbeheer.

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LIST OF ABBREVIATIONS

CC	Constitutional Court
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
ECA	<i>Environment Conservation Act</i> 73 of 1989
EIA	Environmental Impact Assessment
EMI	Environmental Management Inspectorate
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
GG	<i>Government Gazette</i>
GN	<i>Government Notice</i>
I&APs	Interested and Affected Parties
IRFA	<i>Inter-Governmental Relations Framework Act</i> 16 of 2005
LCC	Land Claims Court
MPRDA	<i>Minerals and Petroleum Resources Development Act</i> 28 of 2002
NEMA	<i>National Environmental Management Act</i> 107 of 1998
NEMPAA	<i>National Environmental Management: Protected Areas Act</i> 57 of 2003
NEMWA	<i>National Environmental Management: Waste Act</i> 59 of 2008
NEMBA	<i>National Environmental Management: Biodiversity Act</i> 10 of 2004
NEMAQA	<i>National Environmental Management: Air Quality Act</i> 39 of 2004
NFSD	National Framework for Sustainable Development
NHRA	<i>National Heritage Resources Act</i> 25 of 1999
NWA	<i>National Water Act</i> 36 of 1998
MWP	Mine Works Programme
PELJ	Potchefstroom Electronic Law Journal
Reg	Regulation
S	Section
SAHRA	South African Heritage Resources Agency
SAJELP	South African Journal of Environmental Law and Policy

SALJ	South African Law Journal
SAPL	South African Public Law
SCA	Supreme Court of Appeal
SD	Sustainable Development
SLP	Social and Labour Plan

1. Introduction

Degradation and exploitation of the environment have occurred at a rapid rate during the past decade.¹ Various human activities destroy and exploit the natural environment to achieve economic and social development; mining is one of these activities.² South Africa's economy is heavily reliant on mining³ as it accounts for approximately 40% of its Gross Domestic Product⁴ and 47% of the country's exports.⁵ Mining contributes substantially towards economic growth and development in the South African economy and can be seen as an instrument to achieve poverty alleviation and secure access to international markets, which increases the country's dependence on this industry.⁶ This dependence is unlikely to decrease due to the fact that South Africa is a developing country rich in natural resources⁷ and in desperate need of economic and social development.⁸ Other factors such as a growing population with increasing standards of living also contribute to the dependence on mining, as mining generates large amounts of revenue and attracts foreign investment.⁹

Revenue generated by mining activities could be used to contribute to better health care and infrastructure development such as schools and housing when mines reinvest in the environment in which they function through strategies such as corporate social responsibility.¹⁰ Mining further creates employment opportunities, thereby satisfying economic and social needs.¹¹ On the other hand, mining entails

1 Lumby 2005 *South African Journal of Economic History* 65-82. As stated in this article, during the last hundred years there has been a fourfold increase in the world's population and a fiftyfold increase in global industrial production.

2 Wells et al. "Terrestrial Minerals" 534-542.

3 Swart 2003 *Journal of the South African Institute for Mining and Metallurgy* 489.

4 Lumby 2005 *South African Journal of Economic History* 65-82.

5 Anonymous 2007 *South African Business Guidebook* 146-147. As stated in this article, the mining industry is South Africa's largest employer with over 460 000 employees and 400 000 people employed in the mining demand and supply chain.

6 Boocock "Environmental Impacts" 1.

7 According to the reference cited above South Africa is the country with the largest known platinum, titanium, chromium, manganese and vanadium reserves.

8 Scholtz 2005 *SALJ* 73.

9 Boocock "Environmental Impacts" 7.

10 See Kloppers and Du Plessis 2008 *Journal of Energy and Natural Resources Law* 91-119.

11 Mining may have negative socio-economic impacts such as the disruption of traditional cultures through occurrences such as population displacement and the loss of livelihoods once the mine closes.

the extraction of raw minerals, a non-renewable resource which seems unsustainable.¹²

Mining has a detrimental effect on the environment¹³ and historic mines have left South Africa with a complex environmental, social and economic legacy. Prior to the enactment of the *Minerals Act*,¹⁴ mining companies caused irreparable damage to the environment by implementing irresponsible mining methods and thereafter abandoning mining operations without further consideration for the environment in which they once operated.¹⁵ There are various activities practised by mines that are hazardous to the environment; these activities include the dewatering of underground workings, management of tailings facilities, acid mine drainage which pollutes ground water, nitrates generated and released due to blasting, and various atmospheric emissions produced due to mining related activities.¹⁶

In terms of section 1 of the *National Environmental Management Act*,¹⁷ as well as section 1 of the *Mineral and Petroleum Resources Development Act*,¹⁸ "environment" is defined as:

The surroundings within which humans exist and that are made up of (i) the land, water and atmosphere of the earth; (ii) micro organisms, plant and animal life; (iii) any part of the combination of (i) and (ii) and the interrelationship among and between them and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

In the *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs*¹⁹ decision, "environment" was described as "all conditions and influences affecting the life and habits of man including socio-economic conditions and influences", confirming that the environment not only consists of natural elements but also includes economic and social elements. This

12 Pretorius and Hatting 2009 *Town and Regional Planning* 16-23.

13 Pretorius and Hatting 2009 *Town and Regional Planning* 16-23. According to this article, gold mining, for instance, releases approximately 11.5 tons of carbon dioxide into the atmosphere to produce only 1 kg of gold.

14 50 of 1991.

15 Swart 2003 *Journal of the South African Institute for Mining and Metallurgy* 489.

16 Boocock "Environmental Impacts" 8.

17 107 of 1998 (hereafter referred to as *NEMA*).

18 28 of 2002 (hereafter referred to as the *MPRDA*).

19 2004 5 SA 124 (W) (Hereafter referred to as the *BP* decision).

decision also correlates with the concept of sustainability or sustainable development.²⁰

Sustainable development entails utilising natural resources in such a manner as to preserve it for the benefit of future generations taking into account not only the natural environment, but also socio-economic considerations. The concept of sustainable development was formally formulated in 1987 with the publication of the Brundtland Report²¹ wherein it was described as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs". As an activity that damages the natural environment by depleting natural resources that are non-renewable, sustainability seems beyond the grasp of the mining industry; however, the mining industry must still strive to achieve this goal. In essence, it appears that sustainability will be achieved only if some trade-off between conservation of the natural environment and the need for economic growth could occur.²²

Sustainability²³ can be achieved through a process of governance which entails formulating and implementing strategies and policies to regulate the effect that mining has on the environment.²⁴ In terms of section 24(b) of the *Constitution of the*

20 Sustainable development or sustainability could be interpreted in many different ways and these terms and the distinction between them could produce a study in itself. Due to the scope of this study only a brief description of the concepts will be given and the application thereof in the mining industry will be investigated, while these terms will be used as synonyms throughout this study. For a detailed discussion on sustainability and sustainable development and the distinction between these concepts see Summers "Defining Sustainability" 1-13; Robinson 2004 *Ecological Economics* 369-384; Mebratu 1998 *Environmental Impact Assessment Review* 493-520; Diensendorf "Sustainability and Sustainable Development"; Adgar and Jordan "Sustainability: Exploring the Processes and Outcomes of Governance"; Bosselmann *The Principle of Sustainability*; Tiadi *Sustainable Development in International Law*; Sands *Principles of International Environmental Law*; Nanda & Pring *International Environmental Law*; Birnie, Boyle and Redgwell *International Law and the Environment*, and Boyle and Freestone *International Law and Sustainable Development*. Legislation and international documents seem to refer to sustainable development; however, internationally the debate shifts towards the use of sustainability; also refer to 2.2 below. Sustainability is viewed as the goal that is strived towards and sustainable development is one of the vehicles employed to reach this goal; this interpretation was also confirmed in the National Framework for Sustainable Development (NFDS) found at DEA 2008 www.environment.gov.za.

21 *Brundtland Report (World Commission on Environment and Development)*(1987) 8 (hereafter referred to as the Brundtland Report).

22 Lumby 2005 *South African Journal of Economic History* 65-82.

23 Refer to 2.2 below.

24 Feris 2010 *PELJ* 73-99.

Republic of South Africa, 1996,²⁵ the State should establish an environmental governance framework through legislative and other measures to, amongst others, protect the environment and prevent pollution while ensuring justifiable social and economic development. Since the enactment of the *Constitution* there has been an increased awareness of the effect that mining has on the biophysical as well as the socio-economic environment.²⁶ This awareness is reflected in the post constitutional enactment of various environmental laws aimed at regulating the environmental effects of the mining industry.²⁷ Overall, South Africa is regarded as a country with a relatively sophisticated environmental regulatory framework, although this framework has some inherent flaws, such as the fact that it is extremely fragmented and essentially lacks enforcement and compliance mechanisms.²⁸

Mining companies must comply with various forms of legislation, which *inter alia* requires obtaining authorisations and adhering to standards governing their activities. Environmental law in South Africa consists of various pieces of legislation and these Acts are often administered by different governmental departments. Mining companies must obtain authorisations and permits from various departments to ensure compliance with legislative requirements.²⁹ This fragmented environmental regulatory system often leaves regulatory problems unsolved due to buck passing from one State department to another.³⁰

Mining companies may even be subject to litigation as a result of environmental rights granted to individuals under section 24 of the *Constitution*.³¹ In the event that mining companies do not adhere to legislation, they could be subjected to paying severe fines³² and directors and individuals working for mining companies may even

25 Hereafter referred to as the *Constitution*.

26 Bench Marks Foundation 2008 www.bench-marks.org.za.

27 Wells *et al.* "Terrestrial Minerals" 513-517.

28 Lumby 2005 *South African Journal of Economic History* 65-82. Also refer to Kotzé *et al* 2007 SAJELP, Kotzé "Environmental Governance", Kotzé *Legal Framework*, Kotzé "Toward Sustainable Environmental Governance", Kotzé 2006 *PER*.

29 Lumby 2005 *South African Journal of Economic History* 65-82.

30 Du Plessis 2008 *SAPL* 89.

31 *Bareki NO and Another v Gencor Ltd and Others* 2006 1 SA 432 (T).

32 Blaine *Business Day* 18 August 2011. In this article it was reported that a Silicone Smelter was fined for operating without an atmospheric emission licence and for contravening the *NEMA* by "unlawfully and intentionally committing an act which causes or was likely to cause significant pollution to the environment".

be held criminally liable for non-compliance.³³ An example of such a case is that of the Director of Public Prosecutions in Mpumalanga who is currently prosecuting employees and directors of Anker Coal and Mineral Holdings for non-compliance with environmental legislation.³⁴

The environmental governance framework and decisions taken by administrators in terms thereof is constantly being challenged, indicating that the current governance structure does not always amount to good governance.³⁵ This is also illustrated by the recent growing number of court cases challenging environmental decisions taken by various authorities.³⁶ A public uprising, for example, occurred when the Department of Mineral Resources (DMR) authorised mining rights to a mining company for land along South Africa's Wild Coast, which, ecologically, is a highly sensitive marine area.³⁷ Recent uprisings were further caused when the DMR authorised mining activities near Mapungubwe, a United Nations World Heritage site and national park.³⁸

The DMR regulates the environmental impacts of mining in terms of the *MPRDA* and the *Mineral and Petroleum Resources Development Regulations*.³⁹ The preamble of the *MPRDA* declares that the State must ensure the ecological sustainable development of mineral resources and must promote economic and social development.⁴⁰ Section 38 of the *MPRDA* clearly states that the assessment of environmental impacts of prospecting or mining activities must be conducted in

33 *Minister of Water Affairs and Forestry v Stilfontein Gold Mining (Pty) Ltd* 2006 5 SA 333 (W) and *Kebble v Minister of Water Affairs and Forestry* 2007 JOL 20659 (SCA). Also see, *S v Mfundu Manzi* case number B4807/2010, a recent criminal matter decided on the 3rd of October 2011 and heard in Kwa-Zulu Natal in the magistrate's court of Emlazi where the accused was held accountable for practicing illegal mining activities.

34 Blaine *Business Day* 23 February 2011.

35 Feris 2010 *PELJ* 3-99.

36 Some of these cases include *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 5 SA 124 (W); *Sasol Oil (Pty) Ltd v Metcalf* 2004 5 SA 161 (W); *Director: Mineral Development, Gauteng Region v Save the Vaal Environment* 1999 2 SA 709 (SCA); *Earthlife Africa v Director General: Department of Environmental Affairs and Tourism* 2005 3 SA 156 (C); *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism* 2007 5 SA 438 (SCA) and *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* 2011 4 SA 113 (CC) to name but a few.

37 Van der Merwe *Mining Weekly* August 2008.

38 Prinsloo *Mining Weekly* July 2011.

39 GN R1288 in GG 26942 of 2004; GN R1203 in GG 29431 of 2006 and GN R349 in GG 34225 of 2011 (hereafter referred to as GN R1288; GN R1203 and GN R349).

40 Kidd *Environmental Law* 187. Also see section 3 of the *MPRDA* appointing the State as the custodian of South Africa's mineral resources.

terms of the minimum standards for environmental authorisations as set out in section 24 of *NEMA*. In terms of section 39, the *MPRDA* requires a mine to submit an environmental management programme (EMPr) or an Environmental Management Plan (EMP),⁴¹ specifying how the mining company intends to mitigate the effects it has on the natural environment. The *MPRDA* further requires the submission of a social and labour plan (SLP) to ensure fair and equal treatment of the company's own workers, poverty alleviation and infrastructure development within the community. Mines must report annually to the DMR on compliance with the EMPr, and social and labour plans.⁴² Mining companies must further comply with the Broad Based Socio-Economic Charter for the Mining and Mineral's Industry of South Africa⁴³ and annually report on the requirements thereof.⁴⁴ The Charter sets framework targets and time frames for the entry of historically disadvantaged South Africans into the mining industry. These requirements are mainly based on redressing the effect of past discrimination; however, the Charter also sets certain environmental, social and procurement standards that have to be met and reported on.⁴⁵

Despite environmental regulation and compliance enforcement by the DMR, other departments also play a secondary role in the authorisation of mining-related activities.⁴⁶ Certain activities performed by mines may be listed in terms of the *NEMA*,⁴⁷ and require a different authorisation process through the Department of Environmental Affairs (DEA).⁴⁸ In a recent matter, *City of Cape Town and Minister of Local Government, Environmental Affairs and Development Planning v Maccsand (Pty) Ltd and The Minister of Mineral Resources and Energy*,⁴⁹ the central dispute requested the court to rule on whether a mining permit or mining rights granted under the *MPRDA* exempted the holder from having to obtain authorisation for his or

41 A mining company is required to submit an EMP in the event of applying for a prospecting right and an EMPr when applying for a mining right.

42 This requirement is set out in section 25 of the *MPRDA* which stipulates all the rights and obligations of a holder of a right in terms of the Act.

43 DMR 2010 www.dmr.gov.za (hereafter referred to as the Charter)

44 See 4 below on a discussion on SLP's and the Charter.

45 The Charter and the objectives thereof are described in section 100 of the *MPRDA*. The Charter was recently amended in 2010 to set more stringent targets for the future.

46 Fourie *Business Report* 3 December 2010.

47 GN R543, GN R544, GN R545 and GNR 546 in GG 3306 of 18 June 2010 (hereafter referred to as the 2010 *NEMA* regulations).

48 Kidd *Environmental Law* 187.

49 2010 6 SA 63 (WCC).

her mining activities in terms of other legislation, in particular, the provisions of the *Land Use Planning Ordinance of the Western Cape*⁵⁰ and *NEMA*. The court ruled that mining operations could not continue until the respondent had obtained zoning authorisation under the Western Cape *LUPO*, as well as environmental authorisations under *NEMA*. This ruling effectively necessitates that all mining operations obtain zoning authorisations in terms of planning legislation as well as environmental authorisations in respect of *NEMA* before companies continue with mining activities, despite any authorisation obtained regarding the *MPRDA*.

In an effort to lessen fragmentation, the *Mineral and Petroleum Resources Development Amendment Act*⁵¹ and the *National Environmental Management Amendment Act*⁵² were passed. Due to the amendments brought about by these Acts, all mining activities will become listed activities in terms of *NEMA* and the Minister of Water and Environmental Affairs will authorise such activities. These amendments have not come into effect yet, apparently due to various conflicting interests.⁵³

Other activities pertaining to waste, water and emission controls require approvals with regard to, for example, the *National Environmental Management: Waste Act*,⁵⁴ the *National Water Act*⁵⁵ and the *National Environmental Management: Air Quality Act*,⁵⁶ resulting in an even more fragmented environmental governance framework.⁵⁷ Kotzé⁵⁸ emphasises that good environmental governance cannot exist within the ambit of fragmentation. Mining companies are forced to strive for sustainability by the legislation to which they have to adhere.

The interpretation and implementation of sustainability as applied to the mining context, thus, remains a problem. Mineral development and environmental conservation are two opposing forces; both critical to economic development,

50 15 of 1985 (hereafter referred to as the *LUPO*.)

51 49 of 2008 (hereafter the *NEMA Amendment Act*).

52 62 of 2008 (hereafter the *MPRDA Amendment Act*).

53 Fourie *Business Report* 3 December 2010.

54 59 of 2008 (hereafter referred to as *NEMWA*).

55 36 of 1998 (hereafter referred to as *NWA*).

56 39 of 2004 (hereafter referred to as *NEMAQA*).

57 Kotzé *et al* 2007 *SAJELP* 57-82.

58 Kotzé and Paterson *Environmental Compliance* 110.

community upliftment and sustainable development. It seems that a balance must be struck between these conflicting interests. The current fragmented legal framework does not provide a clear indication as to how these interests should be balanced or how sustainability should be interpreted as government departments interpret their mandates differently.

The goals of different government departments vary. The DMR is mineral development orientated, does not always adequately consider environmental conservation, and lacks the necessary enforcement structures. According to the National Environmental Compliance and Enforcement Report for 2009-2010,⁵⁹ there were only 84 positions in the DMR dedicated to environmental protection and monitoring at mines and only 67 of these positions were filled at the time of this report. In the event that the DEA obtains sole environmental competence over mining activities, its focus will fall on environmental conservation which could undermine mineral development. The DEA has effective enforcement structures such as the Environmental Management Inspectorate (EMI).⁶⁰ The Compliance and Enforcement Report states that 2,380 compliance inspections were held, 1,260 directives and court applications were issued, and 673 criminal convictions were secured by the EMI in the last year. The Report further claims that there were 291 EMIs outside of national parks, all of whom had completed a comprehensive training course. It must be determined which department would most effectively address sustainability issues in the mining industry. It appears that the DEA is more knowledgeable on the subject of environmental matters and would be in a better position to ensure environmental protection through the EMI; however, the DEA does not have adequate knowledge to address the social and economic impacts of mines and to ensure sustainable mineral development.

The aim of this study is therefore to determine how the sustainability concept within mining and environmental legislation could be interpreted and given effect to, in order to ensure better environmental governance within the mining sector. This study is based on a literature survey of South Africa's legislation, case law, textbooks and articles as well as electronic material pertaining to the context, background,

59 DEA 2010 www.environment.gov.za (hereafter the Compliance and Enforcement Report).

60 Section 31 A-Q of *NEMA*.

development and current status of the environmental regulatory framework applicable to the mining industry.

In this study, a background will be provided to environmental governance,⁶¹ fragmentation,⁶² and the concept and application of sustainability⁶³ after which the relevant provisions in the *Constitution* as well as the *NEMA* will be discussed.⁶⁴ Thereafter sustainability issues in the *MPRDA*, the *NEMA* and the *MPRDA Amendment Acts* will be discussed⁶⁵ and lastly other legislation⁶⁶ governing the impact of mining on water, air, waste, protected areas and national heritage will be assessed and their contribution to sustainable development evaluated in order to come to a conclusion and to make recommendations.⁶⁷

2. Background, definitions and theoretical foundations

In this section environmental governance and the fragmented nature thereof will be discussed briefly. The problems associated with a fragmented governance framework as well as measures that should be taken to lessen fragmentation, will be discussed. Additionally, the concept of sustainability will be explained through the use of definitions, different theories and case law. The link between environmental governance and sustainability will also be considered briefly indicating that good governance could contribute to sustainability. This section also investigates the effect that these concepts have on regulating the mining industry.

2.1 Environmental governance

Due to South Africa's dependence on mining and the detrimental effect that such activities have on the environment it seems necessary to regulate this industry. In this section the role that environmental compliance and enforcement mechanisms play in this regulatory process will be addressed. Compliance and enforcement

61 Refer to 2.1 below.

62 Refer to 2.1 below.

63 Refer to 2.2 below.

64 Refer to 3 below.

65 Refer to 4 below.

66 Refer to 5 below.

67 Refer to 6 below.

mechanisms in South Africa are imposed by the State to ensure responsible utilisation of resources while preserving resources for future generations.⁶⁸ This process is known as "environmental governance" which is defined as follows:⁶⁹

A management process executed by institutions and individuals in the public and private sector to holistically regulate human activities and the effects of human activities on the total environment at international, regional, national and local levels, by means of formal and informal institutions, processes and mechanisms embedded in and mandated by law, so as to promote the common present and future interests human beings hold in the environment.

In the matter of *The Director: Mineral Development Gauteng Region v Save the Vaal Environment*⁷⁰ it was stated that "environmental considerations must be accorded appropriate recognition and respect in the administrative process in our country." The *Constitution* further recognises the State's specific obligation to ensure the protection of the environment in section 24(b) thereof. In respect of this section the State should establish an environmental governance framework through legislative and other measures to, amongst others, protect the environment and prevent pollution while ensuring justifiable social and economic development. The State not only has the obligation of establishing these measures but must also ensure that policies and programmes are formulated to achieve their mandate.⁷¹ The State must further take measures to ensure that these policies are implemented.⁷² Section 195 of the *Constitution* sets the standards by which governance should be measured and requires public administration to be accountable, transparent and efficient.⁷³

Environmental governance in its simplest form has been described as "a process to manage human behaviour and its impacts on the environment".⁷⁴ In order for environmental governance to regulate human activity and the effect thereof on the environment, various tools could be used by government.⁷⁵ These tools can be

68 Kotzé "Environmental Governance" 108.

69 Kotzé "Environmental Governance" 108.

70 1999 2 SA 709 (SCA).

71 Burns and Kidd "Administrative Law & Implementation of Environmental Law" 225-227.

72 *Government of the Republic of South Africa and Others v Grootboom and Others* 2001 1 SA 46 (CC).

73 Feris 2010 *PELJ* 73-99.

74 Kotzé "Environmental Governance" 109.

75 For a detailed discussion on the implementation and administration of environmental law, see Kidd *Environmental Law* 266-291.

divided into administrative⁷⁶ and criminal measures⁷⁷ in the form of prescribed standards and norms adopted in terms of legislation, and regulations and by-laws to compel compliance. Other tools include self regulatory, co-regulatory and incentive-based measures.⁷⁸ These measures could be used to "promote constitutional values, safeguard the health and well-being of people, advance economic development and afford the required degree of ecological protection".⁷⁹ Each tool contributes to this goal in its unique way and a wide spectrum of tools could be used and applied to reach the goal of good and effective environmental governance.⁸⁰

There are various problems associated with the implementation of environmental governance in South Africa. One of these problems is the fact that the current environmental governance framework is extremely fragmented.⁸¹ Fragmentation refers to a situation where environmental law is spread over a wide range of legislation dealing with a wide spectrum of different environmental issues and administered by different government departments that all have different mandates, policies and procedures and there is little or no co-operation between these departments when mandates and goals overlap or co-operation is required in terms of legislative provisions or circumstances.⁸²

This situation is reflected in current environmental legislation in South Africa. Fragmentation in South Africa's environmental governance efforts leads to lack of implementation and presents a barrier to effective governance.⁸³ *NEMA* is South Africa's primary environmental framework law. Despite environmental compliance and enforcement through *NEMA* there are a number of sector-specific environmental

76 A good example of an administrative measure is the issuing of directives, licenses or permits by designated officers of the State in terms whereof the holder is directed to take certain measures in order to comply with existing legislation and regulations.

77 Criminal measures such as imprisonment or the payment of fines due to non-compliance with legislation is also very effective measures that can be used to ensure compliance.

78 Kotzé "Environmental Governance" 108. These measures are aimed at attaining the industry's co-operation through self-regulation and incentives such as tax reductions for compliant organisations. These measures are also effective although administrative and criminal measures are more at the order of the day in South Africa.

79 Nel and Kotzé "Environmental Management" 7.

80 Nel and Kotzé "Environmental Management" 7.

81 Kotzé "Towards Sustainable Environmental Governance" 155.

82 Kotzé "Towards Sustainable Environmental Governance" 155. Also see Du Plessis 2008 *SAPL* 87 and Müller "Environmental Governance in South Africa" 83-84.

83 Müller "Environmental Governance in South Africa" 83.

management Acts and regulations also administered under the framework legislation.⁸⁴ These Acts include the *NEMWA* and *NEMAQA* as previously referred to and further includes the *National Environmental Management: Protected Areas Act*⁸⁵ as well as the *National Environmental Management: Biodiversity Act*.⁸⁶ These Acts are all administered in terms of the main framework legislation by the DEA in an attempt to co-ordinate matters relating to general pollution, waste, air quality, biodiversity and protected areas.

This is, however, where the integration ceases and a number of other Acts exist, regulating further important matters which in turn are administered by other State departments. These Acts include the *MPRDA* as administered by the DMR which deals with minerals and petroleum development, the *NWA* as administered by the DWA who is the primary authority dealing with all water related matters and the *National Heritage Resources Act*⁸⁷ administered by the *South African Heritage Resources Agency*(SAHRA) dealing with all matters concerning national heritage sites.

Therefore when a problem arises, such as water pollution caused by the mining industry, the question arises as to which Act applies and what authority should handle the situation. The *MPRDA*, the *NWA* and the *NEMA* could all be said to apply to the situation. In addition, one specific mining activity such as the establishment of a tailings facility could involve a series of authorisations that must be obtained from a wide spectrum of government institutions.⁸⁸ Firstly, the construction of such a dam requires a water license in terms of section 21 of the *NWA*. If a new tailings facility is planned, an amendment of the EMPr will have to be affected in terms of the *MPRDA*⁸⁹ and because it is a listed activity⁹⁰ in terms of *NEMA*, an environmental impact assessment (EIA) will also have to be performed in terms of this *NEMA* in order to obtain authorisation from the DEA. There are also other Acts to consider

84 Kotzé "Environmental Governance" 111.

85 57 of 2003 (hereafter referred to as *NEMPAA*).

86 10 of 2004 (hereafter referred to as *NEMBA*).

87 25 of 1999 (hereafter referred to as *NHRA*).

63 Marais 2008 *Civil Engineering* 15-17.

89 See S 38(1)(c) of the *MPRDA* as well as Reg 55 of GN R1288.

90 See listed activity 19 in terms of GN R545.

such as the *Conservation of Agricultural Resources Act*⁹¹ that restricts the cultivation of virgin soil, the *National Forests Act*⁹² that restricts the cutting or damaging of protected tree species, the *National Veld and Forest Fire Act*⁹³ that requires firebreaks, and the *Hazardous Substances Act*⁹⁴ that regulates the use of artificially produced isotopes used as density gauges in residue disposal pipelines.⁹⁵ Regard must also be afforded the *Nuclear Energy Act*⁹⁶ which stipulates that no person may discard radioactive waste⁹⁷ without the approval of the Minister of Mineral Resources, except where authorisation has been granted by the minister in terms of the *Hazardous Substances Act*.⁹⁸

Due to this fragmented environmental governance framework, co-operation and coordination between different governmental departments is of vital importance.⁹⁹ Lack of cooperation could lead to time delays, duplication of processes and confusion on the part of government officials and industry, which ultimately results in an ineffectual governance framework.¹⁰⁰ There are numerous provisions in legislation providing for co-operative governance between different State departments. Co-operative governance is defined by Müller¹⁰¹ as the "evolution of devolved governance in environmental policy involving discussions, agreements and a blend of formal and informal regulations between industry, citizen groups and commonly, local State bodies." Section 41 of the *Constitution* states that different governmental departments must respect each other's mandates, co-operate and assist one another, consult with each other and co-ordinate their actions. Therefore co-operative governance is a constitutional obligation placed on all governmental institutions to lessen the effects of fragmentation and ensure better governance.

91 43 of 1983. This Act is administered by the Department of Agriculture.

92 84 of 1998.

93 101 of 1998.

94 15 of 1973.

95 Marais 2008 *Civil Engineering* 15-17.

96 46 of 1999.

97 For example, uranium and thorium are classified as radioactive waste.

98 Kidd *Environmental Law* 195.

99 Müller "Environmental Governance in South Africa" 83-84.

100 Kotzé "Towards Sustainable Environmental Governance" 158.

101 Müller "Environmental Governance in South Africa" 83-84.

Section 2(4) of the *NEMA* recognises that environmental governance must be integrated because all elements of the environment are linked and inter-related. This section further state that where cross-sectored decisions must be taken, different government authorities must consult with one another and decisions must be integrated. In sections 17-20 of the *NEMA*, provisions are made for conflict management¹⁰² should differences arise between different spheres of government or State departments. In the matter of the *National Gambling Board v Premier of Kwa-Zulu Natal*,¹⁰³ the Constitutional Court ruled that different government departments should not resort to litigation when disputes arise between them. The courts have indicated that government departments should attempt to find solutions together, within the framework of co-operative governance. The *Inter-Governmental Relations Framework Act*¹⁰⁴ was enacted in an attempt to facilitate the implementation of policy and legislation through different sectors and State departments.¹⁰⁵

Despite these provisions fragmentation is still a reality. This situation gives rise to many implementation problems described in the following manner by Kotzé:¹⁰⁶

Notwithstanding the constitutional dictate of co-operative governance and the prescription of an array of statutory mechanisms specifically aimed at achieving its practical realisation in the environment context, duplication, confusion, bureaucracy and inaction continue to frustrate effective environmental governance and, accordingly, environmental compliance and enforcement in South Africa.

Fragmentation may lead to ineffectual and unsustainable governance, as fragmentation often causes issues to remain unresolved for long periods of time when one State department passes the buck to another without properly applying their minds to the issue at hand.¹⁰⁷ Good environmental governance is further frustrated by over-bureaucratisation within the system and capacity constraints such as a lack of financial resources and human expertise and experience.¹⁰⁸

102 In terms of these provisions conflict management is implemented through processes such as conciliation, arbitration and investigations.

103 2002 2 BCLR 156 (CC). See also *MEC for Health, KwaZulu-Natal v Premier of KwaZulu-Natal: In re Minister of Health v Treatment Action Campaign* 2002 10 BCLR 1028 (CC) and *Ukuthela District Municipality v President of the Republic of SA* 2002 11 BCLR 1220 (CC).

104 13 of 2005 (hereafter referred to as *IRFA*).

105 As stated in section 3 of *IRFA*. This Act deals with inter-governmental relations of all sectors and will also be applicable to environmental governance sector.

106 Paterson and Kotzé "Effective Environmental Compliance" 371.

107 Kotzé "Towards Sustainable Environmental Governance" 155.

108 Kotzé "Environmental Governance" 115.

Fragmentation is clearly a matter of concern in South Africa and may lead to unsustainable environmental governance efforts. Unsustainable governance efforts are in turn detrimental to the environment.¹⁰⁹

The idea of sustainability is often made part and parcel of the definition of environmental governance:¹¹⁰

Environmental governance is defined to mean the collection of legislative, executive and administrative functions, processes and instruments used by any organ of State to ensure sustainable behaviour by all as far as governance of activities, products, services, processes and tools is concerned.

Adgar and Jordan¹¹¹ describe sustainability as "a process of change in the way that society is organised". This description makes it clear that sustainability and governance are two interrelated and linked concepts that influence one another. People have to alter the manner in which they utilise resources to attain sustainability; this change could be established through the process of governance. Therefore, these two concepts cannot be regarded as being separate, which is a fact that is also recognised in the South African context.¹¹²

The interrelationship between governance and sustainability is brought to the forefront in respect of section 24 of the *Constitution*¹¹³ which states that the government must ensure that legislative and other measures are in place to ensure ecologically sustainable development. The *Constitution* places a positive obligation on the State to ensure that resources are protected and used in such a manner as to preserve it for the use of future generations. Proper governance could therefore be used as a mechanism to achieve sustainability and should take the requirements of

109 Kotzé *et al* 2007 *SAJELP* 57-81.

110 Nel and du Plessis 2004 *SAPL* 187.

111 Adgar and Jordan "Sustainability: Exploring the Processes and Outcomes of Governance" 4.

112 Kotzé 2006 *PELJ* 27.

113 Everyone has the right –

- (a) to an environment that is not harmful to their health or well-being; and
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - (i) prevent pollution and ecological degradation;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

sustainability into account.¹¹⁴ It is said that sustainable development is dependent on good governance¹¹⁵ and is therefore unattainable if the environmental governance framework and the implementation thereof are ineffectual.¹¹⁶ The concept of sustainability will now be discussed in further detail in the next section of this work.

2.2 Sustainability

Sustainability is a concept that gains increased importance in the global, national and regional environmental governance context of all countries.¹¹⁷ The idea of sustainability originated in the realisation that industrialisation and economic development are destroying the natural environment and that unrestrained development could no longer be allowed.¹¹⁸ A definite link between social and economic development was made in the Stockholm Declaration.¹¹⁹ In this declaration, social and economic development was declared to be vital to improving the quality of life for all mankind. In considering development related issues in the past, the natural environment did not enjoy much consideration; only the benefit of development to social upliftment and economic advancement was considered.¹²⁰ In the last twenty years, the importance of integrating environmental considerations in developmental decisions was realised worldwide and it seems that sustainable development is regarded as the vehicle that should be used to implement this realisation.¹²¹ Diesendorf¹²² formulated his own broad definition to describe the concept: "Sustainable development comprises types of economic and social development which protect and enhance the natural environment and social equity." Diesendorf¹²³ further stipulates that sustainability is the end result or outcome of sustainable development. Therefore it appears that sustainability would be reached if the socio-economic development allowed to take place protects the natural environment and ensures equity. Sustainability would therefore be a state reached if

114 Feris2010 *PELJ* 78.

115 Bray 2009 *SAJELP* 2.

116 Paterson and Kotzé "Introduction" 2.

117 Harsant 2004 *Journal for Contemporary History* 69.

118 Harsant 2004 *Journal for Contemporary History* 72.

119 *Stockholm Declaration (United Nations Conference on the Human Environment)* (1972).

120 Tiadi *Sustainable Development in International Law*.

121 Diesendorf "Sustainability and Sustainable Development" 1-3.

122 Diesendorf "Sustainable Development and Sustainability" 3.

123 Diesendorf "Sustainable Development and Sustainability" 3.

the socio-economic development allowed to take place could be supported and sustained by the natural environment. In the matter of the *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province*¹²⁴ the court held: "The very idea of sustainability implies continuity".¹²⁵

The description of sustainable development in the Brundtland report¹²⁶ brought environmental considerations to the forefront in the deliberation of development issues. Two considerations become apparent in assessing the notion of sustainability; firstly, that the basic needs of humanity such as water, clothes, food and shelter must be met, and secondly, that development must not take place unrestrained but must consider the ability of the environment to carry and sustain such activities.¹²⁷ The Brundtland report called for the transformation of environmental law and policy to meet the requirements of sustainable development. The Brundtland report further explained sustainable development as:

A process of change in which the exploitation of resources, the direction of investment, the orientation of technological development and the institutional changes are all in harmony and enhance both the current and future potential to meet human needs and aspirations.

Sustainable development highlights the importance of the environment as an integral part of the development process,¹²⁸ to be considered with social and economic needs.¹²⁹ This concept forms part of various international treaties and declarations and is frequently used in national legislation.¹³⁰ Sustainable development can be divided into four main principles according to Sands.¹³¹ The first is integration which entails that a trade-off should occur between environmental protection and socio-economic development. The second principle is that resources should be used sustainably; the third and fourth principles being intra- and intergenerational equity,

124 2007 6 SA 4 (CC) (hereafter referred to as the *Fuel Retailers* case). See 2008 SAJELP for several contributions discussing this case.

125 Par [75] of the case.

126 See 1 above.

127 Kidd *Environmental Law* 16.

128 French *International Law* 54.

129 Feris 2010 PELJ 79.

130 A good example thereof is the Rio Declaration (*United Nations Conference on Environment and Development*) (1992). This declaration aims to provide a balance between the environment and development needs to ensure the sustainability of future developments.

131 Sands *Principles of International Environmental Law* 253.

meaning that resources should be distributed equally among members of the current generation while at the same time preserving resources for the use of future generations.¹³² It is especially important that developing countries, such as South Africa, who depend on the export of natural resources, adopt the principle of sustainable development to ensure that their resources are not depleted as is mostly the case in the developed world.¹³³ The concept of sustainable development has been adopted in South Africa.¹³⁴ As previously stated the reference to 'ecologically' sustainable development in the *Constitution* gives the impression that the environment and the protection thereof must be placed at the forefront. However, due to its particular wording, section 24 has also been criticised as being too anthropocentric, only protecting the environment for the sake of humans and not because the environment itself is regarded as having intrinsic value, worthy of protection.¹³⁵

The definition of sustainable development in section 1 of the *NEMA* ensures that economic, social and environmental factors are considered in planning, implementation and decision-making by the DEA to ensure the protection of resources for the benefit of present and future generations. Section 2(3) of the *NEMA* further states that "development must be socially, environmentally and economically sustainable". The *NEMA* therefore recognises two fundamental principles that form part of the concept of sustainable development. The first principle being the integration of the different pillars on which the concept of environmental management is based; and the second intergenerational equity which recognises the necessity of preserving natural resources for the use of future generations.¹³⁶ Section 2(4)(a) of the *NEMA* states that certain principles are considered to be principles that further the goal of sustainable development and these principles are listed in the Act. These principles must guide administrators in, *inter alia*, making decisions regarding the issuing of environmental authorisations. As previously mentioned the DEA compiled the NFSD¹³⁷ which is a further guide to

132 Feris 2010 *PELJ* 80.

133 Lumby 2005 *South African Journal of Economic History* 68.

134 Section 24 of the *Constitution* as quoted in footnote 96.

135 Lumby 2005 *South African Journal of Economic History* 75. For a discussion on the anthropocentric versus ecological debate see 3.1 below.

136 Kidd *Environmental Law* 16.

137 See 1 above.

decision-making and the objective of this framework is to ensure that resources required for human survival in the future are not destroyed for present gain.¹³⁸ This policy impacts the South African environmental governance framework and plays a role in achieving sustainable development.¹³⁹

Sustainability is often described along the lines of the principles in *NEMA* and policies such as the *NFDS* as sustainability is an ideal or norm and the exact meaning and content thereof has been the subject of many debates.¹⁴⁰ The fact that sustainability is also principle-based is reflected in the following definition:¹⁴¹

Sustainability also relates to the integration of various considerations including: the environment, the economy, social factors, environmental governance and management efforts, and public and industry involvement. Sustainability results may be achieved through application and implementation of the various principles of sustainability.

Sustainability rests on three pillars that must be integrated, namely, the environment, economic development, and social development.¹⁴² Du Plessis and Rautenbach¹⁴³ opine that cultural considerations should also be taken into account and should be regarded as the fourth pillar on which sustainability rests, as cultural considerations often influence social, economic and environmental behaviour and decisions. In accordance with the *NHRA* something is of cultural importance if it has "aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance" and a heritage resource is defined as "any place or object of cultural

138 See 1 above and the discussion by Summers "Defining Sustainability" 1-2.

139 Summers "Defining Sustainability" 2.

140 Scholtz 2005 *SALJ* 76-77. Sustainability can be seen as an ideal due to the fact that it is vague, future orientated and that there is not one single clear-cut definition that has been formulated to describe the concept. It describes a state of perfection towards which we must strive in order to achieve it while it sometimes seems unattainable due to the fact that the components of sustainability, being socio-economic development as well as environmental protection, stand in direct contrast with one another.

141 Kotzé *Legal Framework* 20. This definition confirms that sustainability consists of various principles. Some of these principles include the polluter pays principle which entails that when pollution is caused, the polluter should pay to entirely remove and/or remediate the damage that was caused; the precautionary principle that states that even in the absence of scientific proof that a certain activity is detrimental to the environment authorities may refuse an activity if they suspect it could be to the detriment of the environment and; the duty of care principle stating that a person should take all reasonable measures possible to ensure that the environment is not harmed by their activities.

142 Feris 2010 *PELJ* 80.

143 Du Plessis and Rautenbach 2010 *PELJ* 27-71.

significance".¹⁴⁴ Du Plessis and Brits¹⁴⁵ also consider culture as the fourth pillar on which sustainability rests and aver that sustainability will not be reached if all four pillars are not integrated when considering environmental authorisations. Du Plessis and Feris¹⁴⁶ argue that culture and socio-economic considerations are embedded in the environment and should all be considered during the environmental authorisation process. The definition of 'environment' in *NEMA* also refers to cultural aspects as an aspect of the environment, which influences human well-being.¹⁴⁷ The importance of cultural consideration in relation to developmental issues was also considered in *Oudekraal Estates (Pty) Ltd v The City of Cape Town*¹⁴⁸ 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. As a developmental activity, mines could have an influence on the culture of the area in which they operate, for instance, by being established on or near a site that is of cultural significance; this would mean that the mine could have a negative impact on the culture of the community. In the event that cultural aspects do not form part of the environmental authorisation process, natural and built heritage sites could be destroyed which would be detrimental to human well-being.¹⁴⁹ Therefore cultural considerations together with socio-economic considerations should be regarded as embedded in the concept of the environment and should be afforded proper recognition in the authorisation process.

The problem when regarding the pillars of sustainability is that these interests stand in direct conflict with one another. Economic development leads to social development and upliftment; in turn development leads to the depletion of natural resources and the destruction and degradation of the natural environment. Development could also have either a positive or negative impact on the social fibre or culture of a community where the development takes place. In the event that development is allowed to continue unconstrained, natural resources will be depleted rapidly where natural resources are scarce and limited and heritage sites could be

144 Section 1 of the *NHRA*.

145 Du Plessis and Brits 2007 *SALJ* 263.

146 Du Plessis and Feris 2009 *SAJEL* 162.

147 See 1 above.

148 2004 6 SA 222 (SCA).

149 Du Plessis *Fulfillment of South Africa's Constitutional Environmental Right* 38.

destroyed without any consideration.¹⁵⁰ Without natural resources, further development will be impossible,¹⁵¹ and without culture, the well-being of people will be negatively affected.¹⁵²

On the other hand, overprotection of the environment does not leave room for justifiable and needed development, which is of great importance in developing countries struggling with issues of poverty. A balance must be struck between these conflicting interests while ensuring equitable use of resources and further ensuring that resources are available for the use of future generations.¹⁵³ Sustainable development has been rightly described as "the conceptual vehicle chosen by a diverse range of actors to negotiate the tensions arising from the need for social and economic development on a planet with finite resources".¹⁵⁴

2.3 Balancing of sustainability

Different scholars disagree on the importance of the diverse pillars of sustainability and on how these pillars should be balanced and integrated.¹⁵⁵ Winter¹⁵⁶ opines that the natural environment is the basis on which the idea of sustainability rests and that socio-economic development are the two pillars supported by this environmental base. Socio-economic development should only occur if the natural environment is able to support such development. The environment is thus placed at the forefront and as the basis on which development rests. Winter argues that the pursuit of economic and social development as equally important pillars of sustainability will lead to the degradation of the environment. Therefore in every decision made the environment must be regarded as the most important factor and protected against development that is unsustainable.¹⁵⁷ This approach could be difficult to implement. It does not take into account that the environment does not only consist of natural

150 Feris 2010 *PELJ* 83.

151 Harsant 2004 *Journal for Contemporary History* 69-71.

152 Du Plessis *Fulfilment of South Africa's Constitutional Environmental Right* 38.

153 Nel and Kotzé "Environmental Management" 38.

154 Field 2006 *SALJ* 411.

155 Feris 2010 *PELJ* 82.

156 Winter "Two Pillars" 24.

157 Bosselmann *The Principle of Sustainability* 25. Bosselman poses 'environmental ability' as a benchmark to determine whether development may take place. If the environment is unable to support the development at present and/or in the future the development should not be allowed to take place.

elements and that socio-economic considerations should also play a large role in decisions, especially in developing countries.¹⁵⁸ There may be situations that arise where social and economic factors far outweigh the risks posed to the natural environment.¹⁵⁹ Kidd¹⁶⁰ avers that an approach that favours environmental considerations at the expense of socio-economic considerations is inappropriate for a developing country such as South Africa, which is still in desperate need of growth and development.

Some scholars¹⁶¹ still believe that the three pillar approach of sustainability will always result in true compromise, attaining the ultimate result which is sustainable social and economic development along the lines of adequate environmental protection. These scholars argue that all three pillars should be regarded as being equal and enjoy consideration, while others argue that the pillars do not carry equal weight in all the decisions made.¹⁶² If some decisions call for strict environmental regulation, such as developments near a protected area, the environmental pillar should weigh the most in making a decision. In other instances where an activity generates massive amounts of revenue and provides jobs for many people and the effect thereof on the natural environment could be regulated by imposing strict conditions and monitoring compliance, socio-economic considerations must be afforded more weight in considering authorisations for such an activity.¹⁶³

This concept of sustainability is a flexible and effective tool to ensure that decision-makers apply their mind to each situation affording protection to the environment as needed and allowing for sustainable socio-economic development.¹⁶⁴ The decision-maker therefore makes a value-based judgement on the value they prefer to

158 Du Plessis 2010 *Journal of Human Rights and the Environment* 122.

159 A good example of such a situation would be the current land redistribution issue. Land set out for conservation purposes could be redistributed to poor communities for farming or other commercial activities. This would mean that the land is no longer under conservation but used to generate revenue, alleviate poverty and improve standards of living in a country with large unemployment rates and where the majority of the population are very poor and struggling to survive from day to day.

160 Kidd 2008 *SAJELP* 85.

161 Sands *International Environmental Law* 253 and Kidd 2008 *SAJELP* 85.

162 Feris 2010 *PELJ* 86. Also see Du Plessis and Feris 2008 *SAJELP*.

163 Feris 2010 *PELJ* 87. Also see the courts' argument in the *Fuel Retailers* matter at par [75] and [76] of the case.

164 Feris 2010 *PELJ* 86.

advance and consider the most important in a certain matter.¹⁶⁵ The preference for a value, however, should contain a legitimate basis such as a legal or policy instrument.¹⁶⁶ Value judgements may not be made without a legitimate basis.

Until recently, there has been a growing perception amongst some that South African environmental law, especially environmental impact assessment regulations, are overly focused on the environmental value,¹⁶⁷ leaving no room for the goal of social and economic development.¹⁶⁸ As stated before, the concept of sustainable development and the interaction and interpretation of the three pillars that comprise the concept were judicially considered in the matter of *Fuel Retailers*.¹⁶⁹ In this matter, the judiciary provides guidance as to how authorities must assess and consider environmental authorisations while giving effect to the constitutional and legislative mandate of ensuring sustainable development.¹⁷⁰ The applicant in this matter objected to the environmental authorisation issued by government for the erection of a filling station, stating that the official that granted the authorisation had not considered the socio-economic impact of the filling station, as there were already six filling stations in the applicable area within a five kilometre radius of each other.¹⁷¹ The respondent contended that socio-economic considerations were dealt with by the local State department when the property zoning was changed from special to business; according to the respondent, this was sufficient indication of the desirability for a filling station and taking the local government's decision into account was in line with the principles of co-operative governance.¹⁷²

The Supreme Court of Appeal¹⁷³ found in favour of the respondent. The Constitutional Court had a different opinion and found in favour of the applicant

165 This approach is described as the variation approach in Tladi *Sustainable Development in International Law* 75. Tladi argues that there are three variations of integration namely the economic growth-centred approach, the environment-centred approach and the human needs-centred approach. He argues that this variation allows decision makers to choose the variation that best suits the goal of sustainable development in any given situation.

166 Feris 2010 *PELJ* 88.

167 Field 2006 *SALJ* 427.

168 Murombo 2008 *SALJ* 488.

169 2007 6 *SA* 4 (CC).

170 Par [93] of the *Fuel Retailers* matter.

171 Par [16] of the *Fuel Retailers* matter.

172 Par [22]-[24] of the *Fuel Retailers* matter.

173 *Fuel Retailers Association of SA (Pty) Ltd v Director-General Environmental Management, Mpumalanga* 2007 2 *SA* 163 (SCA).

stating that the respondent failed to adequately consider socio-economic considerations in issuing the authorisation.¹⁷⁴ The court held that the *NEMA* requires the consideration, assessment and evaluation of the social, economic and environmental impact of the activities.¹⁷⁵ Therefore "the impact on the environment of the proliferation of filling stations as well as the impact of the proposed filling station on existing ones" must have been considered by the respondent.¹⁷⁶ This obligation is much wider than the obligation that exists when considering the desirability of a filling station for town planning purposes when a property is rezoned.¹⁷⁷ The court specifically held that: "the nature and the scope of the obligation to consider the impact of the proposed development on socio-economic conditions must be determined in the light of the concept of sustainable development and the principles of integration of socio-economic development and the protection of the environment".¹⁷⁸ Failing to take socio-economic considerations into account constituted a failure to make a decision embedded in the concept of sustainability and thus a failure to adhere to the dictates of the *Constitution*, and therefore the court set aside the decision of the authorities and remitted the matter to the decision-makers.¹⁷⁹ While the majority decision taken in this matter is a step in the right direction concerning the application of the concept of sustainable development, it has been the subject of various levels of critique.¹⁸⁰

The dissenting judgment of Sachs J provides a better analysis of sustainable development.¹⁸¹ Sachs J employs the variation approach to the integration element of sustainable development and he uses the *NEMA* as his legitimate base.¹⁸² Sachs J stipulates that the main aim of the *NEMA* is the protection and conservation of the environment.¹⁸³ Sachs J indicates that socio-economic factors must not be viewed as a separate element in its own right in the context of *NEMA*, but only as an element that comes into consideration once it implicates the environment.¹⁸⁴ Sachs J

174 Par [38] and [39] of the *Fuel Retailers* case.

175 Par [61]-[69] of the *Fuel Retailers* case.

176 Par [71] of the *Fuel Retailers* case.

177 Feris 2008 *Constitutional Court Review* 243.

178 Par [55].

179 Feris 2010 *PELJ* 90.

180 Couzens 2008 *SAJELP* 51.

181 Feris 2008 *Constitutional Court Review* 236; Du Plessis and Feris *SAJELP* 164-168.

182 Feris 2010 *PELJ* 90.

183 Par [92].

184 Kotzé et al *Environmental Law through the Cases* 197.

states that it becomes relevant only when economic and social development poses a threat to the environment.¹⁸⁵

Sachs J therefore chooses the environment-centred approach and states that if there is conflict between the pillars of sustainability the environment should enjoy the ultimate consideration. Du Plessis and Feris¹⁸⁶ state that the argument advanced by Sachs makes sense especially when one considers the model within which the *NEMA* operates. The argument of Sachs J could further be legitimised with reference to section 24 of the *Constitution*, which refers to 'ecologically sustainable development'. Feris¹⁸⁷ believes that the *Constitution* dictates the type of sustainable development required is that which gives preference to the natural environment.¹⁸⁸ The dissenting judgement of Sachs J indicates that the approach followed by the majority in the decision was more economic-centred¹⁸⁹ while the *NEMA* and the *Constitution* clearly dictate that an environment-centred variation approach to integration is required to fulfil the mandate of sustainable development.¹⁹⁰

Feris¹⁹¹ states that "we need a more principled, value-based approach to sustainable development that identifies the value that is being prioritised". It is clear from the discussion above that when environmental authorisations are considered sustainability should form the basis on which the decision is taken. The pillars of sustainability should all be considered; even cultural considerations should be taken into account as cultural aspects influence social, economic and environmental behaviour and decisions.¹⁹² One could also argue that governance issues form part and parcel of the concept of sustainability and without proper governance sustainability would never be achieved.¹⁹³ It seems that a variation approach on

185 Du Plessis and Feris 2008 *SAJELP* 161.

186 Du Plessis and Feris 2008 *SAJELP* 162.

187 Feris 2010 *PELJ* 90.

188 Feris 2008 *Constitutional Court Review* 252.

189 Du Plessis 2010 *Journal of Human Rights and the Environment* 122.

190 Feris 2010 *PELJ* 90.

191 Feris 2008 *Constitutional Court Review* 253.

192 Du Plessis and Feris 2008 *SAJELP* 165.

193 Du Plessis and Brits 2007 *SALJ* 270. This article clearly states that the four pillars of sustainability should always be regarded in a balanced manner in relation to environmental issues. The authors further state that "if governance and decision-making are skewed, sustainability will never be achieved."

sustainability as described by Tladi¹⁹⁴ must be taken if the three pillars of sustainability are in conflict and a legitimate base is given, such as a legal or policy instrument, to justify the value that has been chosen, as was done by Sachs J in his dissent.

Du Plessis and Feris¹⁹⁵ suggest that the pillars of sustainability should no longer be illustrated as three intersecting circles. The authors suggest that:

All the elements of sustainability are embedded in one another; the one issue cannot be divorced from the others. They must be considered integrally and holistically; they are not single pillars that must be regarded in isolation. Culture and socio-economic issues are embedded in environmental issues that form the basis of sustainability. Only when environmental sustainability is threatened the other sustainability issues need to be addressed.

The aforementioned statement rings true, especially because it recognises the constitutional mandate to ensure 'ecologically sustainable development' and secondly, because it recognises the true purpose of the *NEMA*, being environmental protection.¹⁹⁶ This model of sustainability as depicted by Du Plessis and Feris¹⁹⁷ reflects the opinion of Sachs J when he stated that the environmental authorisation process should take cognisance of socio-economic factors only when it threatens the integrity of the environment. Du Plessis and Feris¹⁹⁸ further argue that the levels of sustainability must be embedded in governance as good environmental governance is a tool that would ensure sustainability and if decisions by the government are not co-ordinated and balanced sustainability would remain a goal beyond our grasp. Therefore Sachs J and the model as presented here calls for an environment-centred governance structure where socio-economic as well as cultural considerations are taken into account when a development poses a threat to the environment to ensure that environmental authorisations are considered using the goal of sustainable development as the basis from which decisions are made.

The environment-centred approach described is difficult to implement in the mining industry. The mining industry ultimately destroys the environmental base as it entails

194 Tladi *Sustainable Development in International Law* 75.

195 Du Plessis and Feris 2008 *SAJELP* 166.

196 Refer to 3.2 below.

197 Du Plessis and Feris 2008 *SAJELP* 166.

198 Du Plessis and Feris 2008 *SAJELP* 166.

the extraction of non-renewable mineral resources.¹⁹⁹ Placing the environment as the basis in which socio-economic and cultural considerations are embedded would mean that mining would never occur; mining ultimately compromises the environmental base on which humanity depends, which seems unsustainable. In the event that non-renewable resources are extracted from the environment on a continued basis, these resources will eventually be depleted with none left for the use of future generations. Mining destroys the natural environment and will always come at some cost to the environment.²⁰⁰

The main reason for allowing mining to continue is to ensure and promote socio-economic growth and equity; especially in a country such as South Africa which is rich in natural resources but faces problems of severe poverty and past inequality. If not addressed through the process of sustainable development, continued poverty and inequality could lead to inappropriate development and further destruction of the environment.²⁰¹ As stated by Summers,²⁰² sustainability is actually also a question of equity. A proper sustainability model therefore needs to be developed for the mining industry, with regard to the unique manner in which mining could contribute to sustainability.²⁰³ In a developing country such as South Africa, growth and development are key aspects to finding solutions to current problems such as unemployment, low standards of living and extreme poverty; therefore the advancement of mineral development is important, and if governed correctly, could ensure future prosperity for South Africa.

Taking the above discussion into account, an economic growth-centred variation approach to sustainability for the mining industry is proposed, for the purposes of this study. The legitimate base that could be given for this model would be economic growth, social upliftment and equitable development of mineral resources as set out in the *MPRDA*. This model could be illustrated as the different layers of an onion. The outer layer of the onion, being economic development, seems like the key focus of the mining industry. However, the inner layers of the onion being social and

199 See 1 above.

200 DMR 1998 www.dmr.gov.za.

201 Hardcastle and Gerber "Sustainability Criteria for EIA Practice in South Africa" 1.

202 Summers "Defining Sustainability" 1.

203 Summers "Defining Sustainability" 5.

cultural aspects, and at the heart, environmental aspects, are all key issues that must remain in good physical shape for the outer layer of the onion to remain healthy. If the mining industry does not address social, cultural and environmental issues adequately the inner layers of the onion will wither leading to the ultimate destruction of the outer economic layer. The outer layer on the other hand should be utilised to ensure the protection of the inner layers; requiring mining companies to reinvest the economic benefits that they derive to ensure environmental protection, social upliftment and equity as well as the protection of cultural aspects. Therefore, even though mining, which is a destructive environmental activity, is allowed in order to facilitate economic development, the integration of the latter with other aspects of sustainability remains critical as economic development cannot continue to exist on a deteriorating environmental, social or cultural base.

3 Constitution and NEMA

South African environmental legislation must operate within the framework set out in the *Constitution*.²⁰⁴ To attain a better understanding of the concepts discussed above, the extent and implementation of the environmental right enshrined in the *Constitution* as well as the relevant provisions of *NEMA* will now be discussed briefly. *NEMA* is regarded as South Africa's framework environmental legislation and together with the *Constitution* could be illustrated as an umbrella under which other sector-specific environmental legislation could be interpreted, measured and given effect to.²⁰⁵

3.1 Constitution

Section 24 of the *Constitution* entrenches an enforceable environmental right²⁰⁶ which is afforded to every person within the boundaries of South Africa:

Everyone has the right -

- (a) to an environment that is not harmful to their health or well-being; and

204 Kidd *Environmental Law* 20.

205 Kidd *Environmental Law* 20.

206 For an in-depth discussion on this right and the application thereof see Du Plessis *Fulfilment of South Africa's Constitutional Environmental Right*.

- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
 - (i) prevent pollution and ecological degradation;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

This right is widely celebrated and applauded by various scholars,²⁰⁷ although some of the concepts and terminology still need to be clarified through interpretation by the courts to ensure a better understanding and the proper application of this right.²⁰⁸

Section 24(a) places a duty on all concerned parties not to impede on this right and if impeded there are remedies available to a person whose health and/or well-being has been affected by pollution or development by the state or any other natural or juristic person.²⁰⁹ Section 24(a) therefore creates a right that is actionable if impeded, also against mining companies, as confirmed in the matter *Minister of Water Affairs and Forestry v Stilfontein Gold Mining (Pty)Ltd*,²¹⁰ where the court stated:²¹¹

To permit mining companies and their directors to flout environmental obligations is contrary to the *Constitution*, the *MPRDA* and *NEMA*. Unless courts are prepared to assist the State by providing suitable mechanisms for the enforcement of statutory obligations an impression will be created that mining companies are free to exploit the mineral resources of the country for a profit over the life of mine, thereafter they may simply walk away from their environmental obligations. This simply cannot be permitted in a constitutional democracy which recognises the right of all of its citizens to be protected from the effects of pollution and degradation.

Section 24(a) places a positive obligation on the State to ensure that no State action or decision is taken that impact adversely on the health and/or well-being of any person; this right is also enforceable between natural and juristic persons.²¹² Due to its particular wording, section 24(a) has been criticised as being too anthropocentric, which entails that the wording of the section implies that the only reason for protecting the environment is for the sake of human health and well-being.²¹³ Some

207 Glazewski *Environmental Law in South Africa* 67-68.

208 Du Plessis 2009 *SAJELP* 57.

209 Loots 1997 *SAJELP* 58-60. Also see *Hichange Investments (Pty) Ltd v Cape Produce (Pty) Ltd t/a Peltis Products* 2004 2 SA 393 (E).

210 2006 5 SA 333 (W) (hereafter referred to as the *Stilfontein* matter).

211 Par 352D-352H.

212 Currie and de Waal *The Bill of Rights* 523-524.

213 Lumby 2005 *South African Journal of Economic History* 75.

authors²¹⁴ are of the opinion that this approach does not accord appropriate recognition of the importance of nature in itself and the protection thereof and ignores the rights of plants and animals.²¹⁵ The anthropocentric approach is further highlighted by the principle in the *NEMA* which states that "environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably".²¹⁶

It must, however, be recognised that humans form part of the environment and that the destruction of the environment impacts just as negatively on humans as developmental activities impact on the environment.²¹⁷ Scholtz²¹⁸ argues that one should rather take a holistic approach that unites nature and man with a focus on "quality" which centres on "reconciling the interests of humans and nature, as quality encompasses quality of life for man which must also lead to quality of, for instance, the ecosystems of which humans form part". The anthropocentric connotation linked to section 24 is therefore weakened by the existence of the interrelationship between humans and the natural environment; humans cannot lead a dignified existence in a damaged environment.²¹⁹ In the matter of *Fuel Retailers* the court also stated that "development could not subsist on a deteriorating environmental base".²²⁰

When further analysing section 24(a), it becomes clear that the negative phrasing of this section does not guarantee a right to an environment that is totally pollution free. The wording only ensures what could be described as a minimum standard and does not grant a positive right to an unlimited extent.²²¹ The minimum standard accepts that some development and pollution of the environment is inevitable and must be allowed; this especially rings true in developing countries.²²² Mining activities should therefore be allowed, providing they are not detrimental to the health and/or well-

214 Stone 1972 *Southern California Law Review* 450 and Redgwell "Life, the Universe and Everything: A Critique of Anthropocentric Rights" 71-87.

215 Scholtz 2005 *SALJ* 72.

216 Section 2(2).

217 Scholtz 2005 *SALJ* 72.

218 Scholtz 2005 *SALJ* 72-73.

219 Scholtz 2005 *SALJ* 73.

220 Par [44]-[45].

221 Glazewski *Environmental Law in South Africa* 37.

222 Du Plessis 2008 *SAJELP* 59.

being of people. There are many definitions and notions attached to the concepts of 'health' and/or 'well-being' and it is still up to the courts to decide the exact meaning and extent.²²³ However, what is clear from the use of these words is that the concept of 'environment' does not only involve the natural environment, but also includes the social, economic and cultural needs of humans as these aspects are related to and form part and parcel of the concepts of 'health' and/or 'well-being'.²²⁴

'Health' has been interpreted as the health of individuals as well as the public at large where human health has been or is affected by pollution.²²⁵ Furthermore, it has been understood as "human health which incorporates both mental and physical integrity".²²⁶ The concept of 'well-being'²²⁷ is more difficult to interpret as it seems to include a wide range of factors. It seems that 'well-being' covers those instances where harm is done to the environment without it necessarily having direct health implications.²²⁸ 'Well-being' could thus be viewed as the spiritual and psychological connotation man has to the natural or built environment and could even include the cultural or religious values that people attach to the environment.²²⁹ While the concept of 'health' may not necessarily be of interest to conservation, this notion is clearly included in the meaning of 'well-being'; conservation of the environment is of importance due to the value humans place on it and where the value influences human 'well-being'.

Applying these interpretations to the mining industry would mean that section 24(a) places a positive obligation on mining companies to ensure that their activities do not impact negatively on the physical or mental health of any individual or the public at large;²³⁰ and secondly, they must ensure that their activities do not destroy the

223 Currie and de Waal *The Bill of Rights* 526.

224 Du Plessis 2008 SAJELP 63-65.

225 Du Plessis 2008 SAJELP 64.

226 Currie and de Waal *The Bill of Rights* 526.

227 The concept of 'well-being' was discussed in *HTF Developers (Pty) Ltd v The Minister of Environmental Affairs and Tourism* 2006 5 SA 512 (T) where the court indicated that the concept is open ended and incapable of a precise definition. In the matter *Hichange Investments (Pty) Ltd v Cape Produce (Pty) Ltd v/a Pelts Products* 2004 2 SA 393 (E) the court regarded exposure to stench as being adverse to one's well-being.

228 Kidd *Environmental Law* 23.

229 Du Plessis 2008 SAJELP 65-66.

230 As stated before mining activities have a negative impact on the environment. For example waste rock dumps and tailings facilities causes dust while smelters emit smoke and gas which all negatively impact on air quality, dewatering and blasting lead to acid mine drainage

natural or built environment to which humans have an aesthetic, cultural, religious or other valid connotation.²³¹ Therefore mining activities do not necessarily have to impact negatively on the mental or physical health of humans before these activities become actionable; any mining activity causing harm to the natural or built environment to which humans hold a legitimate connotation is actionable.²³² However, it must be noted that more than aesthetic discomfort or an emotional reaction is needed before it will be acknowledged that mining activities are affecting the well-being of people.²³³

As confirmed in the matter of *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism*,²³⁴ section 24(b) places a positive duty on the State to ensure the protection of the environment through legislative and other measures. It is further stated in the *HTF Developers*²³⁵ matter that "the attainment of this objective or imperative confers on the authorities a stewardship, whereby the present generation is constituted as the custodian or trustee of the environment for future generations". In terms of this section the State should establish an environmental governance framework through legislative and other measures to, amongst others, protect the environment and prevent pollution while ensuring justifiable social and economic development.²³⁶

The environmental right is strengthened by other sections in the *Constitution*, such as section 33, which entails that environmental decisions must meet the requirements of lawfulness, fairness and reasonableness.²³⁷ Feris²³⁸ argues that the

negatively impacting on fresh groundwater, and additionally, mining generates waste and leads to the destruction of biodiversity through processes such as top soil stripping and opencast mining. For a detailed discussion on the negative effects of mining on the environment see Kidd *Environmental Law* 225 as well as Wells *et al* "Terrestrial Minerals" 534-542.

231 Mines could mitigate and attempt to minimise the impact they have on the environment through techniques such as dust suppression, ground and surface water monitoring, waste management, backfilling and other rehabilitation techniques and mitigating measures.

232 Water and air pollution caused by mining could have direct and measurable health impacts. Other impacts of mines such as the establishment of a mine near or on a grave site or the noise caused by mining do not necessarily have direct health impacts but could impact on the cultural, spiritual or over all well-being of people.

233 Currie and de Waal *The Bill of Rights* 526.

234 2006 5 SA 512 (T) (hereafter referred to as the *HTF Developers* matter).

235 Par 519A-519B.

236 For further interpretation of the State's duty in terms of this section see Feris 2008 *SA Public Law* 194-207.

237 Burns and Kidd "Administrative Law & Implementation of Environmental Law" 225.

238 Feris 2008 *SA Public Law* 204.

right established in terms of section 24 could be described as a socio-economic right falling within the same category as a right to housing or health care. Feris also indicates that the environmental right could be distinguished from these rights as the statement does not qualify that the State must ensure protection of the environment "within its available resources" as is the case with other socio-economic rights. Therefore the State cannot justify inaction due to a lack of resources in protecting the environment. The wording of section 24(b) clearly establishes a link between the environment and socio-economic development.

The link between the environment and socio-economic development was also addressed in the *BP* decision²³⁹ where the court emphasised that the State is under an obligation to develop an environmental governance framework that takes cognisance of a wide range of considerations which include international standards and treaties as well as socio-economic considerations.²⁴⁰ The importance of the link between the environment and socio-economic considerations was also reaffirmed in the *Fuel Retailers*²⁴¹ matter where the court clearly stated that failing to take socio-economic considerations into account constituted a failure to make a decision embedded in the concept of sustainability and thus a failure to adhere to the dictates of the *Constitution*.²⁴² The sentiments expressed in this matter were confirmed by a subsequent decision of the *MEC, Department of Agriculture, Conservation and Environment v HTF Developers (Pty) Ltd*²⁴³ where the court stated that "the concept of sustainable development provides for a framework for reconciling socio-economic development and environmental protection".

While the courts emphasise the importance of the integration of environmental, social and economic considerations the question still remains as to how the notion of sustainable development should be interpreted in a country suffering from severe poverty and a need for social and economic development.²⁴⁴ A further factor contributing to the difficulty of interpreting sustainable development in South Africa is the past socio-economic inequality. The concept of intra- and intergenerational

239 Par 150D-E.

240 Feris 2008 *South African Journal on Human Rights* 41.

241 Par [79].

242 See 2.2 above.

243 2008 2 SA 319 (CC) at par [60].

244 Feris 2008 *South African Journal on Human Rights* 41.

equity plays a major role in sustainability and the situation of inequality in South Africa has greatly contributed to environmental degradation.²⁴⁵ Moreover, the consideration of cultural issues as an integral part of sustainability²⁴⁶ is not mentioned in section 24 of the *Constitution*;²⁴⁷ although the Constitution entrenches the right to enjoy one's culture, religion and language and the right of every person to participate in a cultural life of his or her own choice.²⁴⁸ Culture is an important aspect in South Africa being a country with diverse and different cultural groups. Mines in many instances influence the cultural life of communities in rural areas. It is questionable, however, whether culture is taken into account in matters pertaining to sustainability.²⁴⁹

The conflict between environmental conservation and the consideration of South Africa's history of inequality became clear in the matter *In re Kranspoort Community*.²⁵⁰ The matter concerned a claim for the restitution of land by the Kranspoort Community in terms of the *Restitution of Land Rights Act*²⁵¹. The owner of the land opposed the application based on environmental concerns as the land was described as ecologically sensitive and currently used for conservation purposes. The court found that restoration would not necessarily prejudice the sustainable management of the land as the State must have legislative and other measures in place in terms of section 24(b) of the *Constitution* to ensure environmental protection. The court further held that communities and their activities must form part of the sustainable management of the environment and must therefore not be excluded. The court was driven in its decision to consider the fact that younger members of the community must have equitable access to natural resources which is a key aspect of sustainability.²⁵² This decision once again confirms that the interpretation of the notion of sustainable development in South Africa is complex.²⁵³

245 Feris 2008 *South African Journal on Human Rights* 41.

246 This concept was discussed in detail at 2.2 above.

247 Du Plessis and Feris 2009 *SAJELP* 166.

248 Section 31 and 30 of the *Constitution*.

249 Bench Marks Foundation 2008 www.bench-marks.org.za and also see Du Plessis and Rautenbach 2010 *PELJ* 43-44.

250 2002 2 SA 124 (LCC) (Hereafter referred to as the *Kranspoort* matter).

251 22 of 1994.

252 Feris 2008 *South African Journal on Human Rights* 45.

253 It is clear that environmental, economic, social and cultural considerations must be integrated and balanced and that many considerations such as poverty, development needs and

As an activity that destroys the environment, section 24(b) instructs the State to regulate mining activities in such a manner as to ensure the protection of the environment while also promoting socio-economic development. In terms of the constitutional mandate socio-economic factors must be considered in the environmental governance of mining activities because mining activities pose a threat to the environment. With regards to the reference to 'ecologically sustainable development' in section 24(b) of the *Constitution*, Feris²⁵⁴ states the following:

"Ecologically" qualifies the type of sustainable development that is envisioned by the Constitution, i.e. development that retains a preference for the natural or ecological base. It therefore clearly places an emphasis on environmental considerations and as such it places the environmental value centre-stage. Section 24 of the *Constitution* therefore mandates decision-making that favours the environment-centred variation of sustainable development. Any decision-making regarding sustainable development that is mandated by section 24 should, arguably, be situated within this model.

The constitutional mandate in terms of section 24 is further described by Feris²⁵⁵ in the following manner: "ultimately what section 24 of the *Constitution* requires is that decision-makers employ the environment-centred variation of sustainable development, which in essence entails making a value-laden choice in favour of the environment". Adgar and Jordan²⁵⁶ describe it as 'environmental sustainability', which they define as "sustaining aspects of the natural world, ecosystems, and natural and cultural heritage in a manner that means they are sacrosanct or that they take precedence over other material goals such as economic growth".

An environment-centred approach, however, does not always take into account South Africa's need for socio-economic development and to address inequalities caused in the past, which may not be appropriate in the current situation in which South Africa finds itself.²⁵⁷ Although the *Constitution* refers to ecologically

inequality are important and must be taken into account. It seems that a variation approach on sustainability as described by Tladi must be taken if the three pillars of sustainability are in conflict and a legitimate base given, such as a legal or policy instrument, to justify the value that has been chosen. This was illustrated in the *Kranspoort* matter where the value chosen was restitution which is a socio-economic consideration and the value chosen was based on a legal instrument being the *Restitution of Land Rights Act*.

254 Feris 2010 *PER* 92.

255 Feris 2010 *PER* 93.

256 Adgar and Jordan "Sustainability: Exploring the Processes and Outcomes of Governance" 4.

257 For a detailed discussion on this opinion see Kidd 2008 *SAJELP*.

sustainable development this concept is not defined and no guidance is given with regards to how the different pillars of sustainability should be balanced and integrated.²⁵⁸ It must be borne in mind that while the *Constitution* dictates ecologically sustainable development it does not guarantee an environment free from pollution, some development and growth must be allowed as long as such growth and development does not compromise the health and well-being of people.²⁵⁹

It appears that sustainability entails more than just the protection of the integrity of the environment and understating the importance of socio-economic considerations "is inappropriate in South Africa's current political milieu".²⁶⁰ Instead of following a pre-prescribed environment-centred approach, other variations of sustainability such as following an economic-centred or a human needs-centred approach should also be allowed if a legitimate base could be given for such decisions. In a mining context the different variations approach would provide for a more flexible system, which would better serve the various interests of people, the mining industry, and the environment in the current South African milieu.²⁶¹

After the enactment of the Constitution, various pieces of legislation were endorsed in an attempt to regulate the activities practised in the mining industry. It must be investigated whether these pieces of legislation fulfil the constitutional mandate and, if not, how this objective could be achieved. How the governance framework defines sustainability and whether it ensures the implementation thereof, must be further investigated.

258 See 2.3 above.

259 Glazewski *Environmental Law in South Africa* 37.

260 Kidd 2009 SAJELP 85.

261 See 2.3 above.

3.2 NEMA

As previously mentioned, *NEMA*²⁶² is South Africa's primary environmental framework law.²⁶³ There are also a number of sector-specific environmental management Acts and regulations administered under the framework legislation.²⁶⁴

The preamble of the Act states that the purpose of the Act is:

To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by organs of State; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith.

From the statement in the preamble it seems that the primary objective of *NEMA* is to protect the natural environment through the process of governance and to facilitate co-operation in all governance efforts affecting the environment; no mention is made of sustainable development. In terms of section 1 of *NEMA*, "environment" is defined as:²⁶⁵

The surroundings within which humans exist and that are made up of (i) the land, water and atmosphere of the earth; (ii) micro organisms, plant and animal life; (iii) any part of the combination of (i) and (ii) and the interrelationship among and between them and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

262 For a discussion on the effectiveness of *NEMA* to bring polluters to book see Field 2004 *SALJ* 772-784.

263 See Kidd *Environmental Law* 35-44 and Van der Linde "National Environmental Management Act 107 of 1998 (*NEMA*)" 193-221 for a detailed discussion of *NEMA*, its principles and administrative measures.

264 Kotzé "Environmental Governance" 111. These Acts include the *NEMWA* and *NEMAQA* and further include the *National Environmental Management: Protected Areas Act (NEMPAA)* as well as the *National Environmental Management: Biodiversity Act (NEMBA)*. These Acts are all administered in terms of the main framework legislation in an attempt to co-ordinate matters related to general pollution, waste, air quality, biodiversity and protected areas.

265 This definition is narrower than the definition in *NEMA*'s predecessor the *Environment Conservation Act 73 of 1989* (hereafter referred to as *ECA*). *ECA* describes the 'environment' as the "aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms". The definition of *ECA* encompasses a vast variety of things while the definition in *NEMA* seems more concerned with the natural environment. The definition in *ECA* lends itself more towards a sustainable development paradigm while *NEMA* seems more adamant in its definition to place the natural environment at the forefront.

As stated by Feris,²⁶⁶ the definition of 'environment' seems "confined to the natural, physic-chemical and biological environment". Socio-economic aspects of the environment are not mentioned in the definition, although cultural considerations do feature in the definition. The scope of this definition is limited and does not lend itself to a sustainable development paradigm.

Section 23 of the *NEMA* sets out the general objectives of the Act. Section 23(2)(b) states that the general objectives of integrated environmental management is to:

Identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2.

Although section 23 lends itself more to a sustainable development paradigm it does not set out the procedure that must be followed to identify, predict and evaluate the impact of an activity on the environment, socio-economic conditions or cultural heritage. The section also makes no mention of how conflicting interests must be measured and balanced if conflict arises between the different layers of sustainable development mentioned in this section.

The environmental impact assessment (EIA) regime is one of the tools employed by the *NEMA* to facilitate the goal of environmental protection and is incorporated in section 24 of the *NEMA*. The aim of EIAs is to assess the impact that certain listed developmental activities²⁶⁷ exert on the natural environment. These activities are considered to have a significant impact on the environment and are listed in terms of the regulations of *NEMA*.²⁶⁸ If an activity is identified in these regulations a person may not commence with such activities before an environmental authorisation has been obtained from the DEA.²⁶⁹ The first attempt to incorporate mining related activities into the *NEMA* was made when the first listed activities in terms of *NEMA*

266 Field 2006 SALJ 430.

267 These activities are listed in terms of section 24(2)(a) of *NEMA* by the Minister of Water and Environmental Affairs or a MEC with the concurrence of the Minister.

268 GN R543, GN R544, GN R545 and GNR 546.

269 Section 24(2)(a) of *NEMA*.

were published in 2006.²⁷⁰ Mining and prospecting activities are currently also listed activities²⁷¹ in terms of *NEMA* although they have not come into operation and the DMR is still the main environmental authority that authorises these activities. Therefore authorisation from the DEA is not necessary before conducting the mining or prospecting activities.²⁷² When a mining company intends to conduct an activity listed in terms of *NEMA*, such as the construction of a dam or road, the mine must obtain an environmental authorisation from the DEA despite any authorisation granted in terms of any other legislation.²⁷³

In assessing whether *NEMA* is fulfilling the constitutional mandate of ensuring ecologically sustainable development, one must investigate the goal of the EIA regime, the type of information generated in terms thereof and the expertise of the regulator considering the information.²⁷⁴ When making this analysis it seems that *NEMA* is more concerned with considering the impacts of activities on the natural environment than with the concept of sustainability.²⁷⁵ Although the principle of sustainable development is recognised in the *NEMA*, which defines 'sustainable development' as "the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations", it is not created as a workable and implementable concept in the EIA process. As previously stated, the principle is further briefly mentioned in section 2(3) of *NEMA* but, this principle is not carried through to the actual process of investigating the impact of the activity. *NEMA* refers to the concept and the ultimate goal of sustainability but does not specify how it should be achieved.²⁷⁶ The day-to-day practice of EIA seems to busy itself with

270 GN R385, GN R386 and GN R387 in GG 28753 of 21 April 2006 (Hereafter referred to as GN R385, GN R386 and GN R387). Activities 8 and 9 of GN R386 indicated that a basic assessment was needed for activities such as prospecting right applications and Activities 7 and 8 of GN R387 indicated that a scoping report and EIA were necessary for mining right applications.

271 Prospecting activities are listed as item 19 of GN R544 and mining activities are listed in terms of item 20 of GN R545.

272 Kidd *Environmental Law* 228-229.

273 This was also confirmed by the court in the recent matter of *City of Cape Town and Minister of Local Government, Environmental Affairs and Development Planning v Maccsand (Pty) Ltd and The Minister of Mineral Resources and Energy* par [32] -[36]; for a discussion on this matter see 1 above.

274 Field 2006 SALJ 427.

275 Field 2006 SALJ 428.

276 Summers "Defining Sustainability" 6.

minimum legislative and procedural compliance instead of ensuring and giving effect to the constitutional mandate of ensuring sustainable development.²⁷⁷

Section 2(4)(a) of *NEMA* describes the factors that must be considered to ensure sustainable development:

- (i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- (iv) that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;
- (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- (vi) that 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 jeopardised;
- (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- (viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

These factors to be considered, listed in section 2(4)(a), also seem more focused on the natural environment and the protection thereof. Economic and social impacts are not mentioned, although culture once again features as in the case of the definition of 'environment'. Listing the factors that must be considered to ensure sustainable development and not mentioning socio-economic considerations seem contrary to the idea and goal behind sustainable development. The other principles listed in terms of section 2(4) of *NEMA* place people and their needs and interests at the forefront²⁷⁸ and have been criticised by Scholtz²⁷⁹ as being too anthropocentric.²⁸⁰ Section 2(4)(i) specifically states that "social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration

277 Hardcastle and Gerber "Sustainability Criteria for EIA Practice in South Africa" 2.

278 See section 2(4)(b)-(h).

279 Scholtz 2005 *SALJ* 72-73.

280 For a detailed discussion on this see 3.1 above.

and assessment"; although no normative content is given to this principle and it remains difficult to use this principle as an effective tool in practice and during the evaluation of the EIA procedure.

In its definitions, principles and factors that must be considered to ensure sustainability, *NEMA* therefore recognises two fundamental principles that form part of the concept of sustainable development. The first principle being integration between the different pillars on which the concept of environmental management is based; and secondly, intergenerational equity which recognises the necessity of preserving natural resources for the use of future generations.²⁸¹ The concept of sustainable development as described in *NEMA* is a mere guideline devoid of precise normative content in terms of where sustainable development could be measured or evaluated.²⁸² This was also confirmed in the matter *Minister of Public Works and Others v Kyalami Ridge Environmental Association*²⁸³ where the court stated that: "Section 2 of *NEMA* does not make provision for rights and obligations, instead it sets out principles expressed at times in abstract rather than concrete terms". Summers argues that the concept of sustainable development is a mere statement in *NEMA* and is not specifically incorporated into the primary vehicle of *NEMA* being the EIA regime.²⁸⁴ The goal of EIA is to determine the impact of an activity on the natural environment, and the information gathered and the expertise of the authorities are focused on the conservation of the natural environment and not on integration or equity.²⁸⁵

The *NEMA Amendment Act*²⁸⁶ amended section 24(1) of *NEMA* in 2004 to highlight this focus on environmental issues as opposed to sustainability. Before the amendment section 24(1) of *NEMA* read as follows:

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 cultural heritage of activities that require authorisation by law and which may significantly affect the environment, must be considered, investigated and assessed prior to their implementation and reported

281 Kidd *Environmental Law* 16.

282 Summers "Defining Sustainability" 6.

283 2001 3 SA 1151 (CC).

284 Summers "Defining Sustainability" 7.

285 Field 2006 *SALJ* 428.

286 8 of 2004.

to the organ of State by law with authorising, permitting or otherwise allowing the implementation of an activity.

The amended section however reads as follows:

In order to give effect to the general objectives of integrated environmental management laid down in this chapter, the potential impact on the environment of listed activities must be considered, investigated, assessed and reported on to the competent authority charged by this Act with granting the relevant environmental authorisation.

The amended section moved the EIA regime towards an environmentalism paradigm; away from the concept of sustainability. The original section specifically stated that the effect of activities on socio-economic and cultural aspects must be considered along with impacts on the environment. The previous section clearly made the concept of sustainable development the foundation on which the EIA process was based. The amended section only provides for impacts on the environment to be assessed by firstly, not mentioning socio-economic or cultural impacts and because of the narrow definition of environment it seems that the focus falls only on the natural environment; secondly, by stating that information must be solely channelled to authorities mandated with the protection of the environment.²⁸⁷ It seems the amendment limits the authority's decision-making to environmental factors which is contrary to the statement made in section 2(3) which requires integration of environmental, economic and social factors.

The principles of *NEMA* alone are not adequate and will not facilitate and ensure sustainability.²⁸⁸ This means that the EIA process must feed into other processes in order to comply with the constitutional mandate of ensuring ecologically sustainable development and these processes must give effect to the principle of sustainable development as highlighted in the principles of *NEMA* itself.²⁸⁹ The mere fact that provision is not made for the interpretation and applicability of sustainable development in the EIA process itself does not make it irrelevant in the application of *NEMA*. Before the amendment was affected case law supported the sustainable development approach when it came to the implementation of *NEMA*. In the decision

287 Field 2006 *SALJ* 429.

288 Summers "Defining Sustainability" 7.

289 Section 24L of *NEMA* makes provision for an integrated process concerning environmental authorisations by different authorities for the same activity.

of *Sasol Oil (Pty) Ltd v Metcalfe*,²⁹⁰ the High Court ruled that the MEC did not have the authority to regulate the construction of filling stations and that the DEA should only consider the impact of filling stations on the environment without considering social and economic impacts. This matter was taken on appeal and the Supreme Court of Appeal²⁹¹ overturned this decision stating that "the interpretation of laws concerned with the protection of the environment needed to be informed by the *NEMA* principles and the concept of sustainable development lies at the heart of these and this requires the State to evaluate the social, economic and environmental impacts of activities".²⁹²

Case law still supports the idea that sustainable development is a principle of *NEMA*, even after the amendments was affected, and that these principles are applicable to all organs of State throughout the country and on all matters which may have a significant impact on the environment.²⁹³ This was also confirmed in the *Fuel Retailers*²⁹⁴ matter.

Field²⁹⁵ identifies a further four characteristics which framework legislation such as *NEMA* should possess to fulfil the constitutional mandate of sustainable development. Firstly, such legislation must acknowledge that economic growth was previously preferred to environmental and social considerations and that equity in South Africa is of particular concern; secondly, the integration principle must be clearly defined and the application thereof described; thirdly, inter- and intra-generational equity must be considered; and fourthly, legislation should work towards the maximisation of all the pillars of sustainability in each decision. It is clear from these characteristics that the fact that the EIA regime does not include detailed and implementable processes to assess all the pillars on which sustainability is based is problematic, and mere compliance with EIA regulations does not encompass compliance with the constitutional mandate of securing ecologically

290 2004 5 SA 161 (W).

291 *MEC for Agriculture, Conservation and Environment and Land Affairs v Sasol Oil (Pty) Ltd and Bright Suns Development CC* SCA Unreported Case No 368/2004.

292 Field 2006 SALJ 433.

293 This is also stated in section 2(1) of *NEMA*.

294 For a detailed discussion of this matter see 2.2 above.

295 Field 2006 SALJ425-426.

sustainable development.²⁹⁶ This lack in the EIA process leaves uncertainty as to how these other pillars or layers must be integrated into decision-making, whether the authority has the expertise to consider these other factors properly and who will ensure that they are indeed considered. A commitment by *NEMA* to equity, integration and transformation is necessary and these commitments must be considered in conjunction with the EIA procedure.²⁹⁷ These concepts need to be workable and implementable and must be clearly defined to simplify them for decision makers to consider them in conjunction with the EIA process. Hardcastle and Gerber²⁹⁸ suggest various sustainability criteria that could be utilised to ensure socio-economic considerations are balanced against environmental factors to ensure a more sustainable outcome in the EIA process. As stated by Summers,²⁹⁹ it is also of great importance that the ecological base of sustainable development be maintained as one of the key global and national objectives.³⁰⁰

Worldwide, the EIA process has become a standard mechanism with which to assess the impact of development on the environment.³⁰¹ In South Africa there has been a long standing debate about the EIA and the authorisation of mining related activities, and which State department should be responsible for environmental authorisations in this industry. The Minister of Mineral Resources has always been responsible for regulating the mining industry despite the opinion that this industry too, should be regulated by the Minister of Water and Environmental Affairs, as is the case with all other industries in South Africa. The *NEMA Amendment Act 8 of 2004* introduced an important change in this regard. A new section 24(7) implies that environmental authorisations in terms of section 24 of *NEMA* removed the need to apply for environmental authorisations in terms of any other legislation, further stating in section 24(8) that authorisations in terms of other legislation would not absolve the applicant from obtaining authorisation for any listed activity in terms of *NEMA*. These amendments effectively made the intention of the legislator known to ensure that *NEMA* and the DEA are the main competent authorities for the approval

296 Field 2006 *SALJ* 435.

297 Field 2006 *SALJ* 436.

298 Hardcastle and Gerber "Sustainability Criteria for EIA Practice in South Africa" 4-8.

299 Summers "Defining Sustainability" 11.

300 This statement by Summers correlates with the ecological debate.

301 Humby 2009 *SA Public Law* 1.

of environmental authorisations. The 2006 regulations³⁰² did not take into consideration the detailed environmental authorisation procedure as already set out in the *MPRDA* and consequently, due to conflict between the two Acts and the ministries, the regulations pertaining to mining activities in *NEMA* never came into effect and the Minister of Mineral Resources remained the main authorising body in relation to mining activities despite the amendments of section 24 and the 2006 regulations.

In an effort to bring this debate to an end and clarify conflicts the *Mineral and Petroleum Resources Development Amendment Act*³⁰³ and the *National Environmental Management Amendment Act*³⁰⁴ were passed. In terms of the amendments all mining activities will become listed activities in terms of *NEMA* and the 2010 regulations that were promulgated. The definition of Minister in terms of the *NEMA Amendment Act* seems to imply that the Minister of Mineral Resources will remain the authorising body concerning the environmental impact of mining but on further investigation of the regulations it seems that after a certain lapse of time ultimately the Minister of Water and Environmental Affairs will authorise such activities.³⁰⁵ These amendments have also not yet come into effect due to various conflicting interests.³⁰⁶

In order to understand the reasons for the amendment Acts and whether this new environmental governance system for the mining industry complies with the mandate of ensuring ecologically sustainable development one must first understand the scope and application of the current environmental regulating system applicable to mines in terms of the *MPRDA*.

302 GN R385, GN R386 and GN R387.

303 49 of 2008.

304 62 of 2008.

305 Kidd *Environmental Law* 228-229.

306 Fourie *Business Report* 3 December 2010.

4 MPRDA

As stated before,³⁰⁷ the *MPRDA* is the primary legislation governing all stages of mining and imposes environmental management and rehabilitation obligations throughout the life of a mine.³⁰⁸ The preamble of the *MPRDA*³⁰⁹ 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 states 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. The preamble reaffirms the need to promote local and rural development, the social upliftment of communities affected by mining and the State's commitment to reform to bring about equitable access to South Africa's mineral and petroleum resources. The preamble indicates that this Act focuses on inter- and intra-generational equity, recognises the need for economic and social development while acknowledging that mineral resources are non-renewable and that the environment needs to be protected. This is further affirmed by the definition of "sustainable development" in the Act which states 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".³¹⁰ Section 2(h) of the Act specifically gives effect to the *Constitution* and the objects thereof:

The objects of this Act are to give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

The Act specifically states that the principles as set out in section 2 of *NEMA* are applicable to all mining and prospecting operations and that the development of

307 See 1 above.

308 McLean and Carrick 2007 *SAJELP* 187.

309 For a detailed discussion of this Act and other matters related to mining see Kidd *Environmental Law* 221-229 as well as Wells *et al* "Terrestrial Minerals" 513-578.

310 Sec 1 of the *MPRDA*.

mineral resources should take place within the framework of national environmental policy, norms and standards while promoting economic and social development.³¹¹ Section 37(2) of the *MPRDA* states that:

Any prospecting or mining operation must be conducted in accordance with generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of prospecting and mining projects in order to ensure that exploitation of mineral resources serves present and future generations.

Section 38 of the *MPRDA* stipulates that an environmental impact assessment of mining activities must be conducted in accordance with the minimum standards for environmental authorisations set out in section 24(4) of *NEMA*. Therefore the environmental impact assessment is separate from the mainstream assessment of all other industries as provided for in terms of *NEMA*; however, it is brought into line with the requirements of *NEMA* in terms of section 38 of the *MPRDA*. In the event that an applicant applies for a prospecting right a less stringent and comprehensive process is required than when an applicant applies for a mining right.³¹² In the case of a prospecting right, the applicant needs to submit only an EMP,³¹³ whereas a mining right necessitates the submission of a more comprehensive EMPr.³¹⁴ Both of these applications need to comply with the standards as set out in section 39(3) of the *MPRDA* which requires the establishment of baseline information on the affected environment, the evaluation of the proposed activity on the environment, socio-economic conditions and cultural heritage, as well as the development of an environmental awareness plan by the holder of the right through which the applicant informs its employees of the risks involved in their work.³¹⁵ The EMPr and EMP must further identify the mitigating measures that will be employed to manage and mitigate

311 Section 2(h) and section 3(3) of the *MPRDA*.

312 Humby 2009 SA *Public Law* 6.

313 Section 39(2) states that "any person who applies for a reconnaissance permission, prospecting right or mining permit must submit an environmental management plan as prescribed". The content and requirements of an EMP is set out in regulation 52 of GN R1288. Also see DMR 2011 www.dmr.gov.za for the prescribed template in accordance to which an EMP must be drafted.

314 Section 39(1) states that "every person who has applied for a mining right in terms of section 22 must conduct an environmental impact assessment and submit an environmental management programme within 180 days of the date on which he or she is notified by the Regional Manager to do so". Regulation 51 of GN R1288 sets out the requirements and content of an EMPr. Also see DMR 2011 www.dmr.gov.za for the prescribed template in accordance to which an EMPr must be drafted.

315 See Kidd *Environmental Law* 222 and Wells *et al* "Terrestrial Minerals" 555.

the effect that the mining activities will have on the environment.³¹⁶ Section 39(4)(a) states that the Minister of Mineral Resources must approve an EMP or EMPr within 120 days of lodgement if it complies with these standards and the applicant has made the necessary financial provision.³¹⁷

In terms of the *MPRDA* regulations³¹⁸ the EIA requires that a scoping report as well as an environmental impact assessment report must be submitted while these same requirements are not set for the submission of an EMP, which is far less comprehensive.³¹⁹ The content of the EMPr is regulated in terms of regulation 51, which requires a detailed and technical management strategy for preventing, managing or remediating each identified impact; monitoring plans to be implemented and setting out procedures to cater for environmental emergencies that may occur. Applications for prospecting rights are not required to consider cumulative impacts, or alternative land uses, nor are they required to submit information on the scientific integrity of the information submitted.³²⁰ The content of the EMP is far less comprehensive than that of the EMPr and is regulated in terms of regulation 52 of the *MPRDA*. In respect of regulation 51 and 52 the impact of mining activities on cultural resources must be assessed as part of the EMPr or EMP respectively.

The EMPr or EMP is compiled by the applicant him or herself as the *MPRDA* does not require the information to be compiled by an independent environmental practitioner as required in terms of *NEMA*.³²¹ The person compiling the EMPr or EMP does not have to possess any specified expertise as required in terms of *NEMA*³²² and therefore the quality of these documents is more difficult to control.³²³ After an application for a prospecting or mining right is received it is the duty of the

316 The definition of 'environment' in the *MPRDA* is the same as the definition thereof in *NEMA* which as previously indicated is very narrow and limited to the natural environment.

317 In McLean and Carrick 2007 *SAJELP* page 195 the authors opine that 120 days is inadequate to compile a proper report and since mining companies often do not carry out any groundwork before such applications, reports delivered after such a short time may be inadequate or of poor quality.

318 Regulation 50 of GN R1288.

319 See regulation 52 and 51 of GN R1288 as well as Humby 2009 *SA Public Law 6*.

320 Humby 2009 *SA Public Law 7*.

321 Section 16 and 17 of *NEMA*.

322 See regulation 17, 18 and 19 in GN R543 promulgated in terms of *NEMA*.

323 McLean and Carrick 2007 *SAJELP* 198. As a result of the fact that the compiler of the EMP or EMPr does not have to be independent or have certain expertise the information submitted could be of a low standard, vague, misleading and incomplete.

Regional Manager of the DMR to announce the receipt of such an application and to call upon interested parties to submit comments.³²⁴ The Act also requires the applicant of a prospecting right to notify, in writing, and consult with landowners and occupiers and any other affected parties.³²⁵ In terms of section 22(4)(b), the applicant of a mining right is obliged to consult with "interested and affected parties". The input of the parties that were consulted forms part of the EMP or EMPr and must be considered by the DMR in assessing the application. The Act does not however prescribe a formal procedure to be followed during the consultation process and this could vary across DMR offices countrywide which means there is a risk that meaningful public participation, as provided for in *NEMA*, might not take place accordingly.³²⁶ The Act also does not provide for formal mechanisms for interested and affected parties (I&APs) to review each other's submissions or to understand how the applicant plans to address these concerns, unlike the *NEMA* procedure which provides numerous opportunities for I&APs to address matters of concern.³²⁷ In assessing the application, the DMR must consider the environmental impact of the activities applied for and the DMR is the final authorising body in terms of environmental considerations. The Minister of Mineral Resources may not grant an application if the prospecting or mining would result in unacceptable pollution, ecological degradation or damage to the environment.³²⁸ This statement appears to indicate that the intention of the legislator is to make the importance of environmental protection known, although no guidance is given as to what would constitute "unacceptable pollution". No mention is further made of socio-economic or cultural issues as those that must be considered together with the environmental issues under investigation.

The *MPRDA* clearly states that mining or prospecting is prohibited without an approved EMP or EMPr and that mining or prospecting operations must be conducted in compliance with the commitments made in the EMP or EMPr.³²⁹

324 Section 10 of the *MPRDA*.

325 Sections 16(4)(b) and 27(5)(b) of the *MPRDA*.

326 McLean and Carrick 2007 *SAJELP* 196.

327 McLean and Carrick 2007 *SAJELP* 196.

328 Section 17(1)(c) and section 23(1)(d).

329 In terms of section 98(a)(i) read with section 99(1)(a) operating without an EMP or EMPr constitutes an offence and is punishable by a fine not exceeding R100 000.00 and/or imprisonment not exceeding 2 years. Failure to operate in terms of the provisions of the EMP or EMPr also constituted a further offence which could attract a fine not exceeding R500 000.00

Section 41 of the Act requires that an applicant for a prospecting or mining right must, before the Minister approves the EMP or EMPr, make the prescribed financial provision for the rehabilitation or management of negative environmental impacts.

The holder of a prospecting or mining right must compile a closure cost assessment annually in order to gauge the mine's environmental liability and increase its financial provision to the satisfaction of the Minister.³³⁰ The closure cost assessment must be carried out in accordance with the Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision by a Mine.³³¹ The financial provision ensures that the Minister of Mineral Resources is in a financial position to rehabilitate a mining or prospecting area in the event that a holder of a right abandons mining or prospecting without properly rehabilitating an area.³³² This will ensure that the complicated position that South Africa is currently in with the abandoned coal and gold mines in Gauteng³³³ will not arise again in future. This financial provision secured by a mining operation will not be released by the Minister if the mining area has not been properly rehabilitated and a closure certificate has not been issued by the DMR in terms of section 43 of the Act.³³⁴

Section 43 of the Act specifically states that the holder of a prospecting or mining right remains responsible for any environmental liability, pollution or ecological damage to the prospecting or mining right area until a closure certificate is issued by the Minister of Mineral Resources. Section 38(1)(d) imposes an obligation on the holder of a right to rehabilitate the area to "its predetermined state or to a land use which conforms to the generally accepted principle of sustainable development". In accordance with section 43(3) of the Act and regulations 57(2)(b) and (c) the applicant for a closure certificate must submit an environmental risk report, a final performance assessment report and a closure plan. These provisions effectively place the DMR in a position to ensure that a mine or prospecting area is properly rehabilitated and that mining companies are held liable for environmental impacts

and/or imprisonment not exceeding 10 years in terms of section 98(a)(iii) read with section 99(1)(c) of the *MPRDA*.

330 McLean and Carrick 2007 *SAJELP* 192.

331 DMR 2005 www.dmr.gov.za.

332 Wells *et al* "Terrestrial Minerals" 551.

333 Bench Marks Foundation 2008 www.bench-marks.org.za.

334 In terms of section 43 of the Act the holder of a mining or prospecting right remains liable for any damage or pollution to the environment until the day a closure certificate is issued.

until the end of the life of the mine and beyond.³³⁵ At mine closure no provisions are made by the MPRDA to ensure that any social or cultural impacts imposed by the mine have been properly addressed.

More generally, section 38(1)(e) states that "the holder of a prospecting or mining right is responsible for any environmental damage, pollution or ecological degradation as a result of his or her reconnaissance prospecting or mining operations which may occur inside and outside the boundaries of the area to which such right, permit or permission relates". Section 38(2) of the Act further states that "the directors of a company or members of a close corporation are jointly and severally liable for any unacceptable negative impact on the environment". It is however problematical that the Act does not describe the exact meaning or give guidance on what constitutes 'unacceptable negative impact' leaving the meaning thereof open-ended and difficult to implement.³³⁶ The provisions mentioned above, if enforced by the DMR in practice, could create an effective regime for monitoring and enforcing environmental responsibilities on mining companies and those engaged in mining activities.³³⁷ In terms of section 21(1)(b) of the Act as well as regulation 8(1)³³⁸ the holder of a prospecting right must report annually on its compliance with the approved EMP, and in terms of regulation 55, the holder of a mining right must report on its compliance with the EMPr every two years.³³⁹ Reporting on compliance with the EMP or EMPr is another valuable mechanism that the DMR could apply to ensure compliance and effective monitoring of mining operations.

Apart from provisions requiring the submission and compliance with the EMP and EMPr to facilitate the protection of the natural environment the *MPRDA* also takes cognisance of economic issues when an application for a mining or prospecting right is being considered for approval. In terms of sections 10 and 18 of the Act and the regulations³⁴⁰ promulgated in terms of the Act, the applicant is required to submit a

335 In terms of section 43(6) the Minister of Mineral Resources is entitled to retain any part of the financial provision after closure to cater for any residual environmental impact that may become known in the future.

336 McLean and Carrick 2007 *SAJELP* 193.

337 McLean and Carrick 2007 *SAJELP* 193.

338 GN R1288.

339 McLean and Carrick 2007 *SAJELP* 2008. The frequency of reporting could be changed if deemed necessary by the DMR.

340 GN R1288.

prospecting work programme³⁴¹ or a mining work programme³⁴² detailing the technical and financial ability of the applicant, the mining methods that will be employed as well as a detailed summary of market requirements and pricing to ensure that the applicant is capable of mining or prospecting optimally as required in terms of section 51 of the Act. The holder of a prospecting or mining right must also report annually on the progress and implementation of the mining³⁴³ or prospecting³⁴⁴ work programmes to the DMR to enable the DMR to evaluate progress in terms of the programmes and the economic impact of the activities. The mining work programme or prospecting work programme forms part and parcel of the mining or prospecting right that is registered and compliance therewith is an integral part of the terms and conditions regarding the rights. In terms of regulation 15 of the Act, monthly returns with respect to the mining or processing of minerals must be submitted to the DMR on prescribed forms. These reports and programmes enable the DMR to assess the economic impact before authorising a right, and to monitor the continued economic impact on a monthly as well as a yearly basis.

Before a mining right is authorised the DMR also considers the social impact of the operation. The applicant for a mining right must submit a social and labour plan (SLP) in accordance with regulation 46. The SLP must consist of human resource development strategies and local economic development strategies, and must ensure employment equity.³⁴⁵ The SLP therefore ensures that a mine treats its workers equally and that the workforce receives appropriate training and development opportunities. The mine must also ensure that it recruits local members of the community for employment opportunities. Even in the event of using core contractors,³⁴⁶ those core contractors must also recruit locally, ensure equity and comply with development related aspects concerning their employees.³⁴⁷ The SLP

341 Regulation 7 in GN R1288.

342 Regulation 11 in GN R1288.

343 Section 28 of the *MPRDA*.

344 Section 21 of the *MPRDA*.

345 DMR 2011 www.dmr.gov.za.

346 A core contractor could be defined as a contractor used by a mine to conduct mining related work on the mining area on behalf of the mining right holder.

347 Janse van Vuuren *Mining Weekly* 27 May 2011. It could lead to uprising in the community if mines do not make an effort to recruit locally and ensure that core contractors do the same. Recently an uprising by the community occurred at the Smokey Hills Mine in Steelpoort, Limpopo. The core contractor did not recruit locally, which was one of the factors that lead to

further ensures that the mine develops the local economy in line with local economic needs and activities already established in the communities surrounding the mining operations. The mandate of the SLP is to ensure that communities around the mine are capable of functioning sustainably after mine closure through implemented SLP initiatives such as portable non-mining related skills development, the development of and investment in small and medium enterprises around the mine, and adequate retrenchment provision and strategies that must be implemented in line with a mine closure's objectives.³⁴⁸ The holder of a mining right must report annually to the DMR on their compliance with the social and labour plan.³⁴⁹ The report is compiled by the holder itself and therefore once again the risk remains that the information submitted could be biased, incomplete and misleading. The SLP is a contract established between the applicant and the DMR. Through this contract the applicant commits him or herself to the achievement of certain goals and non-compliance with the SLP could lead to the issuing of a section 47 by the DMR to suspend or cancel a mining right.³⁵⁰ Equally, compliance with the Charter as reported on yearly is a measure the DMR could implement to suspend or cancel a mining license. The social impact of mining operations before authorisations are issued, as well as the continued social impact, is constantly measured by the DMR and compliance is enforced through inspections, audits and directives. The SLP does not however feature again at mine closure.

Other provisions are also implemented to address social and equity issues and are set out in section 100 of the Act which reads as follows:

To ensure the attainment of Government's objectives of redressing historical, social and economic inequalities as stated in the Constitution, the Minister must within six months from the date on which this Act takes effect develop a broad-based socio-economic empowerment Charter that will set the framework targets and time-table for effecting the entry of historically disadvantaged South Africans into the mining industry and allow such South Africans to benefit from the exploitation of mining and mineral resources.

the unrest. After this incident the DMR issued a section 47 in terms of the *MPRDA* to suspend mining operations. Also see Swanepoel *Mining Weekly* 25 July 2011.

348 DMR 2011 www.dmr.gov.za.

349 Section 28 of the *MPRDA*.

350 Janse van Vuuren *Mining Weekly* 27 May 2011 and also Swanepoel *Mining Weekly* 25 July 2011.

In compliance with section 100, the Minister developed the Broad Based Socio-Economic Charter for the Mining and Mineral's Industry of South Africa³⁵¹ —mining companies must comply with this Charter and report annually on their compliance in terms thereof.³⁵² The Charter sets the framework targets and time frames for affecting the entry of historically disadvantaged South Africans (HDSA) into the mining industry. These requirements are mainly based on redressing the effect of past discrimination; however, the Charter also sets certain environmental, social and procurement standards that have to be met and on which reports must be submitted.³⁵³ Once again strong reliance is placed on the integrity of industry to report on compliance with the Charter itself.

In assessing whether the *MPRDA* gives effect to the constitutional mandate of ensuring ecologically sustainable development one must investigate the goal of the *MPRDA* regime, the type of information generated in terms thereof, the expertise of the regulator considering the information and the enforcement mechanisms available to the regulator.³⁵⁴ When assessing the goals of the Act it is clear that environmental protection, economic development of mineral resources and the advancement of equity and social development are all important goals in terms of the Act.³⁵⁵ The type of information generated through the authorisation process measures environmental, social and economic impacts. The Act also appears to recognise that social and economic considerations are in fact embedded in the environment when one considers sections 17(1)(c) and 23(1)(d) which state that the Minister of Mineral Resources may not grant an application if the prospecting or mining would result in unacceptable pollution, ecological degradation or damage to the environment. On the other hand, the information generated to ensure the protection of the environment could be biased and of poor quality as no requirements are set in the Act for the use and expertise of an EAP.³⁵⁶ The environmental impact procedure also

351 See footnote 36.

352 Section 28 of the *MPRDA*.

353 The Charter was recently amended in 2010 to set more stringent targets for the future. For example the Charter requires that a participation rate of 40% HDSA in all management positions in mines must be attained by 2014.

354 Field 2006 *SALJ427*.

355 Wells *et al* "Terrestrial Minerals" 547.

356 McLean and Carrick 2007 *SAJELP* 197-198.

does not allow for a meaningful public participation procedure.³⁵⁷ Further, the Act relies on the integration of environmental, economic and social factors; however, the Act is silent on how this integration should be established and measured. Information on all three layers of sustainability is generated in terms of the authorisation procedure followed but the Act provides no indication as to how these layers should be integrated, weighed or measured. Therefore, it seems that each pillar of sustainable development is viewed in isolation with no regard to any balance between the three layers.

The *MPRDA* states the principles of *NEMA* are applicable to all mining and prospecting operations, while as mentioned before the principle of sustainable development in *NEMA* is without normative content and difficult to implement. How the mining operation contributes to sustainable development is ultimately not assessed.³⁵⁸ It also seems that a strong reliance is placed on the integrity of the industry itself to give baseline information on all the layers of sustainability and to report thereon.

Another aspect which remains suspect is the environmental expertise and enforcement mechanisms of the DMR as this department is more mineral development orientated and not only focused on environmental protection as is the case with the DEA.³⁵⁹ Kidd³⁶⁰ also mentions that it is inappropriate for the DMR, which is mineral development orientated, to authorise the environmental impact of mining as this leads to the DMR "being both the referee and the player". The DMR also often lacks proper enforcement personnel, structures and resources to ensure environmental compliance, whereas the DEA uses the EMI.³⁶¹ Although the *MPRDA* has provisions that could contribute immensely to environmental protection and holding mining companies responsible for environmental degradation they are meaningless if not enforced and utilised in practice.

357 *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* 2011 4 SA 113 (CC). See also Field 2006 SALJ 748-765.

358 Summers "Defining Sustainability" 7.

359 See 1 above.

360 Kidd *Environmental Law* 228.

361 *Fourie Business Report* 3 December 2010.

5 NEMA and MPRDA Amendments

It remains to be seen whether the amendments to *NEMA* and the *MPRDA* as set out in the *Mineral and Petroleum Resources Development Amendment Act*³⁶² (*MPRDA Amendment Act*) and the *National Environmental Management Amendment Act*³⁶³ (*NEMA Amendment Act*) will contribute to a regulatory framework that is even closer to the concept of ensuring ecologically sustainable development. The amendments effected through these Acts not only change the environmental authorisation procedure of mining related activities, but also incorporate some of the provisions of the *MPRDA* into *NEMA* which contribute to a change in the EIA process.³⁶⁴

The first relevant amendment realised by the amendment Acts relates to the competent authority that approves environmental authorisations in terms of *NEMA*. The competent authority is defined in *NEMA* in the following manner and this definition was not changed in terms of the amendment Acts: "as in respect of a listed activity or specified activity, means the organ of State charged by this Act with evaluating the environmental impact of that activity and, where appropriate, with granting or refusing an environmental authorisation in respect of that activity". Section 24C of *NEMA* has however been altered to state that whenever activities are listed the competent authority must also be identified. A further new section 2A was added to *NEMA* stating that the Minister of Mineral Resources must be identified as the competent authority where the activity constitutes prospecting, mining, exploration, production or any related activity.³⁶⁵ "Minister of Mineral Resources" is also now defined in *NEMA* to mean "the Minister responsible for the implementation of environmental matters relating to prospecting, mining, exploration, production and related activities within a mining, prospecting, exploration or production area". The definition of Minister in terms of *NEMA* is also accordingly amended to exclude the functions allocated to the Minister of Mineral Resources and is defined as "in relation to all environmental matters except with regard to the implementation of

362 49 of 2008 (hereafter the *MPRDA Amendment Act*).

363 62 of 2008 (hereafter referred to as the *NEMA Amendment Act*).

364 Humby 2009 *SA Public Law* 13.

365 These activities are defined as in terms of the definitions therefore in the *MPRDA* and were incorporated into *NEMA*.

environmental legislation, regulations, policies, strategies and guidelines relating to prospecting, mining, exploration, production and related activities on a prospecting, mining, exploration or production area, means the Minister of Environmental Affairs and Tourism".³⁶⁶ These definitions ensure that despite the amendments in terms of the amendment Acts the Minister of Mineral Resources and the DMR remain the competent authorities that authorise the environmental impacts of mining related activities.

Section 24(4) of *NEMA* defined the minimum content of procedures for the investigation, assessment and communication of possible impacts of activities on the environment.³⁶⁷ Before the *NEMA Amendment Act* these impacts related to only the natural environment. The major change effected through the *NEMA Amendment Act* to this provision was the division of this section into two subsections, being section 24(4)(a) and section 24(4)(b). Section 24(4)(a) relates to the minimum standards any application must comply to and reads as follows:

Procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment-

- (a) must ensure, with respect to every application for an environmental authorisation-
 - (i) coordination and cooperation between organs of State in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of State;
 - (ii) that the findings and recommendations flowing from an investigation, the general objectives of integrated environmental management laid down in this Act and the principles of environmental management set out in section 2 are taken into account in any decision made by an organ of State in relation to any proposed policy, programme, process, plan or project;
 - (iii) that a description of the environment likely to be significantly affected by the proposed activity is contained in such application;
 - (iv) investigation of the potential consequences for or impacts on the environment of the activity and assessment of the significance of those potential consequences or impacts; and
 - (v) public information and participation procedures which provide all interested and affected parties, including all organs of State in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures.

³⁶⁶ Now the Minister of Water and Environmental Affairs.

³⁶⁷ Humby 2009 *SA Public Law* 16.

Section 24(4)(a)(ii) therefore clearly states that the principles of *NEMA* should be taken into account, of which sustainable development and the integration of social, economic and environmental factors is one. As a result of the amendment Act sustainable development is again regarded as an integrated concept forming part of any environmental authorisation process in terms of *NEMA*. It seems that these requirements are also set to ensure better governance and integration between different State departments, which in turn will further the goal of sustainable development.

Section 24(4A) states that "where environmental impact assessment has been identified as the environmental instrument to be utilised in informing an application for environmental authorisation, subsection (4)(b) is applicable" and this section reads as follows:

- (b) must include, with respect to every application for an environmental authorisation and where applicable-
 - (i) investigation of the potential consequences or impacts of alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity;
 - (ii) investigation of mitigation measures to keep adverse consequences or impacts to a minimum;
 - (iii) investigation, assessment and evaluation of the impact of any proposed listed or specified activity on any national estate referred to in section 3(2) of the *NHRA*;
 - (iv) reporting on gaps in knowledge, the adequacy of predictive methods and underlying assumptions, and uncertainties encountered in compiling the required information;
 - (v) investigation and formulation of arrangements for the monitoring and management of consequences for or impacts on the environment, and the assessment of the effectiveness of such arrangements after their implementation;
 - (vi) consideration of environmental attributes identified in the compilation of information and maps contemplated in subsection (3); and
 - (vii) provision for the adherence to requirements that are pre scribed in a specific environmental management Act relevant to the listed or specified activity in question.

In terms of an application for a prospecting right the information relating to the environmental authorisation would have to comply with section 24(4)(a) as such an application only requires a basic assessment in terms of the *NEMA* regulations. The *MPRDA*'s requirement for submitting an EMP for prospecting rights was less comprehensive than the detail required for a basic assessment. Where an

application for a mining right is lodged, compliance in terms of section 24(4)(b) is also required as such applications require an EIA. The purpose of the distinction between these two sections is to provide for a variety of environmental assessment tools³⁶⁸ ensuring that EIAs do not have to be the primary vehicle used to assess all applications for environmental authorisations.³⁶⁹ When other assessment instruments are used they must at the very least comply with the standards set in terms of section 24(4)(a). It seems that legislature intended to broaden the spectrum of the information presented to the authorities when considering environmental authorisations. Authorities are no longer restricted to only considering and receiving information on the impacts on the natural environment, but also on the mitigating measures that will be applied to limit these impacts. The approach set out in section 24(4)(a) and (b) is more in line with the concept of sustainable development. Further specific mention is made of the investigation of impacts on the national estate as defined in terms of the *NHRA* through which cultural aspects are included as a consideration included in the authorisation process.³⁷⁰

Including mining activities under *NEMA* in accordance with the amendment Acts will address certain issues that were of concern in terms of the *MPRDA* authorisation procedure. The first of such amendments is made in terms of regulations 17, 18 and 19 of the 2010 *NEMA* regulations which state that an applicant must appoint an independent environmental assessment practitioner (EAP) to manage the application and that such an EAP must possess certain minimum expertise.³⁷¹ As this is not a requirement in terms of the *MPRDA*, placing mining related activities under *NEMA* in terms of the amendment Acts would mean that mines would be obliged to appoint independent EAPs to apply for environmental authorisations. This in turn would ensure that the reports provided are unbiased and of a certain quality.

368 These other tools include environmental management frameworks, strategic environmental assessments, environmental risk assessments and other tools listed in terms of the new section 24(5)(bA) introduced in terms of the *NEMA Amendment Act*.

369 Humby 2009 *SA Public Law* 18.

370 See the discussion as at 5.5 below.

371 For a discussion on the role that EAP should play in incorporating sustainable development into the practice of EIA in South Africa see Venturi "Debating the Practical Use and Value of Sustainability Criteria" 1-21.

Public participation requirements in terms of *NEMA* are also more robust and comprehensive than the provisions relating thereto in terms of the *MPRDA*³⁷² as they require that all applications be brought to the attention of the general public as well as the necessary organs of State.³⁷³ In terms of section 5(4)(c) of the *MPRDA* an applicant could commence mining related activities on land which he or she does not own after notifying and consulting with the land owner. In terms of regulation 16 of *NEMA* a written consent from the land owner was necessary before activities could commence on land not owned by the applicant. To resolve this contrast the *NEMA Amendment Act* now stipulates that the owner must be given notice of the intended activity and informed that he or she may participate in the public participation process as required in terms of the amended regulation 16. There is a specific and well structured public participation procedure provided for in terms of *NEMA* which provides I&APs an opportunity to voice their concerns on several occasions.³⁷⁴

Some amendments made in terms of *NEMA*, for example, adopting provisions that were made in the *MPRDA*, also improve its effectiveness. For instance the submission of an EMPr was only required in terms of the *MPRDA* when applying for a mining right. In terms of the *NEMA Amendment Act* section 24N(1A) of *NEMA* now reads as follows:

Where environmental impact assessment has been identified as the environmental instrument to be utilised in informing an application for environmental authorisation, or where such application relates to prospecting, mining, exploration, production and related activities on a prospecting, mining, exploration or production area, the Minister, the Minister of Minerals and Energy, an MEC or identified competent authority must require the submission of an environmental management programme before considering an application for an environmental authorisation.

Therefore the DEA could now request that an EMPr be submitted for any application made in terms of *NEMA* which requires an EIA and section 24Q requires that performance assessments need to be done and submitted on the compliance in terms of the commitments made in the EMPr. These provisions were clearly adopted from the *MPRDA* and will make the management and monitoring of activities by the DEA easier and more effective.

372 Humby 2009 *SA Public Law* 23.

373 Regulation 59(2)(b) of GN R543.

374 Regulation 54-57 in GN R543 promulgated in terms of *NEMA*.

The effectiveness of *NEMA* has also been improved by the insertion of section 24P which is similar to section 41 of the *MPRDA* relating to the financial provision for rehabilitation. The new section in *NEMA* will not only relate to financial provisions for rehabilitation but also for environmental management of environmental impacts and the DEA could request that such a financial provision be given by any applicant, and not only for activities related to mining. Section 41 of the *MPRDA* will fall away once the *MPRDA Amendment Act* comes into effect. The offences in terms of *NEMA* were also broadened. Not only is it an offence to commence with an activity without an environmental authorisation but it is also an offence to violate any activity listed in section 24F; one of which is not to comply with the provisions of an EMP as was the case with the *MPRDA*. The fine in terms of *NEMA* for any listed offence is a fine not exceeding R5 million and/or imprisonment not exceeding ten years, which is a far more stringent sanction than was provided for in the *MPRDA*. The amendments now also indicate that mining activities fall under the scope of section 24G of *NEMA* which deals with rectifying the unlawful commencement of activities; if mining activities therefore commence unlawfully without an environmental authorisation in terms of *NEMA* the mining company is obliged to compile a report with regard to this section and pay a fine of not more than R1 million before the appropriate authority decides whether the activity may continue or not.

Section 14(2) of the *NEMA Amendment Act* states that the provisions concerning mining related activities will only come into effect 18 months after section 2 of the *NEMA Amendment Act* comes into operation (these provisions relate to the changes effected in section 24 of *NEMA*) or after the commencement date of the *MPRDA Amendment Act*. The amendment of the *MPRDA* has still not taken effect and neither have the provisions relating to mining activities in *NEMA*. In respect of the *NEMA Amendment Act* and the *MPRDA Amendment Act* it seems at first that the Minister of Mineral Resources remains the authority responsible for the environmental impact of mining and that the main aim of the amendments was to ensure that the environmental authorisation process and considerations connected therewith complies with *NEMA*. This assumption is overturned when one interprets section 13 of the *NEMA Amendment Act* which provides for the re-amendment of *NEMA* 18 months after the date envisaged in section 14(2) takes effect. The changes that will be effected are set out in a schedule to the Act and effectively

deletes all references to the Minister of Mineral Resources from *NEMA* and specifically states that all references to 'Minister' in *NEMA* will only refer to the Minister of Water and Environmental Affairs. Therefore the main objective of the amendment Acts is to ensure that the DEA becomes the main authorising body for environmental impacts on mining related activities.³⁷⁵

On the one hand the amendment Acts addresses certain aspects of concern in the *MPRDA* such as a better public participation procedure as well as the introduction of independent EAPs; it also introduces certain new aspects to *NEMA* thereby improving its effectiveness and monitoring in terms thereof. On the other hand one cannot help but wonder whether these amendments would truly contribute to ensuring better ecological sustainable development in the mining industry. At first glance it seems that placing the environmental impacts of mining activities under *NEMA* would ensure that the environment is placed at the forefront as required in terms of the mandate of ecological sustainable development. This goal is facilitated by the statement in the *MPRDA Amendment Act* that the Minister of Mineral Resources must grant a prospecting or mining right only if it will not result in unacceptable degradation of the environment and an environmental authorisation has been issued.³⁷⁶ It seems like a step in the right direction to place environmental authorisation first and foremost, and to be evaluated by the department that evaluates all other industries' environmental impacts. As stated before the DEA has the mandate, knowledge and relevant enforcement structures in place to ensure better environmental protection. However, when one evaluates the actual impact of the amendment Acts the danger exists that the environmental layer will be viewed in isolation from the other layers of sustainability. Only after a decision is made to authorise the environmental impact of mining activities under the EIA process of *NEMA* will the DMR consider the socio-economic impacts of mining before a prospecting or mining right is issued. The amendments would lead to an even more fragmented environmental governance framework with the DEA evaluating environmental impacts and the DMR only thereafter evaluating socio-economic factors before a right is issued. It also seems that the evaluation of socio-economic factors through processes such as the submission of SLPs and mining work

375 Humby 2009 SA Public Law 30.

376 Section 13(b) and 9(a).

programmes will be of less importance as the Minister must authorise a prospecting or mining right after an environmental authorisation has been issued; making no mention of socio-economic factors that must be taken into account. This seems contrary to the goal of sustainable development. As stated by Summers³⁷⁷ "the South African legal context for the global pursuit of sustainable development requires the appropriate integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions".

Placing the environmental authorisation of mining activities under *NEMA* does not further this goal; as discussed before. *NEMA* does not make adequate provision for incorporating sustainable development into the EIA process and the implementation thereof is not practical.³⁷⁸ The amendment Acts also have not introduced a procedure to describe how the different pillars of sustainability should be integrated, balanced and weighed against one another. Even though section 24(4)(a) specifically states that the principles set out in section 2 must be accorded recognition in the authorisation process, the fact of the matter is that the principle of sustainable development remains just that, a principle, without normative content and precise meaning. Due to this much is left to the discretion of the decision-maker which could lead to arbitrary decisions being made due to decision-makers being left to decide how the layers of sustainability must be measured and balanced. Summers³⁷⁹ avers "it is hard to make informed decisions about sustainability without criteria and indicators which contextualise and measure sustainability". The *NEMA* principles are without normative content, leaving too much room for subjective interpretation and are ultimately not effective in establishing a legal framework to ensure sustainability. Therefore, placing mining activities under *NEMA* will lead to an even more fragmented and ultimately ineffectual environmental governance framework which will not ensure sustainability for the mining industry.

Despite environmental compliance and enforcement through *NEMA* and the *MPRDA* there are also a number of sector-specific environmental management Acts and regulations applicable to the mining industry.

377 Summers "Defining Sustainability" 1.

378 Hardcastle and Gerber "Sustainability Criteria for EIA Practice in South Africa" 2.

379 Summers "Defining Sustainability" 6.

6 Sector-Specific Legislation

The Acts regulating the mining industry's impact on specific sectors such as water,³⁸⁰ air,³⁸¹ waste,³⁸² protected areas³⁸³ and national heritage³⁸⁴ will be discussed briefly and the impact of these Acts on ensuring ecological sustainable development will be investigated.

6.1 NWA

Water³⁸⁵ is the most common resource negatively affected by mining.³⁸⁶ The use of water by the mining industry is regulated in terms of the NWA and GN R704³⁸⁷ promulgated in terms of the Act; specifically applicable to the mining industry and administered by the DWA. These regulations were promulgated to regulate the use of water by the mining industry to ensure the protection of water resources by prescribing certain minimum standards that mining companies must adhere to. It is important that water management and pollution control measures be described in the EMP or EMPr of a mining operation.³⁸⁸ In addition,, a mine must register its water uses and obtain water use licenses in terms of section 21³⁸⁹ of the NWA for each water use.³⁹⁰GNR704 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

380 See 5.1 below.

381 See 5.2 below.

382 See 5.3 below.

383 See 5.4 below.

384 See 5.5 below.

385 For a detailed discussion on water and the law applicable thereto see Kidd *Environmental Law* 68-96 as well as King, Maree and Muir "Fresh Water Systems" 425-512.

386 Wells *et al* "Terrestrial Minerals" 560.

387 GN R704 in GG 20119 of 4 June 1999 (hereafter referred to as GN R704).

388 Regulation 2(2)(a) of GN R704.

389 For a detailed discussion on the application of section 21 see Thompson *Water Law* 417.

390 Section 21(a) is for the use of water from a borehole, section 21(b) would be for all clean water dams, section 21(f) would be for any discharge of water containing waste into any other water resource, section 21(g) would be for the storage of water containing waste, such as pollution dams, section 21(j) is for dewatering of underground workings.

- (ii) out of which process any residue is derived, stored, stockpiled, accumulated, dumped, disposed of or transported.

According to this definition, any and all mining activities are regulated in terms of the Act and the regulations specifically state that any person intending to operate a new mine or conduct any new activity on a mine must notify the DWA of such intention not less than 14 days before the start of such an operation.³⁹¹

GN R704 defines a dirty water area as: "Any area at a mine or activity which causes, has caused or is likely to cause pollution of a water resource". The regulations also define a clean water system as: "Any dam, other form of impoundment, canal, works, pipeline and any other structure or facility constructed for the retention or conveyance of unpolluted water". Regulation 6(a) further states that "any person in control of a mine must confine any unpolluted water to a clean water system, away from any dirty area". The regulations further stipulate the capacity requirements for clean and dirty water systems,³⁹² it restricts the locality of dams and other infrastructure³⁹³ and it stipulates the actions that any person in control of a mine³⁹⁴ must take to protect water resources.³⁹⁵

The first mention of the term sustainable development in the *NWA* is seen in the definition of "reserve": "the quality and quantity of water required to protect aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource". It seems clear that the *NWA* recognises the constitutional mandate of securing ecologically sustainable developments stated in its preamble: "Recognising that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water

391 Regulation 1 of GN R704.

392 Regulation 6 of GN R704.

393 Regulation 4 of GN R704 specifically states that no person in control of a mine may locate any residue deposit, dam, reservoir, together with any associated structure or any other facility within the 1:100 year flood-line or within a horizontal distance of 100 metres from any watercourse or estuary, borehole or well.

394 A person in control of a mine is defined as "in relation to a particular mine or activity, includes the owner of such mine or activity, the lessee and any other lawful occupier of the mine, activity or any part thereof; attributer for the working of the mine, activity or any part thereof; the holder of a mining authorisation or prospecting permit and if such authorisation or permit does not exist, the last person who worked the mine or his or her successors-in-title or the owner of such mine or activity; and if such person is not resident in or not a citizen of the Republic of South Africa, an agent or representative other than the manager of such a mine or activity must be appointed to be responsible on behalf of the person in control of such a mine or activity".

395 Regulation 7 of GN R704.

users" and further stating in Chapter 1 that "the National Water Act has provided for fundamental reform of the law relating to the protection, use, development, conservation, management and control of water resources on the basis of equity and sustainability as central guiding principles".

The objectives of the Act are formulated broadly lending itself toward a sustainable development paradigm by specifically stating that the purpose of the Act is to facilitate social and economic development as well as the protection of water resources and equitable access thereto.³⁹⁶ Section 27(1)(d) states that the socio-economic impact of authorising or not authorising a license must be considered by the DWA before making a decision. No further mention is made of sustainable development or sustainability in the Act itself. The Act does not address cultural considerations and is mostly concerned with environmental aspects. Although the Act mentions that socio-economic development should be facilitated and taken into account; the Act does not specify how these aspects must be integrated and balanced to ensure sustainability.

The reference to sustainable development is principle-based and without normative content and therefore the *NWA* also does not contribute greatly to a better understanding as to how the principle should be interpreted, balanced or given effect in the mining industry. In terms of the pricing strategy for water use³⁹⁷ promulgated in terms of the *NWA* ecological sustainability, as applicable to water resources, is further described as:

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.

This is a more substantive definition of ecological sustainability than is found in any other Act and describes in broader terms how water resources should be managed to ensure sustainability.

396 See section 2 of the *NWA*.

397 GN R1353 of 12 November 1999.

6.2 NEMAQA

A holder of a prospecting or mining right must also comply with national air quality management standards and the assessment of impacts relating to air quality must form part of the mine's EMP or EMPr.³⁹⁸ In addition, mining companies must adhere to the provisions of the *NEMAQA* which is also administered by the DEA. The purpose of the Act is stated in its preamble as: "The quality of ambient air in many areas of the Republic is not conducive to a healthy environment for the people living in those areas let alone promoting their social and economic advancement". The purpose of the Act takes note of the concept of sustainable development and mentions the pillars thereof:

And whereas everyone has the constitutional right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -

- (a) prevent pollution and ecological degradation;
- (b) promote conservation; and
- (c) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Act provides for the setting of national frameworks and standards to control air quality. The National Framework for Air Quality Management in the Republic of South Africa was established in 2007.³⁹⁹ In terms of the Act and National Framework national, provincial and local authorities may establish air quality and emissions standards that must be adhered to by all industries.⁴⁰⁰ Section 21 of the *NEMAQA* states that the Minister must "publish a list of activities which result in atmospheric emissions and which the Minister or MEC reasonably believes have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage".

The Minister published the listed activities in 2010 with the required emission standards for these listed activities as required in terms of section 21(3) of the Act.⁴⁰¹ Emission standards for nine categories of emitting activities are set, incorporating a

398 Wells *et al* "Terrestrial Minerals" 568.

399 GN R1138 in GG 30284 of 11 September 2007 (hereafter referred to as the National Framework).

400 Kidd *Environmental Law* 160.

401 GN R248 in GG 33064 of 31 March 2010.

total of fifty-eight activities; the metallurgic industry and mineral processing are the two categories specifically addressing the mining industry.⁴⁰² Section 22 of the Act specifically states that no person may conduct any of the listed activities without an atmospheric emission license.⁴⁰³ Section 39 sets out the relevant factors that the authorising body must take into account before issuing a license; one of which is the effect of pollution on the "environment, including health, social conditions, economic conditions, cultural heritage and ambient air quality".⁴⁰⁴ This statement refers to all the pillars of sustainable development and in assessing the impacts of these listed activities all these pillars must be taken into account; the Act, however, does not specify how these pillars should be integrated and balanced and the concept of sustainable development remains without normative content. As a sector-specific Act promulgated in terms of *NEMA* this Act also falls under the principles of *NEMA* listed in section 2 thereof.

6.3 NEMWA

Waste material from reduction works, screening and washing installations, and beneficiation plants and generating stations of a mine must be managed and disposed of in accordance with the mine's approved EMP or EMPr.⁴⁰⁵ The storage or dumping of any waste, rubble, litter, garbage or discards of any kind must take place only at demarcated sites identified for such purposes in the EMP or EMPr. Additionally, mines must adhere to the principles and standards for waste management in terms of the *NEMWA* also administered by the DEA. The goal of ensuring ecologically sustainable development is specifically referred to in the preamble of the Act: "to reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development". The goal of the Act as stated in its preamble is to prevent pollution, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social

402 Kidd *Environmental Law* 162.

403 Section 52(1) of *NEMAQA* states that a contravention of this section is an offence and punishable by a fine of R5 Million or imprisonment for a period of five years or both.

404 Section 39(b) of the *NEMAQA*.

405 Wells *et al* "Terrestrial Minerals" 572.

development. The Act does not apply to radioactive waste which is regulated in terms of the *Hazardous Substances Act* and the *Nuclear Energy Act*⁴⁰⁶ and the Act also does not apply to residue deposits and residue stockpiles that are regulated under the *MPRDA*. The waste that the Act is applicable to is defined as:

any substance, whether or not that substance can be reduced, re-used, recycled and recovered-

- (a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
- (b) which the generator has no further use of for the purposes of production;
- (c) that must be treated or disposed of; or
- (d) that is identified as a waste by the Minister by notice in the *Gazette*,

and includes waste generated by the mining, medical or other sector, but -

- (i) a by-product is not considered waste; and
- (ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste.

The Act deals with waste management strategies, licensing, norms and standards for all waste that fall within the above definition, specifically stating that waste generated by mining activities forms part of the scope of the Act except where the waste is a by-product that could be used in the production of other products or if the waste is re-used or recycled.⁴⁰⁷ Mines must comply with the national norms and standards set by the Act for the classification of waste; planning for and provision of waste services; the storage, treatment and disposal of waste and planning and operation of waste disposal facilities.⁴⁰⁸

Section 16(1) of the Act imposes duties in respect of waste management and specifically states that the holder of waste must avoid the generation of waste and if it cannot be avoided minimise the generation of waste; reduce and recycle waste; manage waste in such a manner that it does not affect the health or well-being of any person and prevent any employee from contravening the provisions of this Act. Moreover, section 19 requires the Minister to list activities that have or may have a detrimental effect on the environment. Activities listed require a license and must conform to certain standards.⁴⁰⁹ A list in terms of this section was published in 2009

406 Section 46(1) of the *Nuclear Energy Act* specifically states that no person may discard radioactive waste in any manner without the approval of the Minister of Mineral Resources.

407 *Kidd Environmental Law* 178.

408 Section 7(1) of *NEMWA*.

409 *Kidd Environmental Law* 183.

with category A and B activities being identified.⁴¹⁰ If a mine practises an activity listed in terms of category A, a basic assessment in terms of the *NEMA* must be done to obtain authorisation for such an activity and if a mine practises an activity listed in terms of category B an EIA would have to be conducted in terms of *NEMA* to obtain an authorisation for such an activity.⁴¹¹

Section 48(b) of the Act mentions that environmental, economic, social and cultural considerations must be taken into account when considering an authorisation in terms of this Act; placing the Act within the ambit of sustainable development. However, the *NEMWA* follows the procedures as set out for environmental authorisation in *NEMA* and as discussed before *NEMA* does not provide normative content to the concept of sustainability and is ineffectual in establishing sustainability.⁴¹² *NEMWA* therefore also does not provide normative meaning to the concept of sustainable development and does not indicate how the pillars of sustainable development must be measured, balanced and integrated. As a sector-specific Act promulgated in terms of *NEMA* this Act also falls under the principles of *NEMA* listed in section 2 thereof.

6.4 NEMPAA

The *NEMPAA* provides in Part 4, section 48(1), (2), (3) and (4) for the restriction of mining activities in certain areas. These sections stipulate that no person may conduct any mining or prospecting activity in a nature reserve, a specialised/unique/extraordinary nature reserve, a protected environment or a protected area without the written permission of the Minister and cabinet members responsible for mineral resources. This act is administered by the DEA and it states that the Minister of Water and Environmental Affairs must review all mining activities lawfully conducted in the abovementioned areas before the enactment of the *NEMPAA*.⁴¹³ The Minister in consultation with the Minister of Mineral Resources

410 GN R718 in GG 32368 of 3 July 2009.

411 Waste activities practised by mines that would commonly trigger one of these categories would be the use of salvage yards for scrap metal, the storage of old and discarded tyres sometimes used to demarcate safety zones, the use of septic tanks and also the use of sewage treatment plants to name but a few.

412 See 3 above.

413 Wells *et al* "Terrestrial Minerals" 574.

decides under which conditions such activities may continue in these areas and in doing so the interests of local communities and the environmental principles enshrined in *NEMA* must be considered. Concerning sustainable development, it is a principle in *NEMA* and although this Act states its purpose to promote the sustainable use of protected areas for the benefit of all people it does not provide normative content to the principle in any way to ensure the implementation of the concept.

The purpose of the Act is stated in section 2 thereof and centres mainly on the protection of ecologically viable areas. However, section 2(j) refers to the fact that the Act also aims "to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;" placing the Act within the ambit of sustainable development. This is one of the only Acts that refers to the interrelationship between the different layers of sustainable development and which states one of its purposes as managing this interrelationship. A further purpose of the Act is stated in section 2(k) being "to contribute to human, social, cultural, spiritual and economic development"; bringing cultural considerations within the ambit of this Act. However, the Act does not define or explain the interrelationship between the different layers of sustainability and gives no guidance as to how these layers must be integrated and balanced during decision-making. As a sector-specific Act promulgated in terms of *NEMA* this Act also falls under the principles of *NEMA* listed in section 2 thereof.

6.5 NHRA

The *NHRA* regulates the protection of heritage resources which could be described as any place or object of cultural significance.⁴¹⁴ The Act is administered by the national department responsible for arts, culture and heritage in conjunction with the SAHRA. The Act refers to heritage resources in South Africa as being part of the national estate which may include:⁴¹⁵

- (a) places, buildings, structures and equipment of cultural significance;

414 Kidd *Environmental Law* 218.

415 Section 2 of the *NHRA*.

- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including -
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;

The heritage resources listed above are classified into various gradings in accordance with section 7 of the Act and mechanisms for the protection and management of these resources are provided for in terms of the Act.⁴¹⁶ The description of any heritage site listed above as well as the management and protection thereof should be described in a mine's EMP or EMPr if such a site exists on the mining or prospecting area.⁴¹⁷ The DMR often requests mines to conduct impact assessments to determine the impact of mining activities on national heritage in the surrounding areas of a mine.⁴¹⁸ As noted in the most recent amendments, *NEMA* makes specific provision for the impact of activities on national heritage resources to be investigated as part of the EIA procedure.⁴¹⁹ General provisions in terms of the Act such as section 34(1) which specifically states that "No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority" may apply to mining operations and mines must take cognisance of this.

No mention of sustainable development or sustainability is made in this Act. It only addresses the cultural and environmental aspects of sustainability in detail. In section 5 of the Act, the general principles of heritage resource management are addressed and specific reference is made to the fact that "policy, administrative

416 These mechanisms include the declaration of national heritage sites and provincial heritage sites in terms of section 27; declaration of protected areas in terms of section 28; the use of heritage registers in terms of section 30 and the declaration of heritage areas in terms of section 31.

417 See section 49 of the *MPRDA*.

418 Also see DMR 2011 www.dmr.gov.za for the prescribed templates in accordance with which the EMPr and EMP must be drafted.

419 See section 24(4)(b)(iii) of *NEMA* discussed at 5 above.

practice and legislation must promote the integration of heritage resources, conservation in urban and rural planning and social and economic development"; effectively incorporating socio-economic considerations into heritage resource management.⁴²⁰ Section 5(7) clearly states that assessments regarding heritage resource management must "contribute to social and economic development". Once again this Act does not set out any procedures or guidelines to balance and integrate the different pillars of sustainable development.

It appears that all the sector-specific Acts applicable to mining impacts on water, air, waste, protected areas and heritage resources are more concerned with the concepts of environmental protection and conservation and only incorporates social and economic aspects by implication. In most of these Acts the principle of sustainable development is mentioned and described to some extent but in the end no normative content is given to the concept. These Acts do not provide guidance or procedures on how to integrate the conflicting interests between environmental, social, economic and cultural aspects. It remains questionable whether these Acts contribute to the goal of achieving sustainability in practice.

7 Conclusions and Recommendation

As a developing country, South Africa has an urgent need to develop socio-economically. To meet this need, the government must strive to achieve various forms of development and job creation.⁴²¹ Mining is an industry that could make a vast contribution to this goal as it generates massive amounts of revenue and secures jobs for the masses. The mining industry already contributes to the South African economy to a great extent which ensures South Africa's dependence on this industry.⁴²² Over the last twenty years the world as a whole has come to realise that unrestrained development can no longer be allowed due to the harm it causes the natural environment on which humans are dependent.⁴²³

420 Section 5(6) of the *NHRA*.

421 See 1 above as well as 2.3 above.

422 See 1 above.

423 See 1 above as well as 2.2 above.

It is clear that some trade-off between the environment and socio-economic needs must occur. Sustainable development was identified as the vehicle to establish the rules of this trade-off and for the purposes of this study it was defined as a process of mining natural resources in such a way as to preserve it for the benefit of future generations, taking into account not only the natural environment but also socio-economic and cultural considerations.⁴²⁴ Mining seems unsustainable due to the fact that it leads to the destruction of the natural environment and the depletion of non-renewable resources. Mining companies should nonetheless strive to achieve sustainability. The aim of this study was to determine how the sustainability concept within mining and environmental legislation could be interpreted and given effect to in order to ensure better environmental governance within the mining sector. For the purposes of this study sustainability was regarded as a state reached if the socio-economic development allowed to take place could be supported and sustained by the natural environment. Different authors describe sustainability and sustainable development in diverse ways.⁴²⁵ Authors differ on how the layers of sustainable development should be weighed, measured and balanced. For the purposes of this study a sustainability model was developed for the mining industry along the line of the different layers of an onion to illustrate the interdependence of all the different layers of sustainability.⁴²⁶

The *Constitution* stipulates that the State should establish an environmental governance framework through legislative and other measures to, amongst others, protect the environment and prevent pollution while ensuring justifiable social and economic development. Sustainability could therefore be achieved through the process of governance.⁴²⁷ South Africa has a relatively sophisticated environmental regulatory framework although this framework also has its own inherent flaws, such as the fact that it is extremely fragmented and often lacks the implementation of enforcement and compliance mechanisms.⁴²⁸ The current environmental governance framework regulating mining and decisions taken by administrators in terms thereof is constantly being challenged, indicating that the current governance structure does

424 See 2.2 above.

425 See 2.2 above.

426 See 2.3 above.

427 See 2.1 above.

428 See 2.1 above.

not always amount to good governance or the fulfilment of the constitutional mandate of ensuring ecologically sustainable development.⁴²⁹ While the *Constitution* emphasises the importance of the integration of environmental, social and economic considerations the question remains as to how the notion of sustainable development should be interpreted in a country suffering from severe poverty and a need for social and economic development.⁴³⁰ A further factor contributing to the difficulty of interpreting sustainable development in South Africa is the past socio-economic inequality. It is important that the environmental governance structure implemented to regulate the mining industry should take all of these considerations into account and must adequately address all the issues associated with sustainability.

Part of the scope of this study was to evaluate the contribution of the *NEMA*, the *MPRDA* and other sector-specific legislation to ensuring sustainability in the mining industry. References to sustainable development and the different layers of sustainability in the legislation are summarised in Table 1 below, with reference to the different layers: economic, social, cultural and environmental.

Legislation	SD	Economic	Social	Culture	Environment
<i>NEMA</i>	Preamble S1; S 2	Preamble S 2; S 23	Preamble S 2; S 23	S 1; S 2; S 23;S 24	S 1;Preamble S 24
<i>MPRDA</i>	Preamble ; S 1; S 37	Preamble; S 1; S 37; S 10; S 18; Reg 7; Reg 11; Reg 15	Preamble; S 1; S 37; S 23; Reg 46; S 100; S 28	Reg 49; Reg 50; Reg 51; Reg 52	Preamble, S 1; S 17; S 23; S 37; S 38; S 39; Reg 50; Reg 51; Reg 52; S 41;S 98; S 99; S 43; Reg 55
<i>NWA</i>	Preamble S1; S 2	S 2; S 27	S 2; S 27		Preamble; S 1; S 2; S 21

429 See 1 above as well as 2.1 above.

430 See 2.3 above as well as 3 above.

Legislation	SD	Economic	Social	Culture	Environment
<i>NEMAQA</i>	Preamble	Preamble; S39	Preamble; S 39	S 39	Preamble; S 21; S 22; S 39
<i>NEMWA</i>	Preamble	Preamble; S 48	Preamble; S 48	S 48	Preamble; S 7; S 16; S 19; S48
<i>NEMPAA</i>	Preamble	S 2	S2	S 2	S 48; S 2
<i>NHRA</i>		S 5	S 5	Preamble; S 1; S5; S 7	Preamble; S 5

Table 1: Summary of references in legislation to sustainable development

When assessing and interpreting the sections in the relevant legislation in Table 1 it is clear that the main environmental framework law governing mining, being the *MPRDA*; the national environmental framework law, *NEMA*; as well as sector-specific legislation governing the effects of mining on water, air, waste, protected areas and national heritage, do not always adhere to the constitutional mandate of ensuring ecologically sustainable development and does not give normative content to the concept.

The *NEMA* is more focused on environmental conservation and protection than the integration of the various layers of sustainable development. Sustainable development is recognised by the *NEMA* in the form of principles, without normative content. The main vehicle employed by *NEMA* to fulfil its mandate, being the EIA regime, gives no description of what the principle of sustainable development entails and does not make the concept workable and implementable. In assessing the goal of the EIA regime, the type of information generated in terms thereof and the expertise of the regulator considering the information, it is clear that the *NEMA* does not establish a regulatory framework that furthers the goal of sustainable development.⁴³¹

431 See 3 above.

The *MPRDA* on the other hand takes cognisance and addresses three layers of sustainable development through processes such as the submission of an EMP, SLP and a MWP.⁴³² The layers are however addressed individually and the *MPRDA* provides no guidance on the integration of these pillars. The *MPRDA* does not adequately address the effect of mines on the different cultures of communities surrounding mines; these aspects only surface by assessing the cultural impact of mining activities as part of the EMP of a mine or by assessing the impact on cultural heritage in terms of the EMP.

Other sector-specific legislation is more concerned with the concepts of environmental protection and conservation; not addressing the issue of sustainable development adequately.⁴³³ In all environmental authorisation procedures it is left to the authorising body to decide how the layers of sustainability should be balanced and integrated; this significantly enlarges the risk that subjective and arbitrary decisions could be made.

Sustainability criteria, which could be utilised to ensure socio-economic considerations are balanced against environmental factors, should be set out in terms of *NEMA* to ensure sustainable outcomes in decision-making.⁴³⁴ Placing mining activities under the scope and application of the *NEMA* will not ensure sustainability in the mining industry without sustainability criteria being established.

Ultimately a true understanding must be acquired of how mining in its unique way contributes to sustainability. An environment-centred approach to sustainability is difficult to implement in the mining industry as mining damages the natural environment on which people depend. However, as stated by Summers,⁴³⁵ in practice sustainability is more than ensuring just the integrity of the environment; it is also a question of equity. The mining industry must strive to achieve the fulfilment of socio-economic needs and the desire to attain equity. To reach these goals a sustainability model must be developed to coincide with the unique characteristics, needs and responsibilities of the mining industry. It seems that a variation approach

432 See 4 above.

433 See 6 above.

434 See 3 above.

435 See 2.3 above as well as 3 above.

to sustainability is needed whereas an economic development-centred approach was adopted and this model was illustrated in the form of an onion.⁴³⁶ This model recognises that social, cultural and environmental issues are represented by the inner layer of the onion, protected by the outer layer being economic development. Economic gain generated through mining must be used to ensure social upliftment, the advancement of cultural aspects and the protection of the environment; in turn economic development itself cannot exist on a deteriorating environmental, cultural or social base.⁴³⁷ The legitimate base chosen for this sustainability model would be the *MPRDA* with its goals of socio-economic growth, poverty alleviation and equitable development of mineral resources.

When interpreting sustainability in the mining industry, the model described in this study could be a useful instrument, ensuring that the interpreter is aware that economic development is the main goal or reason for mining, while measures must be implemented to adequately protect social and cultural aspects and especially the environment. Decision-makers should bear in mind that the outer economic layer of the onion would not be able to exist on deteriorating inner layers and must make decisions and interpret legislation accordingly. Sustainability criteria could be formulated in line with this model to ensure better regulation and greater sustainability in the mining industry.

Sustainable development of mineral resources in South Africa should be achieved through a co-operative governance framework ensuring maximum socio-economic benefits from mining while also guaranteeing that adequate measures are in place to prevent mining activities from having a detrimental effect on health and well-being. The governance framework must ensure that mineral resource development takes place equitably, meeting the needs of present generations, while ensuring that adequate resources will be available to assist future generations to meet their own needs and having regard for the contribution mining could make in its own right in striving to achieve sustainability.

436 See 2.3 above.

437 See 2.2 and 2.3 above.

To achieve these goals, the current regulatory framework pertaining to mining in terms of the *MPRDA* should develop sustainability criteria that could be employed by decision-makers to ensure that socio-economic considerations are balanced against environmental and cultural factors. As mentioned previously the *MPRDA* regulates the impact of mining on economic, social, environmental and cultural aspects; however the Act views these aspects in isolation. When considering an MWP the authorities do not assess the social or cultural impacts of the programme. Similarly, when considering an SLP, the cultural and economic impacts of such plans are not assessed. To ensure better sustainability within the environmental governance framework currently regulating the mining industry, sustainability criteria should be developed in terms of the *MPRDA*, clearly indicating how the different layers of sustainable development should be weighed, balanced, and especially integrated by decision makers.

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