



# **Fracking in the Karoo: An Environmental Justice Perspective**

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## **DECLARATION**

I, MELISSA AUGUSTINE, declare that this Research Report is my own unaided work. It is submitted in partial fulfillment of the requirements for the degree of Master of Laws (by Coursework and Research Report) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

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## **ABSTRACT**

This research essay is written from an environmental justice perspective as a critique on the Government's decision to explore fracking Karoo. This essay is written in consideration of the voice of the predominately self-sufficient farming and farming reliant communities that live in the Karoo, within the context of the lack of participation which has been one of the greatest legal issues arising from the decision to pursue fracking in the Karoo. The lack of participation is not only an environmental injustice but is also an administrative justice issue under the principle of procedural fairness. The exclusion of the communities affects the rationality of the decision made by the government. A decision cannot satisfy the requirements for rationality in terms of administrative law if the decision makers cannot consider all of the relevant facts, such as the voice of the communities on the burdens that they would face should fracking proceed. The loss of historical value as well as the use of the land is one of the main burdens which will be placed on the community. The affects on the economy of the community which is heavily reliant on their farming would devastating for thousands of families who were historically and are presently prejudiced based on race, gender and their economic status. A related burden which will be carried by the communities is the possible contamination of the groundwater which the communities heavily rely on for their farming. The commitment to the depletion of water which will result from the practice of fracking in a water stressed country is certainly not rational. The burdens which are experienced by the communities far outweigh the benefits of fracking which are in fact established to be uncertain. The lack of consideration of the burdens by the Minister of Environmental Affairs can be attributed as a consequence of the lack of participation. The inclusion of the communities in the decision-making process would change the entire lens which is currently placed on fracking, as decision makers would be forced to consider the burdens rather than the benefits. It will be concluded that when the voice of the communities in the Karoo are considered that it would be the only rational conclusion for the Minister of Environmental Affairs, as the competent Minister, to consider that the environmental burdens to be experienced by the communities would outweigh the benefits of fracking in the Karoo being pursued.

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## 1. Introduction

*“Energy is the blood that runs through the veins of every economy. It is to the survival of an economy what water is to the survival of the human body. The extent of the dependence on energy of any economy is dependent on the structure of that particular economy and the level of development of the economy and country.”*<sup>1</sup>

This quote from the Department of Minerals and Energy Master Plan-Liquid Fuels (2007) powerfully explains the value of energy in an economy. South Africa is in the midst of an economic evolution.<sup>2</sup> The current economic position of South Africa has led to rapid urbanisation in many parts of the country.<sup>3</sup> This rapid urbanisation has resulted in an increased demand for energy in the form of electricity.<sup>4</sup> The strain placed on the current energy resources due to the increased demand for electricity has created a need for the introduction of blue bridge energy sources.<sup>5</sup> Blue bridge energy sources are meant to be “cleaner alternative energy sources” which would be utilised, until the realisation of renewable or green energy sources become an economically and socially feasible reality.<sup>6</sup> One of the main blue bridge energy sources is the process of fracking<sup>7</sup> which is the colloquial term used for hydraulic fracturing or shale gas mining.<sup>8</sup>

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<sup>1</sup> Energy Security Master Plan- Liquid Fuels (2007).

<sup>2</sup> The People’s Dialogue *The People’s Dialogue Declaration on the Green Economy and in defence of mother earth and the commons*, (unpublished paper, Johannesburg 7 May 2012).

<sup>3</sup> Nicola Armaroli and Vincenzo Balzani (eds) *Energy for a Sustainable World* (2011) 6.

<sup>4</sup> Patrick Devine-Wright *Renewable Energy and the Public from Nimby to Participation* (2011).

<sup>5</sup> Devine-Wright op cit note 4.

<sup>6</sup> Steve Hedden and Jonathan D Meyer et al ‘Fracking for Shale South Africa: Blessing or Curse?’ (2013) available at <https://issafrica.org>, accessed on 22 September 2017.

<sup>7</sup> The term Fracking will be used throughout this essay in discussion of the process of Hydraulic Fracturing otherwise known as Shale Gas Mining.

<sup>8</sup> Andre Konoplyanik ‘Energy Security and the development of International Energy Markets’ in Barry Barton & Catherine Redgwell (eds) *Energy Security Managing risk in a Dynamic Legal and Regulatory Environment* (2004) 47 at 47-48.

This essay is written through the lens of the self-sufficient farming and farming reliant communities that live in the Karoo<sup>9</sup>. The Karoo is an agricultural driven economy that employs thousands of residents.<sup>10</sup> The owners of these large farms have taken the forefront of the activism against fracking in the Karoo, this can be seen in the case of *John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources*.<sup>11</sup> The applicants in this matter were middle-class to wealthy and predominantly white farmers who successfully challenged the regulations relating fracking, which will be discussed in greater detail below. The mainstream voice of activism against fracking in the Karoo has been led by this group of people in the Karoo. These farm owners have been joined by large activism groups such as the TKAG.<sup>12</sup> This essay does not discount the voice of these applicants in the *Stern* case or the work done by the TKAG and large activism groups alike. This essay however seeks pose the question where is the voice of the farm workers and the small self-sufficient farmers that have historically survived by living off of the land?

Fracking is a matter of great contention within the South African context, as the government advocates that it would be beneficial as it is “realistic” blue bridge energy source.<sup>13</sup> However groups oppose fracking, advocate that the burdens on the environment as well as the community will far outweigh the possible benefits.<sup>14</sup> A direct impact of the economic evolution is environmental degradation.<sup>15</sup> In a South African context however the burdens of the environmental degradation is often greatly carried by the intersectionally prejudice communities.<sup>16</sup> These intersectionally prejudiced communities can be broadly defined as the majority group in South Africa, this being the black, coloured and indian population as well as indigent communities, female headed households, communities with high unemployment rates,<sup>17</sup> and in the context of this essay the unheard voices in Karoo related to fracking.

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<sup>9</sup>Karoo Space ‘The Republic of the Karoo’ available at <http://karoospace.co.za/the-republic-of-the-karoo/>; Karoo Space ‘Fracking vs Farming’ available at <http://karoospace.co.za/fracking-vs-farming-karoo/>.

<sup>10</sup> Ibid.

<sup>11</sup> Case No. 5762/2015.

<sup>12</sup> The Treasure the Karoo Action Group, which lead much of the litigation and activism against fracking in the Karoo, further details on the group can be found on [www.treasurethekaroo.co.za](http://www.treasurethekaroo.co.za).

<sup>13</sup> Konoplyanik op cit note 8.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> S Esterhuyse et al ‘Vulnerability mapping as a tool to manage environmental impacts of oil and gas extraction’(2017) available at <http://rsos.royalsocietypublishing.org>, accessed on 02 February 2018

This research essay will unpack fracking as a blue bridge energy source in the South African context from an environmental justice perspective. A discussion of environmental justice within a South African legal context will lay the foundation of this essay. Fracking will then be defined in the current South African energy climate. The legal context of fracking will then be discussed within the context of the recent decision made by the Grahamstown High Court in the *Stern* case.<sup>18</sup> A critical evaluation of the South African governments' policy decision to continue with explorative fracking will be made in terms of the South African Administrative Law framework. The environmental issues which are created by fracking relating to land and water will be discussed within an environmental justice context. In conclusion the proposed solutions and legal recommendations will be elaborated on in reference to the legal issues discussed. This essay seeks to provoke thinking around how the small self-sufficient farming communities in Karoo who will have their rights adversely affected should fracking become a blue bridge built in the Karoo.

## **2. Legal Framework:**

### **2.1 Environmental Justice and Human Rights**

The term environmental justice can be divided into two categories; the environment and justice. The environment can be noted as being defined in the definition section of the National Environmental Management Act (hereinafter referred to as "NEMA")<sup>19</sup>, the definition of environment is directly quoted from NEMA as follows:

*"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 or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing."*<sup>20</sup>

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<sup>18</sup> *Stern* supra note 11.

<sup>19</sup> Definition section, Act 56 of 2002.

<sup>20</sup> *Ibid.*

Justice can be said to be a relative term and is often recognised as being the absence of injustice and is often defined in defining what the inversion of justice actually is.<sup>21</sup> Justice can therefore be defined as the existence of the distribution of rights and responsibilities, as well as the equal sharing of economic benefits and burdens which exists in legal communities.<sup>22</sup> It is often the issue that in treating the mere surface level injustice that the root of injustice is often ignored and therefore the surface level issues which are the results of injustice are dealt with on a temporary basis, as so often the roots which are ignored only continue to enlarge and when the surface level affects re-surface they return with greater strength.<sup>23</sup> In consideration of the above mentioned two broad definitions to achieve an ‘environmentally just’ society that it is necessary for Einstein’s theory of “evolutionary thoughts” to be implemented which is based on his quote; “The problems that exist in the world today cannot be solved by the level of thinking that created them.”- Albert Einstein<sup>24</sup> . This quote essentially inhabits his theory that the same train of thought which continually creates a situation such as the current energy crisis, which is underwritten by an imbalance of enjoyment of socio-economic rights, is not the same train of thought which can successfully resolve the situation at hand.<sup>25</sup> Environmental justice would effectively be the opposite of the current injustice; this would mean that society would rely on natural resources to the extent that it is not in a situation of deficit with regards to natural resources. It can furthermore be said that environmental justice is probably one of the most politically infused as well human rights influenced theory in environmental law.<sup>26</sup>

## **2.2 Environmental Justice: The origins of the theory, Environmental Law Theory in the United States**

Before considering the theory of environmental justice within a South African contextual framework it is necessary to first consider the origins of the environmental law theory in the United States of America (USA), where environmental justice is based on the huge imbalance of environmental rights and responsibilities occurring between the minority (black population)

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<sup>21</sup> N Fraser ‘Social Justice in the Age of Identity Politics, Redistribution, Recognition and Participation’ in N Fraser & A Honneth *Redistribution or Recognition* (2007).

<sup>22</sup> Ibid.

<sup>23</sup> Fraser op cit note 21.

<sup>24</sup> H Scheer *Energy Autonomy* (2007) 22.

<sup>25</sup> Fraser op cit note 21.

<sup>26</sup> Michael Kidd ‘Environmental Justice’ 2009 *Acta Juridica* 142.

and the majority (white population).<sup>27</sup> Based on the USA model waste and discarding sites are situated more closely to minority group communities as well as the communities which are less fortunate.<sup>28</sup> The dumpsites are referred to as ‘locally undesirable land uses otherwise referred to as ‘LULUs’.<sup>29</sup> These ‘LULUs’ are a clear indication of the disproportionate distribution of the burdens which are effective on the environment as well as the misdistribution of the benefits which are often not enjoyed by the communities which are left to deal with the burdens.<sup>30</sup> The absence of fair distribution of burdens, in the form of waste is a clear form of discrimination which results in the severe prejudice of the minority groups who are faced with the burdens of the ‘behaviour’ by the majority group which was to the sole benefit of the majority group.<sup>31</sup> Environmental justice in the context of this essay would then be the ‘redistribution’ of environmental injustice, this effectively means that there would be an equal enjoyment of the benefits which come from enjoying and utilising one’s environment in a way which is sustainable for the future, as well as the equal distribution of the burdens on the environment which occur as a result of urban development.<sup>32</sup>

### **2.3 Environmental Justice in South African Legal Context**

Environmental justice in the South African social, political as well as legal context is almost a direct contrast to the context in the USA, this can be said as in a South African context it is often the minority group (white racial groups) which often benefit and there is misdistribution of benefits as well as burden which result in the majority group (black, coloured and Indian racial groups) being environmentally prejudiced.<sup>33</sup> The majority group in South Africa can be classified as the intersectionally prejudiced communities who often continually face the burdens of previously prejudicial racial and political systems as well as legal systems which introduced a system which placed them at the unfortunate side of the relevant power dynamics.<sup>34</sup> It can furthermore be stated that in a South African context especially post

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<sup>27</sup> Michael Kidd ‘Environmental Justice: A South African Perspective’ in Michael Kidd 2 ed *Environmental Law* (2011) at 292-293.

<sup>28</sup> Fraser op cit note 21 at 293.

<sup>29</sup> Ibid.

<sup>30</sup> Fraser op cit note 21 at 294.

<sup>31</sup> Michael Kidd op cit note 27.

<sup>32</sup> Helen Stacey ‘Environmental justice and transformative law in South Africa and some cross-jurisdictional notes about Australia, the United States and Canada’ 1999 *Acta Juridica* 36 at 36-37.

<sup>33</sup> Fraser op cit note 21.

<sup>34</sup> Fraser op cit note 21 at 294

colonialism and post-apartheid that environmental justice will continually be centred around racial politics and economic power relations at its heart.<sup>35</sup>

It is of vital importance that the theory of environmental justice in the South African context be discussed within the context of the history of the previously embedded and currently existing environmental injustice which is faced in South Africa. Environmental injustice can be said to be deeply rooted in South Africa's history of segregation and promotion of prejudice.<sup>36</sup> Jacklyn Cock in her writing as a sociologist describes pollution as a 'slow violence', this description rings so true within the context of South Africa.<sup>37</sup> The previous laws not only unjustifiably increased the economic divide but also displaced the majority of South Africans in areas which hindered their access to a safe environment as now envisioned in the Constitution of the Republic of South Africa 1996. It is also common practice that these historically set aside areas for people of colour would not receive, basic delivery of socio-economic services such as consistent access to electricity and clean running water.<sup>38</sup> The forceful removal of people of colour by past laws from certain areas legalised not only the political and legal prejudice but the environmental prejudice as well.<sup>39</sup> The legacy of these discriminatory laws is now felt by the burden of pollution which is often shifted to these historically demarcated areas for majority group communities which are close by to wealthy urbanised areas. The legacy of the above discussed "LULUs" can clearly be seen in areas which have been demarcated as discussed.

The social injustice which was a common feature of the Apartheid regime allowed for prejudice and specifically environmental injustice.<sup>40</sup> It is interesting to note that the theory of environmental justice in the South African context, was in fact based on the conservation as well as the protection of natural resources, there was previously no social justice element.<sup>41</sup>

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<sup>35</sup> David Fig 'Manufacturing amnesia: Corporate social responsibility in South Africa' (2005) 81 no3 *International Affairs (Royal Institute of International Affairs 1944)* 599 at 599-602.

<sup>36</sup>F Khan "The Roots of Environmental Racism and the Rise of Environmental Justice in the 1990s" in DA McDonald ed *Environmental Justice in South Africa* (2002) at 17.

<sup>37</sup> J Cock "Sociology and the slow violence of toxic pollution. An invitation to debate, *South African Review of Sociology*" (2014) available at <https://doi.org/10.1080/21528586.2014.960704>, accessed on 28 December 2017.

<sup>38</sup> David Fig op cit note 35.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

<sup>41</sup> D Hallows and M Butler "Power, Poverty and Marginalized Environments" in DA McDonald ed *Environmental Justice in South Africa* (2002) at 51-52.

The environment, as previously defined, was in fact used as a tool in order to further prejudice and oppress the majority, this was often done in a manner which deprived the majority from participation as well as from the access to certain areas. In analysing the historical legacy of apartheid in an environmental justice context we can consider the living conditions in mining towns, wherein the majority often had to live as mine works in often unsafe housing which was often riddled with waste from the surrounding mines.<sup>42</sup> The majority were unable to access any benefits as they were unable to access land rights as well as forced to live in what can be described as a “LULU”.<sup>43</sup> The shift from apartheid to a democracy in 1994 is significant, as the paradigm shift ushered in the Constitutional era, The Constitution has now elevated environmental rights to the status of a fundamental human right.<sup>44</sup> However the realisation of these rights often continues to feel like a distant reality for communities in the Karoo, the area has been highlighted as the location to pioneer part of the energy revolution within South Africa however most of the households in and around the area do not even have access to a steady supply of electricity.<sup>45</sup>

## 2.4 Environmental Justice in the Constitutional Context

In the South African legal context the Constitution is the “kryptonite” which seeks to breakdown the seemingly embedded injustice of the past, in doing this human rights are elevated to the status of a social as well as a legal issues.<sup>46</sup> Human rights are an intersecting concept in the theory which is environmental justice, it can be said that the two theories cannot be separated; this is due to the fact that human rights cannot be removed from the concept of social justice and that the concept of social justice cannot be separated from environmental justice.<sup>47</sup> The Constitution of the Republic of South Africa 1996, in section 24 establishes two environmental rights namely; the right to a safe and healthy environment which promotes the overall wellbeing of an individual, in the present time the first right is for the benefit of the

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<sup>42</sup> FT Cawood ‘The Mineral and Petroleum Resources Development Act of 2002: A Paradigm Shift in the Mineral Policy in South Africa’ 104 *The Journal of the South African Institute of Mining and Metallurgy* (Jan/Feb 2004) 53.

<sup>43</sup> FT Cawood op cite note 42.

<sup>44</sup> *S v Makwanyane* 1995 (3) SA 391.

<sup>45</sup> R Scholes, P Schreiner et al ‘Shale gas development in the central Karoo: a scientific’ assessment of the opportunities and risks.’ (2016) available at <http://seasgd.csir.co.za/scientific-assessmentchapters/>, accessed on 14 June 2017.

<sup>46</sup> *Soobramoney v Minister of Health Care (KwaZulu-Natal)* 1998 (1) SA 765 (CC).

<sup>47</sup> *Minister of Health and Welfare v Woodcarb (Pty) Ltd* 1996 (3) SA 155 (N).

present.<sup>48</sup> The second right which is established in the Constitution is essentially the right to the principle of ‘sustainable development’, this can be defined as the right to not have the environment itself exploited in a manner which prejudices the future, as well as for the environment to be protected and used within justifiable means within the interests of promoting socio-economic growth.<sup>49</sup> It can be said from the Constitutional rights discussed above that the redress which the Constitution seeks to achieve is seemingly to redress the human rights issues which have been caused by the environmental injustice of the past.<sup>50</sup> The core principles of the human rights theory which influence the human rights discourse are vital to be noted within the South African context, especially with regard context of this essay. The context being the broader goals which seek to achieve the redistribution and redress of socio-economic positioning of majority and minority groups.<sup>51</sup>

This essentially means that in South Africa environmental justice would be achieved by there being a balancing of burdens and benefits and for the majority groups to benefit and not prejudicially endure the brunt of the burdens.<sup>52</sup> The aims to achieve redress and achieve a balance of burden and benefit not only between the majority which have been historically prejudiced and minority which have been historically privileged but that there should be an equal balance struck between exploitation as well as sustainability.<sup>53</sup> The Constitutional Court stated in the case of the; *Government of the Republic of South Africa v Grootboom*,<sup>54</sup> that the State is required to make legislative as well as to use other reasonable means to ensure that the objectives of the Constitution is upheld. The Constitutional Court has further expanded on this principle precedent in the context of environmental justice and stated that the safeguarding of the environment must be considered as a vital feature of the promotion and realisation of socio-economic rights, thus the exploitation of natural resources must be done within reasonable measure and taking into account the sustainable development of the socio-economic status of

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<sup>48</sup> Michael Kidd ‘Environment’ in Iain Currie & Johan De Waal (eds) *The Bill of Rights Handbook* 6 ed (2013) 516 at 516-517.

<sup>49</sup> N Fraser op cit note 18 at 294.

<sup>50</sup> *Joseph v City Johannesburg* 2010 (4) SA 55 (CC).

<sup>51</sup> *Joseph* supra note 50.

<sup>52</sup> *Joseph* supra note 50.

<sup>53</sup> J Glazewski “The Rule of Law: Opportunities for Environmental Justice in the New Democratic Legal Order” in DA McDonald ed *Environmental Justice in South Africa* (2002).

<sup>54</sup> 2001 (1) SA 46 (CC).

the country.<sup>55</sup> In terms of the section 24 of the Constitution, all persons are entitled to be able to be active participants with regard to all legal decisions which may impact on their environment.<sup>56</sup> This is a vital part of social justice, if energy can be described as the lifeline of economic development then access to information as well as the ability to participate is the lifeline of the realisation as well as development of social justice. The ability to participate is of vital importance within the South African context, as participation is a proposed remedy to environmental injustice.<sup>57</sup> This is of vital importance to South African communities as they were previously excluded from the administrative decision-making process.<sup>58</sup> this meant that they were unable to meaningfully participate or have their voices heard before administrative decisions were made that would affect them.<sup>59</sup> This kind historic of exclusion is part of the root of the issues which arise from the exploration as well as implementation of hydraulic fracturing taking place within the Karoo.

### **3. Fracking Defined in a South African Context**

There are numerous articles relating to fracking in a South African context, however most of those articles tend to include the proviso that there has been no real testing of the shale gas reserves within the South African landscape and that for the most part, reference to the shale gas reserves are based on presumptions of outdated scientific methods.<sup>60</sup> Unlike most other blue bridge solutions the success and amount of energy which can be generated from the naturally formed shale gas cannot be accurately estimated without the invasive procedure of exploration, this process is essentially fracking on a smaller scale.<sup>61</sup> Fracking is defined in the Petroleum Regulations as;

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<sup>55</sup>*Fuel Retailers Association of South Africa v Director General Management, Department of Agriculture, Conservation and Environment Mpumalanga Province* 2007 (6) SA 4 (CC).

<sup>56</sup> Section 24, The Constitution of the Republic of South Africa Act 108 of 1996.

<sup>57</sup> J Cock 'Green Capitalism or Environmental Justice: Sustainability Critique' (2007) available at <http://hsf.org.za/resource-centre/focus/focus-63/Jacklyn%20Cock.pdf>, accessed on 14 August 2017.

<sup>58</sup>*Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others (CCT 39/10) [2010] ZACC 26.*

<sup>59</sup> Supra.

<sup>60</sup>MO De Kock, NJ Beukes, EO Adeniyi, D Cole D, AE Götz, C Geel et al. 'Deflating the shale gas potential of South Africa's Main Karoo basin' (2017) *South African Journal of Science* 113(9/10).

<sup>61</sup> WWF Framework to assess 'The economic reality of shale gas in South Africa' (2015).

*“injecting fracturing fluids into the target formation at a pressure exceeding the parting pressure of the rock to induce fractures through which petroleum can flow to the wellbore.”*<sup>62</sup>

The process can be related to oil gas being extracted and converted into an energy source.<sup>63</sup> The often contended issue which is raised by the school of thought which is against fracking is the concern about the use of water, water being a large component of the ‘fracturing fluids’.<sup>64</sup> The concern is not limited to the use water of but also expands to the highly probable contamination of underground water.<sup>65</sup> This probability is magnified in the context of the proposed area for fracking in the Karoo.<sup>66</sup> This is because the communities in the Karoo are largely self-supporting farmlands.<sup>67</sup> A study which was conducted in South African in order to categorise which areas are rich in shale gas and which areas would be vulnerable to the probable hazards, revealed that areas surrounding the Karoo were left uncategorised.<sup>68</sup> This is a vital error in balancing the benefits against the burden. The Karoo is historically a community of intersectionally prejudiced groups, as described above. The study considered farming areas, areas with children under the age of five, and woman headed households as well as areas with high unemployment rates in order to determine whether the area would be vulnerable to the probable hazards.<sup>69</sup> The social landscape of the Karoo can be categorised as vulnerable to probable hazards in terms of the study, therefore there is clearly an intentional exclusion from categorisation. As the categorisation of the Karoo would’ve likely highlighted the area as a burden vulnerable area and have raised a huge warning sign against fracking.

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<sup>62</sup> Regulations for Petroleum Exploration and Production GN R4644 in GG 38855 of 3 June 2015 (set aside in the case of *John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources Case No. 5762/2015*, as discussed below).

<sup>63</sup> WWF Framework op cit note 61.

<sup>64</sup> M Freyman ‘Hydraulic fracturing and water stress: water demand by the numbers’ available at <https://www.ceres.org/resources/reports/hydraulic-fracturing-water-stress-water-demand-by-the-numbers/view>.

<sup>65</sup> M Freyman op cit note 64.

<sup>66</sup> Econometrix (Pty) Ltd ‘Karoo Shale Gas Report’ (January 2012).

<sup>67</sup> Ibid.

<sup>68</sup> Esterhuysen op cit note 17.

<sup>69</sup> Ibid.

#### **4. Legal Framework: Fracking discussed with regard to the Stern Case:**

##### **4.1 Time Line Summary: *John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources Case No. 5762/2015 (Grahamstown High Court):***

The possibility of shale gas reserves being present in the Karoo, naturally attracted the interest of energy companies, the process for the application of explorative rights opened in or around 2008.<sup>70</sup> The application process was governed by section 79 of the Minerals and Petroleum Resources Development Act 28 of 2002 (hereinafter referred to as the MPRDA), there were several companies which applied for the explorative rights to proceed with the process of fracking in the Karoo.<sup>71</sup> These applications were however faced by objections made by other interested parties and the large farm owning communities as defined above as the applicants in this case. However, on 01 February 2011, the Minister of Mineral Resources placed a moratorium on fracking however this moratorium in no way affected the existing applications for explorative rights, or in fact the existing permits which were granted to allow for explorative fracking to occur.<sup>72</sup>

This essentially meant that the explorative rights of the three major companies, Bundu Gas & Oil Exploration (Pty) Ltd, Falcon Oil & Gas Limited and Shell Exploration Company BV were unaffected.<sup>73</sup> The purpose of the moratorium was essentially to allow for an independent as well as inter-departmental task team to investigate as well as properly consider the environmental as well as socio-economic affects which the introduction of fracking as an energy solution would have.<sup>74</sup> The task team was meant to investigate and construct a framework which would essentially insure that should fracking be considered as a long term energy solution.<sup>75</sup> On 7 September 2012, a statement was released by Cabinet which stated that the report which was compiled by the task team had been accepted.<sup>76</sup>

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<sup>70</sup> *Stern* supra note 11.

<sup>71</sup> *Supra*.

<sup>72</sup> *Supra*

<sup>73</sup> *Supra*

<sup>74</sup> *Supra*.

<sup>75</sup> *Supra*.

<sup>76</sup> *Supra*.

It is noteworthy that within the report there was an explicit mention of the uncertainty at the time of compilation which related to the actual deposits of shale gas in the Karoo.<sup>77</sup> The recommendations were to continue to allow explorative fracking, as well as to ensure that a comprehensive regulatory framework be set up in order to govern and organise the process of explorative fracking as well as to facilitate the future possibility of fracking being implemented.<sup>78</sup> After the lifting of the moratorium, there was a process which took place which allowed for the regulations to be subject to public comment, once this process was complete on 03 February 2014 the Minister of Mineral Resources published another moratorium on the granting of the applications for explorative rights, however this moratorium once again did not affect the current applications or the rights to explorative fracking which currently existed.<sup>79</sup>

The President at the time of the placing of the 2014 moratorium made a statement in his state of the Nation Address dated 17 June 2014 that: “*We will pursue the shale gas option within the framework of our good environmental laws*”.<sup>80</sup> This statement was made in the context of the 2014 moratorium being placed to allow for the appropriate amendments to regulatory framework.<sup>81</sup> The statement made by the President at the time expressed the Government’s clear commitment to pursue fracking. On 20 November 2015 the amendments as signed by the Minister of Mineral Resources were published, these were the regulations<sup>82</sup> which were brought to the Court in this case to be challenged and were successfully set aside.<sup>83</sup>

**4.2 Factual Summary: John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources Case No. 5762/2015 (Grahamstown High Court):**

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<sup>77</sup> DMR Report on *Investigation of Hydraulic Fracturing* (2012).

<sup>78</sup> *Ibid.*

<sup>79</sup> *Stern* supra note 11.

<sup>80</sup> Zuma State of the Nation Address (2014) available at <http://www.gov.za/state-nation-address-his-excellency-jacob-g-zuma-president-republic-south-africa-occassion-joint-0>.

<sup>81</sup> W du Plessis ‘Regulation of Hydraulic Fracturing in South Africa: A Project Life Cycle Approach?’ (2015) *PER* 18 No 5.

<sup>82</sup> Regulations for Petroleum Exploration and Production op cit note 62.

<sup>83</sup> *Stern* supra note 11.

The applicants approached the Court to have the regulations set aside based on the facts that the Regulations for Petroleum Exploration and Production,<sup>84</sup> were not only unconstitutional but furthermore that they were not made in accordance with the Minister of Mineral Resources powers in terms of the law.<sup>85</sup> The applicants in the case were largely from the farming community, as well as persons who have business in the Karoo area which is in fact greatly dependent on the agricultural community within the Karoo.<sup>86</sup> Fracking would greatly affect the farming communities of the Karoo, as fracking would displace the historically agricultural based economy.<sup>87</sup> The majority of the community in the Karoo does not form part of big farming companies who have pioneered the litigation of this matter, the majority of the groups most probable to be affected is in fact the intersectionally prejudiced majority communities, which are the self-sufficient and small farming communities in Karoo.<sup>88</sup>

#### **4.3 Court's Decision: *John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources Case No. 5762/2015 (Grahamstown High Court)***

The Court paid considerable attention to the undisputed possible impacts of air pollution, land pollution as well as the high possibility of water contamination.<sup>89</sup> The Court made a statement in the judgment explicitly stating that *"it must be accepted that, on the available evidence in this application, deep drilling and hydraulic fracturing have potential adverse environmental impacts."*<sup>90</sup> The Court in the judgment further stated that in terms of the socio-economic structure that the applicants are in fact in a favourable position with reference to the benefits currently enjoyed by agricultural community within the Karoo.<sup>91</sup> However the court did not acknowledge that there may be a certain bias as there is a current situation of dis-proportionate distribution of benefits as well as burdens when one considers the current socio-economic as well as agricultural climate of the Karoo. This idea is supported as it would be a clear landslide of benefits and burdens, the far removed and probably unaffected large companies would enjoy

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<sup>84</sup> Regulations for Petroleum Exploration and Production op cit note 62.

<sup>85</sup> *Stern* supra note 11.

<sup>86</sup> *Supra*.

<sup>87</sup> *Econometrix* op cit note 66.

<sup>88</sup> *Stern* supra note 11.

<sup>89</sup> *Supra*.

<sup>90</sup> *Supra*.

<sup>91</sup> *Supra*.

the benefits. While the community within the Karoo would not only bear the environmental burden but further more experience the further set back of their current agricultural based economy.

The Court made mention of the lack of consideration by the Minister of Mineral Resources with regards to the principles which are established in NEMA, it is however important to note that the environmental management provisions which are relevant in this matter are now governed by the principles of the MPRDA.<sup>92</sup> The ‘one environmental system’ which was established in the South African context is applicable in this matter, the ‘one environmental system’ is codified in section 50A of the National Environmental Laws Amendment Act 25 of 2014. This system essentially seeks to exchange the disjointed mineral development laws and environmental laws and create a cohesive system.<sup>93</sup> The cohesive system is sought to hold the mining industry to the same environmental standards as other industries.<sup>94</sup> This is of significance in the South African context when regard is given to the historical legacy of mining as discussed above.

The Court further mentioned the importance of the insertion of section 163A of the National Water Act 36 of 1998.<sup>95</sup> This provision essentially insures that water as a resource would be protected in situations whereby water as water is required for the process of fracking. The Court noted from the sections of NEMA as well as the MPRDA that there was an onus on the Minister of Mineral Resources to insure that the regulations were comprehensive enough as to not compromise the Minister’s constitutional obligations as well the obligations as set up in NEMA.<sup>96</sup> The crux of the Court’s decision was pivotal on the facts that the Minister made the regulations in accordance with section 107 (1) of the MPRDA.<sup>97</sup> The applicants contended that the Minister was in fact not empowered to enact the regulations as the Minister did in fact not possess the authority to make the regulations, despite the Court’s mention of the fact that the regulations were in fact in place to safeguard and insure conservation.<sup>98</sup> The Court ultimately

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<sup>92</sup> Supra.

<sup>93</sup> T.L Humby ‘One Environmental System: Aligning the laws on the Environmental Management in South Africa’ *Journal of Energy & Natural Resources Law* (2015) 110-130

<sup>94</sup> Humby op cit note 93.

<sup>95</sup> *Stern* supra note 11.

<sup>96</sup> Supra

<sup>97</sup> Supra.

<sup>98</sup> Supra

set aside the regulations on the basis that the incorrect Minister had signed off on the regulations and that the Minister acted beyond her cause and scope.<sup>99</sup> The Minister of Environmental Affairs is the only Competent Authority in terms of one environmental system who can set regulations of an environmental nature.<sup>100</sup> This victory however does not completely eliminate the probability of fracking in South Africa, as the regulations have merely been set aside and once amended and correctly signed by the Minister of Environmental Affairs, the process is likely to be continued.

## **5. Administrative Justice Issues relating to Fracking:**

### **5.1 Lack of Public Participation in the Process**

The preamble of the Promotion of Access to Information Act (hereinafter referred to as PAIA), states that the objective of PAIA is to develop a culture of transparency and accountability in public and private bodies.<sup>101</sup> This seeks to promote a culture of participation and transparency which contrasts the pre-constitutional era which was defined by prejudice and secrecy.<sup>102</sup> It can be said that explicit exclusion of the communities in the Karoo has deprived them of the access to information which would enable them to actively respond with empowered capacity as envisioned in Section (2)(4)(O) of NEMA.

The Environmental Impact Assessment Regulations, 2010<sup>103</sup> in terms of Chapter 6, Sections 54-57 sets out the process for public participation relating to the mandatory Environmental Assessment Report which must be considered by the Minister of Environmental Affairs before a decision is made. In terms of section 24(4) (v) (a) of the NEMA states that an “interested and affected party” must be allowed to make submissions which must be considered by the Minister of Environmental Affairs in making a decision which may affect their rights or interest.<sup>104</sup> In the context of fracking however cannot be said to have been satisfied as there was in fact a great disregard to include the process in the communities within the relevant decision making process, there was an affirmative statement made that there were not “sufficient funds” or

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<sup>99</sup> Supra.

<sup>100</sup> National Environmental Laws Amendment Act 25 of 2014.

<sup>101</sup> Act 2 of 2000.

<sup>102</sup> Ibid.

<sup>103</sup> GN R543 in GG 33306 of 18 June 2010.

<sup>104</sup> *Earthlife (Johannesburg) v Minister of Environmental Affairs* (2017) 2 All SA 519 (GP).

resources to conduct a thorough on the ground active participatory process.<sup>105</sup> According to Section (2)(4)(f) of NEMA, public participation is mandatory in the making of decisions which will have environmental impacts, this process must advance the ability of the people who will be adversely affect to understand and participate in the decision making process.<sup>106</sup> Section (2)(4)(O) of NEMA states that the Environment is safeguarded by the state for the people of South Africa, further that the heritage of the people must be preserved in relation to the Environment.<sup>107</sup> It can be said that the lack of participation is a blanket infringement of the principles set out PAJA, PAIA, NEMA and the Environmental Impact Assessment Regulations. The lack of participation can be said to be the seed which plants the growth of administrative injustice as well as the environmental injustice. This will be further elaborated on below.

## **5.2 Rationality of Decision to Frack**

The right to just administrative action is enshrined in section 33 of the Constitution. It can be stated that ‘administrative justice’ includes the requirement that decision-making must be lawful, reasonable as well as procedurally fair.<sup>108</sup> In terms of the Promotion of Administration of Justice Act (hereinafter referred to as the PAJA), an administrative action is defined in context as an act by a state actor when exercising their power in terms of an empowering provision of legislation which may have adverse affects on the rights of any person.<sup>109</sup> This creates a positive onus on decision makers to act reasonably as well be able to show that due process has been correctly followed in the making of decisions. The crux of this requirement is to ensure that there should be a balancing exercise that must be considered when there is a possibility of a situation wherein a decision, such as the decision to frack, will had adverse affects on the rights of the communities in the Karoo, such as the infringements on their section 24<sup>110</sup> Constitutional right to a safe environment.<sup>111</sup>

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<sup>105</sup> D Fig ‘Fracking and the Democratic Deficit in South Africa’ AgriSA 09 April 2013 available at <http://www.agrisa.co.za/wp-content/uploads/2013/11/1515-Fracking-South-Africa---The-democratic-deficit-D-Fig-UCT.pdf>.

<sup>106</sup> Section (2)(4)(f) of NEMA.

<sup>107</sup> Section (2)(4)(O) of NEMA.

<sup>108</sup> Section 33, The Constitution of the Republic of South Africa Act 108 of 1996.

<sup>109</sup> Act 3 of 2000.

<sup>110</sup> Section 24 The Constitution of the Republic of South Africa Act 108 of 1996.

<sup>111</sup> Carol Steinberg ‘Can reasonableness protect the poor? A review of South Africa’s socio-economic rights jurisprudence’ (2006) 123 issue 2 *SALJ* 264.

In the context of this essay one must consider the government's decision to introduce fracking as a blue bridge solution based on the criteria of rationality as well as proportionality. The rationality of a decision is measured by the consideration of the evidence that was put before the decision maker and the reasons for the request of the decision as well as reasons which go against a possible decision.<sup>112</sup> In this state of facts the evidence which has been placed before the decision makers was initially the uncertainty of the process of fracking yielding a profitable outcome as well as the possible enormous environmental debt, which the process of fracking would create. It is important to note that at the time when the government made the decision to frack that the actual shale gas deposits present in the Karoo, were greatly unknown.<sup>113</sup> There was a great lack of engagement when assessing the infrastructural requirements as well as the socio-economic affects which fracking would ultimately have on the agriculturally driven Karoo economy.<sup>114</sup> The mere estimations which have been provided to the decision makers in this regard, the evidence put forward to the decisions makers cannot warrant sufficient information in order for there to have been a possibility of a rational decision. There is a further requirement that there must be a connection between the decision ultimately taken by the decision maker and the evidence before the decision maker as well as the empowering provisions.<sup>115</sup> Therefore the decision made to continue with fracking as a process can be said to be irrational and reviewable in terms of section 6 of the PAJA.

## **6. Discussion of Legal Issues related to Fracking:**

### **6.1 Discussion of Legal Issues related to Fracking: Land**

*"I have rejected the suggestion that the actual loss of the property is the developmental potential. The actual loss is the agricultural potential."*<sup>116</sup> AJ Ngcukaitobi eloquently in this quote from the *Msiza*<sup>117</sup> judgment sums up the measure of the value of land in the South African context. This is because in a South African, Karoo specific context the wealth of a community

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<sup>112</sup> *Carephone (Pty) Ltd v Marcus NO* 1999 (3) SA 304 (LAC).

<sup>113</sup> De Kock op cit note 60.

<sup>114</sup> du Plessis op cit note 81.

<sup>115</sup> *Trinity Broadcasting v ICASA* 2004 (3) SA 346 (SCA).

<sup>116</sup> *Msiza v Director-General for the Department of Rural Development and Land Reform & Others* (LCC233/2012) (2016) ZALCC12.

<sup>117</sup> *Msiza* supra note 116.

is determined their ability to sustain themselves by farming and hunting.<sup>118</sup> This is a stark contrast to the very westernised understanding of wealth.<sup>119</sup> It can be said therefore that the loss of the use of the land will amount to a loss of hereditary wealth.<sup>120</sup> Fracking will render the current agricultural economy void in the Karoo. This is validated by the infrastructure required to be set up in the area in order for fracking to take place, the end result would ultimately be a semi-urbanised industrial mining town.<sup>121</sup>

As discussed above the consequence of the economic evolution is a series of environmental debts often carried by the intersectionally prejudiced communities.<sup>122</sup> The explorative process of fracking as mentioned above is small scale fracking and will require the same amount of invasion as large scale fracking.<sup>123</sup> This is can be demonstrated by a simple example such as the need for tarred roads and the increased traffic of trucks which would have to deliver, the sea water which the government has promised to use in the fracking process. The simple building of roads and increased traffic will have a great impact on the environment which is currently enjoyed by communities within the Karoo. The expenditure which is required to ensure that the process simply starts at the level of exploration will create lasting debts on the environment and create lasting burdens for the communities. The development of the required infrastructure alone is questionable as there is no possible way to predict the success of fracking or to determine the quality and usability of the shale gas which is said to be hidden in the Karoo, as well as in other parts of South Africa.<sup>124</sup>

There has been a recent study which has been published in the South African Science Journal, which is the first direct measurement of the shale gas reserves in South Africa; the article is titled “Deflating the shale gas potential of South Africa’s Karoo Basin”.<sup>125</sup> The scientific report is based on the explorative drilling which was conducted by the Southern Oil Exploration

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<sup>118</sup> Treasure the Karoo Action Group ‘Fracking Facts’ available at <http://treasurethekaroo.co.za/fracking-facts>.

<sup>119</sup> Treasure the Karoo Action op cit note 118.

<sup>120</sup> Ibid.

<sup>121</sup> Jan Glazewski ‘A critical review for Karoo gas exploration right by Shell exploration company’ (2011) available at <http://havemanninc.com/wp-content/uploads/2011/04/KarooPolicyObjection-5-April-0903-FINAL.pdf>.

<sup>122</sup> Armaroli op cit note 3.

<sup>123</sup> Glazewski op cit note 121.

<sup>124</sup> Anel du Plessis and Reece Alberts ‘Cooperative Environmental governance: at the colface of sustainable infrastructure development in South Africa’ *South African Public Law* (2014).

<sup>125</sup> De Kock op cit note 60.

Corporation, according to the report the explorative drilling, headed results which are unsatisfactory;<sup>126</sup> this of course is dependent on which side of the fence one sits on. The report states that the shale gas reserves found within the Karoo basin are simply not economically viable.<sup>127</sup> This is due to the fact the rock formations are of such a nature that the shale gas was not preserved and has now reached a state which renders as the article describes as “cooked”, essentially what this means is that chemical composition of the shale gas reserves are not favorable to be converted into an energy source.<sup>128</sup> Furthermore the shale reserves which were actually located were greatly overestimated and there is in reality now a greater burden than there is a benefit.<sup>129</sup> This can be said to be due to the great costs which have been incurred in order to enable the explorative fracking process, the land which has now been damaged and the surrounding communities which have been irreversible negatively affected by this explorative process which has failed to head a positive result. It is furthermore of great importance to note that this report has stated that the only area which may contain shale gas which may be worth the frack is the area otherwise known as Whitehill.<sup>130</sup>

This poses a great problem as the Whitehill area is of historical significance to the indigenous community of the Karoo, this being the Khoi-San cultural group.<sup>131</sup> The Whitehill area was in fact the location of the Karoo Desert National Botanical Garden before it was moved to Worcester in 1946.<sup>132</sup> The area was historically rich in indigenous vegetation as well as homed an abundance of wildlife, which was historically hunted by the Khoi-San people.<sup>133</sup> The now surrounding area of Matjiesfontein is the largest farming community positioned close to Whitehill, this area is landmarked with rich history for the Khoi-San people as it was the area in which they historically hunted and gathered prior to colonisation.<sup>134</sup> This disregard of the African land valuation system is evidenced in the pursuit of fracking in an area which is a historical symbol of hereditary wealth to the Khoi-San community.

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<sup>126</sup> Ibid.

<sup>127</sup> Ibid.

<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

<sup>131</sup> David Fig *Extraction and displacement the potential social and environmental impacts of Hydraulic Fracturing in South Africa* (paper presented at the IC conference 2012).

<sup>132</sup> T Hart ‘Heritage Impact Assessment of the Proposed additional Perseus-Gamma 756kv Transmission Line’ prepared for Mokgope (Pty) Ltd (March 2013) Draft 2.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

The western valuation system is based on the ‘developmental potential’<sup>135</sup> and what can be exploited from the land as the measurement of value.<sup>136</sup> The African system however is based on what can be produced and used sustainably in order to provide an inheritance for future generations which will enable them to continue to live off of the land.<sup>137</sup> The difference is significant as it was concept that agricultural and sustainable self-sufficiency for yourself as well as your community was seen to be wealth, the minerals underneath the Earth’s surface were not the determinants for the value which land would have. This is of significance in the context as large parts of the Karoo were previously colonized and Khoi-San people displaced of their land because there were minerals that could be exploited beneath the surface.<sup>138</sup> The fracking process would be reminiscent of the colonial past, as the farming communities would be displaced and the historical value of Whitehill significantly decreased. The loss of land as a result of fracking can clearly be said to be a burden which outweighs an uncertain benefit, as previously discussed.

## **6.2 Discussion of Legal Issues related to Fracking: Water**

A vital component for the successful extraction of shale gas is in fact a vast supply of water, taking into consideration that the Karoo is a large area which has a rich agricultural setting as well as extremely high and extremely low temperatures.<sup>139</sup> As well as the context of South Africa’s current water crisis, especially in the Western Cape area, water has received a new valuation as a scarce resource.<sup>140</sup> It is also important that a great percentage of South Africa’s consumable water is used by households, more than half of those households are white households as well as extremely wealthy households.<sup>141</sup> The water which is used by these minority households is furthermore not for the sake of farming or consumption but often used in luxury items such as swimming pools.<sup>142</sup>

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<sup>135</sup> *Msiza* supra note 116.

<sup>136</sup> PF Ledwaba ‘The Status of artisanal and small-scale mining sector in South Africa: Tracking Progress’ (January 2017) 117 *The Journal of Southern African Institute of Mining & Metallurgy* 33.

<sup>137</sup> Ledwaba op cit note 136.

<sup>138</sup> *Ibid.*

<sup>139</sup> du Plessis op cit note 124.

<sup>140</sup> L Dordley ‘Western Cape drought now a National Disaster’ (13 March 2018) available at <http://www.capetownetc.co./water-crisis/western-cape-officially-national-disaster>.

<sup>141</sup> Cock op cite note 57.

<sup>142</sup> *Ibid.*

The Constitutional court set precedent in the case of *Joseph*<sup>143</sup> that electricity is a socio-economic right but, in many cases, the lack of access to electricity will not result in the loss of life, except of course in exceptional circumstances.<sup>144</sup> However clean and water is in fact a necessity for life and cannot simply be reduced to “service” which should be provided or a commodity which is needed for a specific process. Water cannot be generated through alternative means the way that electricity can, therefore water is a non-renewable resource.<sup>145</sup> The value of clean and consumable water is not only necessary for human consumption but in the absence of water, one cannot farm and if one cannot farm then there is no food supply.

The importance of the socio- economic right to water as a is substantiated by the outcome of the Constitutional Court decision in the case of *Mazibuko*<sup>146</sup>, in the case of *Mazibuko* the Court had to make a ruling on what was a reasonable supply of free clean water. The Court paid great attention to section 27 of the Constitution, which affords South Africans with a right to a free basic supply of water.<sup>147</sup> The Court as can be quoted, made an introductory statement; “*At the same time, ours is a largely arid country, often assailed by drought. Redeeming the constitutional promise of access to sufficient water for all will require careful management of a scarce resource. The need to preserve water is a responsibility that affects all spheres of government. A major piece of legislation adopted only three years after democracy was achieved in 1994, the Water Services Act (the Act or the Water Services Act),<sup>1</sup> highlights the connection between the rights of people to have access to a basic water supply and government’s duty to manage water services sustainably.*”<sup>148</sup>

With regard to the above mentioned principles it is important to note that due to above discussed fracking report, there is a greater possibility that explorative fracking may be escalated to a deeper under ground level at some stage in order to determine whether or not there are presently underlying shale gas reserves.<sup>149</sup> Should the explorative process be taken deeper it would essentially mean that more liquid will be required for the process, the liquid

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<sup>143</sup> *Joseph* supra note 50.

<sup>144</sup> Supra.

<sup>145</sup> R Cohen, B Nelson and G Wolff ‘Energy Down the Drain. The hidden costs if California’s water supply.’ Natural Resource Defence Council (August 2004) available at [https://www.pacinst.org/wpcontent/uploads/2013/02/energy\\_down\\_thedrain3.pdf&ved+2ahUKEwj\\_fmC5YzaAhXkDMAKHZwdAkcQFjAAegQIBRAB&usg=AOvVaw3X7uxNOX8aBoIwQmz5rYAd](https://www.pacinst.org/wpcontent/uploads/2013/02/energy_down_thedrain3.pdf&ved+2ahUKEwj_fmC5YzaAhXkDMAKHZwdAkcQFjAAegQIBRAB&usg=AOvVaw3X7uxNOX8aBoIwQmz5rYAd).

<sup>146</sup> *Mazibuko and Others v City of Johannesburg and Others* (CCT 39/09) [2009] ZACC 28.

<sup>147</sup> Supra.

<sup>148</sup> Supra.

<sup>149</sup> De Kock op cit note 60.

used is an estimated 90% composition of water.<sup>150</sup> It is further noteworthy to mention that the Karoo climate allows for a higher evaporation rate in a setting which has a low rainfall rate.<sup>151</sup> It is estimated that 20 million litres of water is currently the estimated minimum amount of water which is required ‘per frack’<sup>152, 153</sup>.

This in the context of the *Mazibuko* wherein situations of constraints were considered in providing a free basic supply of water to South African households is clearly a squandering of resources. It is further more important to note that the major environmental concerns around fracking are often the high usage of water, as well as concerns as to how the water will be transported and where the water will in fact come from.<sup>154</sup> This issue has previously been said to be resolved by water being transported by truck and trailer from areas which are in surplus of the resource. This is in the context South Africa is currently in a situation where there is a drought in many parts of the Country and to simply at a high pressure shoot water into the ground, which is fuelled by chemicals when that water could be transported to areas whereby people are unable to farm or enjoy their rights to wellbeing due to the water shortages, would be a gross injustice in every sphere. The described process of fracking further possesses a potential danger to the communities in the Karoo that rely on the groundwater in the area as a source of water for all of their daily activities including farming.<sup>155</sup>

## **7. Proposed Legal Solutions/Recommendations**

The biggest question to be asked in this regard is where is the public participation with regards to the affected communities? There has been no recorded consultation with the communities in terms of NEMA, there has been no consideration of the historical value which the proposed areas for fracking hold. There is a great deficit which exists in all of the reports that deficit is the consultation with the communities of the Karoo. The advocacy for participation in decision making is supported by judicial precedent which was set by the High Court, Cape of Good

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<sup>150</sup> Glazewski op cit note 121.

<sup>151</sup> De Kock op cit note 60.

<sup>152</sup> A single frack can be defined as one complete extraction of a quantity of shale gas which is sufficient to be converted into an energy source sufficient to be converted into electricity, the quantity of shale gas removed is dependent on the quality of the gas as well as the demand required to be satisfied.

<sup>153</sup> De Kock op cit note 60.

<sup>154</sup> Cock op cit note 57.

<sup>155</sup> Karoo Space op cit note 9.

Hope Provincial Division in the matter of *Earthlife Africa (Cape Town) v Director-General: Department of Environmental Affairs & Tourism and Another*<sup>156</sup>, wherein the Court set aside the Director-General decision to authorise the building of a power station, the Court was swayed by the fact that the community which would effectively bear the burden of the construction of the power station was not properly included in the process.<sup>157</sup>

Public participation is a remedy which is provided for within the environmental justice school of thought that remedy is participation.<sup>158</sup> This is because participation asserts human rights and in turn asserting the human rights of a community will automatically assert their voices and ensure that their views are heard and considered with regard to decision making. This statement is supported by the Court in *Earthlife*<sup>159</sup> noting the importance of participation by quoting the following;

*“It is an essential requirement that, before his or her decision, the decision-maker should be fully informed on the submissions made on behalf of interested parties and he or she should properly consider them.”*<sup>160</sup>

It can be said from the above-mentioned comment and from subsequent precedents that the value of participation when a Minister is to make a decision which may prejudice the environmental rights of a community, that the Minister must include them in the participatory process as well as hear their submissions. A confirming quote from another would be valuable to note in that the Court said:

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<sup>156</sup> Case No. 7653/03.

<sup>157</sup> Supra.

<sup>158</sup> Devine-Wright op cit note 4.

<sup>159</sup> *Earthlife* supra note 156.

<sup>160</sup> *R v Minister of Agriculture and Fisheries* (1955) 2 All ER 129 (CA).

*“The ordinary principled of fair dealing require that a farmer should be able to put his case in his own words before the very man who is to take action against him, rather than that he should have to put it before ab intermediary, who in passing it on may miss out something that in his favour or give undue emphasis to things that are against him.”<sup>161</sup>*

Public participation is outlined in the Public Participation Guideline in terms of NEMA as issued by the Department of Environmental Affairs. In terms of guidelines comprehensive public participation can be summarised as the inclusion of the voices of affected parties in raising their concerns, comments and questions relating to a specifically proposed development.<sup>162</sup> The “voices” of the affected parties must be addressed by decision maker and mitigating factors must be proposed in order to remedy any possible adverse affects on the rights of the interested parties.<sup>163</sup> This is an important feature which exists solely within the constitutional era, as specific exclusion of the decision making process can be described as the oxygen which kept the discrimination of the past alive. It is outlined in the guidelines that participation is necessary to maintain a healthy democracy as well as to encourage the principles of transparency as discussed in terms of PAIA.<sup>164</sup>

The ideal proposed model for public participation is greatly supported by case law precedent as well as the above-mentioned guidelines. The first step would be to notify the community of the proposed development.<sup>165</sup> The second step would be for the communities to be engaged with in a language of their understanding in order to empower them to act within capacity and understanding in order for their voices, as discussed above, to be heard.<sup>166</sup> This precedent is set out in the case of *Bengwenyama*<sup>167</sup>, wherein the Court paid due regard to the interdependence of various rights on the Constitution. The Court in this case explicitly set the precedent that the rights of affect land owners, communities and most importantly previously disadvantaged communities must be given due regard when considering the issuing of any mining or prospecting rights of a property. This is vastly because of the provisions set out in

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<sup>161</sup> Supra.

<sup>162</sup> Public Participation Guideline in terms of NEMA as issued by the Department of Environmental Affairs.

<sup>163</sup> Ibid.

<sup>164</sup> *Bengwenyama* supra note 58.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> *Bengwenyama* supra note 58.

the Minerals and Petroleum Resources Development Act 28 of 2002 (hereinafter referred to as the “MPRDA”), which seek to redress the injustice as well as great social divides which were created in the context of South Africa’s history. In terms of the above-mentioned guidelines there is specific mention of the inclusion of the communities and possibly affected parties being an integral part of advancing the requirement of procedural fairness in terms of section 3 of the PAJA.<sup>168</sup> In order for a democracy to not fester it cannot remain stagnant and a democracy is only active when the voices of the actual communities are heard and actually considered. There should be a task team specifically established in order to allow for the voices of the people of the Karoo to be heard, as it is impossible for a decision to be made which would so greatly impact their very livelihood without the reasonable and rational consideration made regarding their burdens that will be placed on their community.

## **8. Conclusion**

To conclude it would be fair to say that when gives regard to the position of the community within in the Karoo that the burdens outweigh the benefits of energy production, this is because the community probably will not have better access to electricity which is the primary benefit. Communities will be deprived of their land as well as lose the use of their land.<sup>169</sup> This is important as the value of the land cannot be limited to what the land can produce, the amount of shale gas, there is a hereditary wealth which is attached to the land which is not considered.<sup>170</sup> The Karoo is an area which culturally extremely wealthy and the conversion of the area into a semi-urbanised and industrial mining community would result in a deprivation of that hereditary wealth.<sup>171</sup> This can be said as the communities will no longer function as an agricultural community,<sup>172</sup> the conversion will render the Karoo into what is described above as a LULU. The vast farmlands will be rendered into wastelands and safe homes into danger zones.

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<sup>168</sup> Public Participation Guideline op cit note 162.

<sup>169</sup> Glazewski op cit note 121.

<sup>170</sup> Ledwaba op cit note 114.

<sup>171</sup> Glazewski op cit note 121.

<sup>172</sup> Ibid.

The lack of consideration with regards the scarcity of the resource of water as an environmental issue, is one which cannot be ignored within the current South African context. It cannot be justified that the used of water is not considered within the legal principles set out in the *Mazibuko*<sup>173</sup> case. As mentioned above water is a vital resource for life to be sustained and electricity is not.<sup>174</sup> Especially in light of the scarcity and the lack of access to clean running water which is experienced by many communities,<sup>175</sup> especially the small farming and self-sufficient farming communities in the Karoo that rely on groundwater. It is further emphasised that there exists many alternatives to producing electricity but that water is in fact a non-renewable resource and once it is depleted there is no way for us to recover the resource.<sup>176</sup> It is therefore concluded that the burden with regards to usage of water in the fracking process far outweighs the benefit, as discussed above the actual benefit of fracking can't be determined without explorative fracking.<sup>177</sup> It is not a feasible blue bridge solution because explorative fracking is effectively fracking on a smaller scale.<sup>178</sup>

There has been no noteworthy public participation as noted above. There has been an explicit failure on by the Minister of Environmental Affairs to meaningfully engage with the public and essentially have due regard to their “voice”.<sup>179</sup> There is therefore a lack of healthy democratic practice as described above. This essentially places the communities which are intersectionally prejudiced in a position which is reminiscent of an exclusionary and prejudicial past.<sup>180</sup> Which is extremely unacceptable as the current democratic principles should seek to advance the development of our democracy<sup>181</sup>. As state above participation is a remedy within the environmental justice framework, specifically because of the consequence that when your voice is heard your human rights are asserted.<sup>182</sup>

It is therefore concluded that the proper participatory process should be followed the Minister of Environmental Affairs in considering the voices of the community and their historical

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<sup>173</sup> *Mazibuko* supra 146.

<sup>174</sup> *Joseph* supra note 50.

<sup>175</sup> *Mazibuko* supra 146.

<sup>176</sup> R Cohen op cit note 145.

<sup>177</sup> Fig up cit note 131.

<sup>178</sup> Public Participation Guideline op cit note 162.

<sup>179</sup> Preamble PAIA 2 of 2000.

<sup>180</sup> Section (2)(4)(f) of NEMA.

<sup>181</sup> Devine-Wright op cit note 4.

<sup>182</sup> *Ibid*.

position should make a decision which rationally considers the burdens and the benefits. In including the voice of the Karoo community, it is the writer's opinion that the shadow of the blue bridge solution of fracking being developed in the Karoo, would cast a shadow of burdens on the community which would far outweigh the uncertain benefits.

## Bibliography

### Primary Resources:

#### **Case Law:**

- *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others (CCT 39/10) [2010] ZACC 26*, 2011 (4) SA 113 (CC); 2011 (3) BCLR 229 (CC) (30 November 2010)
- *Carephone (Pty) Ltd v Marcus NO* 1999 (3) SA 304 (LAC)
- *Earthlife (Johannesburg) v Minister of Environmental Affairs* (2017) 2 All SA 519 (GP)
- *Earthlife Africa (Cape Town) v Director-General: Department of Environmental Affairs & Tourism and Another* Case No. 7653/03
- *Fuel Retailers Association of South Africa v Director General Management, Department of Agriculture, Conservation and Environment Mpumalanga Province* 2007 (6) SA 4 (CC)
- *Government of the Republic of South Africa v Grootboom* 2001 (1) SA 46 (CC)
- *John Douglas Stern, Arland James Ussher Stanley and Fourteen Others // Minister of Mineral Resources*, Grahamstown High Court Case No. 5762/2015
- *Joseph v City Johannesburg* 2010 (4) SA 55 (CC)
- *Mazibuko and Others v City of Johannesburg and Others (CCT 39/09) [2009] ZACC 28*, 2010 (3) BCLR 239 (CC), 2010 (4) SA 1 (CC) (8 October 2009)
- *Minister of Health and Welfare v Woodcarb (Pty) Ltd* 1996 (3) SA 155 (N)
- *Msiza v Director-General for the Department of Rural Development and Land Reform & Others (LCC233/2012) (2016) ZALCC12*
- *R v Minister of Agriculture and Fisheries* (1955) 2 All ER 129 (CA)
- *S v Makwanyane* 1995 (3) SA 391
- *Soobramoney v Minister of Health Care (KwaZulu-Natal)* 1998 (1) SA 765 (CC), 1998 (1) SA 765 (CC); 1997 (12) BCLR 1696 (27 November 1997)
- *Trinity Broadcasting v Independent Communications Authority of South Africa (ICASA)* 2004 (3) SA 346 (SCA)

**Legislation:**

- Minerals and Petroleum Resources Development Act 28 of 2002
- National Environmental Laws Amendment Act 25 of 2014
- National Environmental Management Act 56 of 2002
- Promotion of Access to Information Act 2 of 2000
- Promotion of Administration of Justice Act 3 of 2000
- Regulations for Petroleum Exploration and Production GN R4644 in GG 38855 of 3 June 2015
- The Environmental Impact Assessment Regulations GN R543 in GG 33306 of 18 June 2010
- The Constitution of the Republic of South Africa Act 108 of 1996

**Official Government Strategies:**

- Energy Security Master Plan- Liquid Fuels (2007)
- Public Participation Guideline in terms of NEMA as issued by the Department of Environmental Affairs

**Secondary Resources:****Journal Articles:**

- Carol Steinberg ‘Can reasonableness protect the poor? A review of South Africa’s socio-economic rights jurisprudence’ (2006) 123, Issue 2 *SALJ* 264
- David Fig ‘Manufacturing amnesia: Corporate social responsibility in South Africa’ (2005) 81, No3 *International Affairs (Royal Institute of International Affairs-1944)* 599
- FT Cawood ‘The Mineral and Petroleum Resources Development Act of 2002: A Paradigm Shift in the Mineral Policy in South Africa’ 104 *The Journal of the South African Institute of Mining and Metallurgy* (Jan/Feb 2004) 53
- Helen Stacey ‘Environmental justice and transformative law in South Africa and some cross-jurisdictional notes about Australia, the United States and Canada’ 1999 *Acta Juridica* 36
- Michael Kidd ‘Environmental Justice’ 2009 *Acta Juridica* 142

- MO De Kock, NJ Beukes, EO Adeniyi, D Cole D, AE Götz, C Geel et al. ‘Deflating the shale gas potential of South Africa’s Main Karoo basin’ (2017) *South African Journal of Science* 113(9/10)
- PF Ledwaba ‘The Status of artisanal and small-scale mining sector in South Africa: Tracking Progress’ (January 2017) 117 *The Journal of Southern African Institute of Mining & Metallurgy* 33
- T.L Humby ‘One Environmental System: Aligning the laws on the Environmental Management in South Africa’ *Journal of Energy & Natural Resources Law* (2015) 110
- W du Plessis ‘Regulation of Hydraulic Fracturing in South Africa: A Project Life Cycle Approach?’ 18, No5 *PER* (2015)

#### **Books:**

- Anel du Plessis and Reece Alberts *South African Public Law* (2014)
- H Scheer *Energy Autonomy* (2007)
- Nicola Armaroli and Vincenzo Balzani (eds) *Energy for a Sustainable World* (2011)
- Patrick Devine-Wright *Renewable Energy and the Public from Nimby to Participation* (2011)

#### **Chapters in Books**

- Andre Konoplyanik ‘Energy Security and the development of International Energy Markets’ in Barry Barton & Catherine Redgwell (eds) *Energy Security Managing risk in a Dynamic Legal and Regulatory Environment* (2004)
- Cora Hoexter ‘Reasonableness’ in Juta & Co, LT (2ed) *Administrative Law in South Africa* (2012)
- F Khan “The Roots of Environmental Racism and the Rise of Environmental Justice in the 1990s” in DA McDonald ed *Environmental Justice in South Africa* (2002)
- J Glazewski “The Rule of Law: Opportunities for Environmental Justice in the New Democratic Legal Order” in DA McDonald ed *Environmental Justice in South Africa* (2002).
- Michael Kidd ‘Environmental Justice: A South African Perspective’ in Michael Kidd 2 ed *Environmental Law* (2011)

- Michael Kidd ‘Environment’ in Iain Currie & Johan De Waal (eds) *The Bill of Rights Handbook* 6 ed (2013)
- N Fraser ‘Social Justice in the Age of Identity Politics, Redistribution, Recognition and Participation’ in N Fraser & A Honneth *Redistribution or Recognition* (2007)
- D Hallows and M Butler “Power, Poverty and Marginalized Environments” in DA McDonald ed *Environmental Justice in South Africa* (2002)

#### **Internet Sources:**

- D Fig ‘Fracking and the Democratic Deficit in South Africa’ AgriSA 09 April 2013 available at <http://www.agrisa.co.za/wp-content/uploads/2013/11/1515-Fracking-South-Africa---The-democratic-deficit-D-Fig-UCT.pdf>.
- J Cock “Sociology and the slow violence of toxic pollution. An invitation to debate, South African Review of Sociology” (2014) available at <https://doi.org/10.1080/21528586.2014.960704>
- J Cock ‘Green Capitalism or Environmental Justice: Sustainability Critique’ (2007) available at <http://hsf.org.za/resource-centre/focus/focus-63/Jacklyn%20Cock.pdf>
- Jan Glazewski ‘A critical review for Karoo gas exploration right by Shell exploration company’ (2011) available at <http://havemanninc.com/wp-content/uploads/2011/04/KarooPolicyObjection-5-April-0903-FINAL.pdf>
- Karoo Space ‘Fracking vs Farming’ available at <http://karoospace.co.za/fracking-vs-farming-karoo/>
- Karoo Space ‘The Republic of the Karoo’ available at <http://karoospace.co.za/the-republic-of-the-karoo/>
- L Dordley ‘Western Cape drought now a National Disaster’ (13 March 2018) available at <http://www.capetownetc.co./water-crisis/western-cape-officially-national-disaster>
- L Havemann and J Glazewski et al ‘A critical review of the application for a Karoo exploration right by Shell Exploration B.V (05 April 2011) available at <http://havemanninc.com/wp-content/uploads/2011/04/karoopolicyobjection-5-April-0903-Final.pdf>
- M Freyman ‘Hydraulic fracturing and water stress: water demand by the numbers’ available at <https://www.ceres.org/resources/reports/hydraulic-fracturing-water-stress-water-demandby-the-numbers/view>

- R Cohen, B Nelson and G Wolff ‘Energy Down the Drain. The hidden costs if California’s water supply.’ Natural Resource Defence Council (August 2004) available at [https://www.pacinst.org/wpcontent/uploads/2013/02/energy\\_down\\_thedrain3.pdf&ved+2ahUKEwj\\_fmC5YzaAhXkDMAKHZwdAkcQFjAAegQIBRAB&usg=AOvVaw3X7uxNOX8aBo1wQmz5rYAd](https://www.pacinst.org/wpcontent/uploads/2013/02/energy_down_thedrain3.pdf&ved+2ahUKEwj_fmC5YzaAhXkDMAKHZwdAkcQFjAAegQIBRAB&usg=AOvVaw3X7uxNOX8aBo1wQmz5rYAd).
- R Scholes, P Schreiner et al ‘Shale gas development in the central Karoo: a scientific’ assessment of the opportunities and risks.’ (2016) available at <http://seasgd.csir.co.za/scientific-assessmentchapters/>
- S Esterhuysen et al ‘Vulnerability mapping as a tool to manage environmental impacts of oil and gas extraction’ (2017) available at <http://rsos.royalsocietypublishing.org>
- Steve Hedden and Jonathan D Meyer et al ‘Fracking for Shale South Africa: Blessing or Curse?’ (2013) available at <https://issafrica.org>
- Treasure the Karoo Action Group ‘Fracking Facts’ available at <http://treasurethekaroo.co.za/fracking-facts>.

### **Published Papers:**

- DMR Report on *Investigation of Hydraulic Fracturing* (2012).
- Report by Econometrix (Pty) Ltd ‘Karoo Shale Gas Report’ (January 2012)
- T Hart ‘Heritage Impact Assessment of the Proposed additional Perseus-Gamma 756kv Transmission Line’ prepared for Mokgope (Pty) Ltd (March 2013) Draft 2
- WWF Framework to assess The economic reality of shale gas in South Africa (2015)

### **Unpublished Papers:**

- David Fig *Extraction and displacement the potential social and environmental impacts of Hydraulic Fracturing in South Africa* (paper presented at the IC conference 2012).
- The People’s Dialogue *The People’s Dialogue Declaration on the Green Economy and in defence of mother earth and the commons*, (unpublished paper, Johannesburg 7 May 2012)

**Unpublished Speeches:**

- Zuma State of the Nation Address (2014) available at <http://www.gov.za/state-nation-address-his-excellency-jacob-g-zuma-president-republic-south-africa-occassion-joint-0>