

Seeing Through the Lens of Precaution: An Analysis of South African Online Media Coverage of Fracking Regulations

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Abstract

The article sought to explore the coverage and representation of fracking regulations in South Africa in selected online media publications. The study was carried out against a background of the publication of a notice on proposed fracking regulations by the Minister of Forestry, Fisheries, and the Environment in South Africa. The author used constructed week sampling. The author sampled 10 online media articles from a pool of 30 articles published over a three-month period. The articles were analysed using qualitative content analysis. The article was guided by a precautionary principle theoretical lens. The precautionary principle lens (1992) was also applied in the analysis of the proposed regulations for fracking in South Africa. Unpacking of the portrayal of the proposed regulations on fracking revealed several themes. The selected online media articles focused on the resistance from the agriculture industry and civil society to the proposed regulations. Additionally, the article revealed water resources and food security concerns resulting from the impact of fracking. Other findings were centred on a cost-benefit analysis. From the media analysis, it is recommended that the government of South Africa adhere to international environmental policy approaches informed by the precautionary principle.

Keywords: fracking, precautionary principle, online media content, South Africa

1 Introduction

This article analyses the representation of the National Environmental Management Act: Regulations: Exploration and Production of Onshore Oil and Gas Requiring Hydraulic Fracturing (here and after proposed regulations on fracking or fracking regulations) in selected South African online media articles. The author noted that there was an apparent research gap related to the lack of studies that have analysed online media articles in South Africa specifically through a precautionary lens. McGranahan and Kirkman (2019) utilised focus groups to study local perceptions of hydraulic fracturing ahead of exploratory drilling in Eastern South Africa. Local perceptions were unanimously in opposition of fracking due to concerns over water quality and rural way-of-life (McGranahan & Kirkman 2019).

Willems, Dalvie, London, and Rother (2017) from a cross-sectional study through a household survey on health risk perception related to fracking in the Karoo noted that 40% of the participants did not know what fracking is or its potential risks and benefits thereof. Additionally, 59.8 % of the participants in the cross-sectional study revealed that media was their main source of information (Willems *et al.* 2017).

Thus, this article's focus on media articles stems from this realisation that media plays an instrumental role as a source of information on fracking. The author applies a precautionary principle theoretical lens to analyse both the proposed regulations on fracking as well as the regulations' coverage in selected online media articles. While fracking has regularly featured in online media publications, this article's focus was on the proposed regulations pertaining to the exploration and production of onshore oil and gas requiring hydraulic fracturing in South Africa. The article is subdivided into several sections: background, research problem, theoretical framework, research methodology, presentation and discussion of findings and lastly conclusion. The background provides the context of the study.

2 Background

This section provides a background to the study covering the context of the proposed fracking regulations in South Africa. On the 11th of July 2022, the Minister of Forestry, Fisheries and the Environment in South Africa, Barbara Dallas Creecy published a notice inviting members of the public to submit comments or input on the proposed regulations pertaining to the exploration

and production of onshore oil and gas requiring hydraulic fracturing. According to the notice by the Minister, the public had 45 days to comment on the proposed regulations (submissions were due before 25 August 2022). The author notes that the notice was made during the COVID-19 pandemic period. The proposed regulations were published as part of the National Environmental Act, 1998. The purpose of the proposed regulations includes:

- a) to identify and prohibit certain activities related to the exercising of an exploration or production right for onshore oil and gas requiring hydraulic fracturing;
- b) to identify geographical areas in which it is prohibited to exercise an exploration or production right for onshore oil and gas requiring hydraulic fracturing;
- c) to set general and specific requirements, practices and standards for the identification, assessment, avoidance, and management of environmental impacts associated with all phases of exploration and production of onshore oil and gas requiring hydraulic fracturing;
- d) to provide for the preparation and implementation of base line monitoring prior to the commencement of hydraulic fracturing; and
- e) to set general and specific requirements for ongoing environmental monitoring of hydraulic fracturing and production operations

In addition, the fracking regulations also include prohibitions (prohibited activities and prohibited areas); environmental obligations of an applicant for or holder of an exploration or production right and management of operations. The regulations are discussed in this article utilising views from selected online media articles. The next section unpacks the research problem and research questions.

3 Research Problem

The research problem addressed in this article revolves around examining how South African online media portrays and covers fracking regulations,

specifically through the lens of precautionary principle. The study aimed to analyse the framing and overall representation of fracking regulations in the online media landscape of South Africa, shedding light on potential implications for public perception, policy development, and environmental discourse. The article sought to answer the following research questions:

- i) How is the issue of fracking regulations framed in South African online media, specifically in terms of precautionary measures?

- ii) What biases, if any, can be identified in the online media coverage of fracking regulations in South Africa, and how might they influence public perception and policy discourse surrounding the issue?

4 Theoretical Framework

The author applies the precautionary principle theoretical framework in this article. The precautionary principle has been applied in wide-ranging studies. The components of the precautionary principle are still evolving. Some countries avoid using the term ‘principle’, preferring to call it a ‘precautionary approach’, since it carries less legal weight. Historically, the precautionary principle has its origins in the German environmental discourse of the 1970s. Originally known as *Vorsorgeprinzip*, the precautionary principle stems from the precautionary action by the German government to save dying trees due to acid rain despite lack of proof. According to Wiener (2007), the precautionary principle is a major and potentially contentious feature of modern international environmental law. It is included in various international agreements, but there is no universal interpretation of its meaning. Nevertheless, Principle 15 of the Rio Declaration from 1992 is widely accepted among nations as a practical guide for the development and implementation of international law in relation to the principle. The principle gained its international status and usage in environmental policymaking with the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (1992).

Article 15 of the Rio Declaration states, ‘Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’. The precautionary principle (PP) is a ‘principle that requires public decision makers to take scientific uncertainty seriously in the

pursuit of the regulatory goals of environmental and public health protection' (Fisher & Harding 2006: 115). This principle obliges States to refrain from authorizing or executing an activity such as fracking when there is no scientific certainty of the magnitude, causality, and probability of damage. Additionally, the principle also obliges States to take measures to avoid serious and irreversible damage to the environment and public health, despite scientific uncertainty. Read and O'Riordan (2017: 4) argue, 'In essence, the precautionary principle imposes a duty of planetary care on the human will'.

At the epicentre of the precautionary principle is the view that it, 'aims to anticipate and minimize potentially serious or irreversible risks under conditions of scientific uncertainty' (Som, Hilty & Kohler 2009: 493). As a principle, 'it has been incorporated into many international treaties and pieces of national legislation for environmental protection and sustainable development' (Som, Hilty & Kohler 2009: 493). Therefore, the precautionary principle theoretical framework holds that the state parties should be proactive in environmental protection whenever there is a likely threat to the environment and people when scientific proof is uncertain. The precautionary principle enables decision-makers to adopt precautionary measures when scientific evidence about an environmental or human health hazard is uncertain and the stakes are high. The precautionary principle has played a crucial role in shaping environmental policymaking and has been used to support a range of measures aimed at protecting the environment and public health. However, the precautionary principle can be critiqued for being overly cautious and lead to unnecessary restrictions on innovation and economic development. The selected online media articles in this article were analysed bearing in mind the value of the precautionary principle.

5 Research Methodology

The study on the representation of the proposed fracking regulations was interpretivist. Initially the author read 30 articles published during a three-month period after the publication of the proposed fracking regulations. From these initial 30 articles, the author then selected ten articles in online media publications (& websites). The selected articles were representing a 33,33 % sample. Central to the purposive selection of these online media publications was coverage of the proposed regulations on fracking in South Africa. The articles were identified using a Google search ran using the key

words ‘proposed fracking regulations, South Africa’. The articles that were selected had to fall within a three-month period following the publication of the proposed regulations by the Minister on the 11th of July 2023. Sampling newspaper articles over a three-month period can be justified by scientific sampling methods presented in literature (Hester & Dougall 2007). Hester and Dougall (2007) state that one constructed week can represent a six-month period. Constructed week sampling is a valuable tool for media studies because it allows researchers to collect data on media content over a period while still ensuring that the sample is representative of the overall content of the media (Luke, Caburnay & Cohen 2011; Song & Chang 2011). Constructed week sampling is a more efficient way to collect data on media content than simply collecting data on all days of the week. Additionally, it allows researchers to collect data on media content over a period, which can help them to identify trends and patterns in media coverage. Constructed week sampling ensures that the sample is representative of the overall content of the media, which can help to reduce bias in the results of the study.

It is important to note that the potential effects of sampling and sample size on the analysis of media content have been noticed. The number of newspapers and stories to study can be decided based on the research question, but studying a week’s worth of newspapers is recommended as it allows a thorough look at a newspaper in the most efficient way (Lynch & Peer 2002). However, it was noted by the author that fracking did not receive daily coverage in newspapers in South Africa and thus further justifying the three-month period. Additionally, the selected articles were all published online articles. Articles not relevant to fracking regulations in South Africa were excluded from the study. The author further excluded articles that were published outside the timeframe for this study. The chosen media articles represented three categories: online news websites, newsletters for civic society and community forum websites. While South Africa has several official languages, only articles published in English were included in this study. The author utilised qualitative content analysis in the studying of selected online media articles. For Patton (2002: 453) qualitative content analysis entails, ‘any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings’.

Whereas Korstjens and Moser (2017: 277) defines content analysis as, ‘the process of organizing and integrating material from documents, often-narrative information from a qualitative study, according to key

concepts and themes'. Thus, the author organised and integrated material from selected online media articles. Additionally, Elo, Kaariainen, Kanste, Polkki, Utriainen and Kyngas (2014: 8) state 'qualitative content analysis is a popular method for analyzing written material'. The process of reading and looking for key words to code into themes on a specific phenomenon involved several steps. Firstly, the data was familiarized by reading and reviewing it. Secondly, notable features of the data were coded in a methodical way, by identifying key words and systematically searching the corpus of text to find all instances of the word or phrase. Thirdly, the codes were reviewed and grouped into themes by identifying patterns within them. Fourthly, the themes were reviewed to ensure that they accurately and relevantly represent the data they are based on. Finally, the themes were defined and named, and the coded data were analysed to draw conclusions about the phenomenon of interest.

6 Significant Findings

Several themes emerged in the analysis of the selected online media articles on the proposed regulations on fracking. This section presents the following themes which were revealed in the selected online articles:

- defining/ understandings of fracking;
- resistance to the proposed regulations;
- food security concerns, legal perspectives; and
- cost - benefit analysis of fracking for South Africa.

Each theme is discussed and supported using verbatim narrations from the selected online media articles.

6.1 Defining Fracking Using Media Articles

The first theme that emerged from the analysis of the coverage of the proposed regulations on fracking in South Africa focused on educating the readership on the definition or understanding of fracking. I use the selected media articles to unpack the concept of fracking. There is a multiplicity of conceptualizations of fracking in literature, however it was prudent to analyse how the concept was constructed in the media articles. While all the

sampled media articles discussed fracking, only two provided definitions of fracking for their audience. Ngcuka (2022) defines fracking as ‘Hydraulic fracturing or fracking is the process of injecting chemicals at high pressure into oil and gas-carrying rocks beneath the Earth’s surface’. In another online media article titled *South Africa Releases Draft Shale Gas Regulations* for CNBCAFRICA, Wendell Roelf defines fracking as, ‘a process of extracting natural gas from shale rock layers by creating cracks to allow the gas to escape’.

It can be noted from that these definitions, an attempt is made to simplify the conceptualization of fracking for the reader. It can be assumed that scholarly definitions would have been too complicated to grasp for the general readership for the selected online media articles. The articles avoid technical definitions such as, ‘Hydrofracturing is a common process in many areas of pure and applied geosciences, such as magma and dyke intrusions, the development of mineral veins for ... and the intentional hydraulic fracturing of impermeable rock formations in the hydrocarbon and geothermal energy industries ...’ (Gehne & Benson 2019: 1). Another technical definition holds, ‘Fracking is a stimulation technique to create additional permeability through fractures (fractures are open spaces) in a producing reservoir, which allows gas to flow more readily to the well head’.

However, even though these technical definitions are more detailed and capture the concept of fracking in an academic way, they are not adequately simplified for the general reader as the definitions proffered by the selected media articles. Using technical definitions alienates readers that are not experts in fracking. Hence, it can be argued that selected articles managed to simplify the concept of fracking for the readers in South Africa. This article defines fracking using the explanation by Camplin (2019: iii), ‘Hydraulic fracturing is a process applied for the exploitation of certain hydrocarbon and geothermal resources, to increase the fluid conductivity to a production well’.

6.2 Resistance to the Proposed Regulations

One interesting theme that emerged from the selected online media publications focused on the resistance to the proposed regulations to frack. The main thrust of this emerging theme was the coverage of the resistance by civil society towards the proposed regulations. In an article in the Cape

Argus entitled *New Proposed Changes to SA Fracking Regulations met with Major Resistance*, Kristin Engel captures civil society's reservations on the proposed regulations and the joining of organisations to oppose the regulations. Engel (2022) reports, 'The Southern African Faith Communities' Environmental Institute (SAFCEI) together with the Green Connection expressed that the proposed amendments did not appropriately address the concerns relating to the risk fracking posed to water resources, which were already scarce, as each production well needed about 15 million litres of fluid to frack'.

The article further notes that environmental groups were raising concerns on the potential damage to the environment and people's health. Engel (2022)'s article further argues that the risk to water resources was the biggest concern to all civil society organisations and environmental activists. Scholes and Schreiner (2017) cited in Engel (2022) state, 'The greatest risk is that the fracking fluid leaks into the surface water and shallow aquifers used by people, livestock, and the ecosystem, due to inadequate sealing of the upper parts of the borehole or following a spill on the surface. These risks can be reduced, but not eliminated, by good engineering'. The articles show concerns around the impact of fracking on the water resources which are exacerbated by the water challenges already faced by South Africa. South Africa is generally considered a water scarce country and therefore the available water resources are already allocated. South Africa already struggles with water scarcity, and the likely contamination of the available and already constrained water resources raises concerns among environmental activists.

These concerns on the impact of fracking on water quality are consistent with studies from other parts of the world (Kuwayama, Olmstead & Krupnick 2015). Kuwayama *et al.* (2015) noted that fracking in the United States of America had significant impacts on the water quality. Scholarship on the impact of fracking on water resources in the United States of America has revealed that underground water is contaminated by fracking (Vaidyanathan 2016). The importance of water was aptly explained by the former president of South Africa, Nelson Mandela who said, 'Among the many things that I learnt as president was the centrality of water in social, political and economic affairs of the country, continent and the world' (Nelson Mandela, World Summit on Sustainable Development, Johannesburg 2002). Therefore, it can be argued that one of the main perspectives that emerged from the analysis of media articles on fracking in South Africa

focused on the resistance from civil society. The response by the civil society in South Africa to the proposed regulations is consistent with their role as vanguards of the environment.

The emerging theme on the resistance to the proposed fracking regulations in the media articles in South Africa can be viewed as consistent with media articles globally. Media articles globally have reported on resistance to fracking, with some articles focusing on the environmental concerns associated with fracking. Hydraulic fracturing, or fracking, is a method of extracting oil and gas trapped in shale and other rock formations by pumping large amounts of water down a well at high pressure, along with sand and chemicals that make up a tiny fraction of the volume (Vaughan 2018). Some articles have reported on the resistance to fracking by Mi'kmaq and Wolastoqey leaders (O'Donnell 2019). Additionally, a comparison has been made between resistance to a biofuel project in Kenya and a fracking project in the Yukon territory of Canada (Neville 2021).

However, it should be noted that despite Engel (2022)'s article being focused on the proposed regulations, it does not refer to any section(s) of the regulations. Additionally, even the organisations cited in the article did not refer to sections of the proposed regulations. The omission to highlight the exact sections of the proposed regulations is problematic in the sense that the intended audience needs to have prior understanding of the regulations to adequately engage with the article. While the article provides information on the reservations raised by civil society on the proposed fracking regulations, it fails to provide the reader with adequate details of the regulations. Jukneviute, Liubiniene and Persson-Thunqvist (2011: 23) state, 'Media can facilitate the public in learning about the world, debating their opinions, reaching informed and consolidated decisions on further actions'. Essentially, the article by Engel (2022) contributes to the public's learning of the impending changes in the regulations governing fracking in South Africa despite the gaps highlighted by the author above. The criticisms and concerns raised by civil society in the cited online media article reveal that the proposed regulations negate the precautionary principle to a larger extent.

6.3 Food Security Concerns

Another emerging thread from the analysis on the coverage of the proposed regulations was informed by potential threat of fracking in South Africa to

food security. Schalk Burger in an article in the Engineering News titled *Agri SA Calls for Rejection of Fracking to Protect Regional Food Security* reveals the potential impact of fracking on local food security. Burger (2022) reports that the agricultural industry federation Agri SA calls on government to reject hydraulic fracturing (fracking) proposals, saying the proposals present risks to regional food security. Agri SA law and policy executive Janse Rabie cited in Burger (2022) states ‘Allowing fracking in South Africa will have a devastating impact on the country’s ability to produce food. South Africa is already a highly water-stressed country. Our country faces a 17% water deficit by 2030 with an estimated investment of R33-billion required each year over the next ten years to avoid the looming shortage’. The article extends the discourse on the impact of fracking on water resources to the implications on agriculture. Essentially, the selected online media articles show a domino effect of the impact of fracking on water resources on food security. Due to the impact of fracking on both the quantity and quality of water resources, the article argues that agriculture will be the ultimate victim, and this will in turn have an impact on food security. The article concludes, ‘The inescapable reality is, therefore, that South Africa cannot accommodate a highly water consumptive and polluting onshore gas industry without sacrificing the ability for the agricultural sector to feed its growing population, as well as the surrounding neighbouring countries’ argues Rabie in Burger (2022).

The food security perspective to the proposed regulations for fracking in South Africa was further reported by Nomonde Zondi in the Independent Online (popularly known as IOL). Zondi (2022)’s article titled *Agri SA Says Allowing Fracking will have a Devastating Impact on SA’s Ability to Produce Food*, unpacks the potential impacts of fracking on food security. Zondi’s article further highlights the gaps in environmental governance in South Africa. The article draws from the National State of Water Report by the Department of Water and Sanitation that indicates that the government was failing in its constitutional duties within the water-resources management sphere. The article argues that the government’s proposed regulations and management of waste disposal facilities were wholly inadequate. Essentially, it can be argued from the article that the proposed regulations fail to take due cognizance of the wider repercussions of fracking in South Africa on the entire Southern African region that depend on the agricultural sector of South Africa. It can further be argued that the

implications of fracking need to be contextualized within the wider region because South Africa does not exist in isolation. Additionally, the food security perspective further buttresses the view that the government of South Africa's proposed regulation fails the precautionary principle test. This theme on food security concerns also shows a convergence between the agricultural sector and civil society in resistance to the proposed regulations on fracking in South Africa.

In addition, food security concerns raised by media articles in South Africa mirror the concerns raised related to fracking in other parts of the world to a greater extent. Newspaper articles have reported on the food security implications of fracking, with some articles highlighting the potential risks of contamination of surface water and soil. There is a lack of studies on the impacts of drilling and fracking in plants and animals, as well as inadequate inspection and scant regulation (Royte 2012). In agricultural areas with widespread, ongoing hydrofracking, there have been incidences of livestock poisoning from contaminated surface water (Gsell 2012). The battle to prevent countrysides from being turned into industrial wastelands drenched in fracking contaminants has been discussed (Gsell 2012; Royte 2012).

6.4 Environmental Awareness

Another theme that emerged on the coverage of the proposed regulations on fracking in South Africa centred on environmental awareness. This theme was mainly focused on promoting environmental awareness. Key to the coverage of the proposed regulations in these media articles was the crucial role of educating the public and extending environmental awareness to the masses. Onke Ngcuka in an interesting article in the Daily Maverick under the title *New moves to update fracking regulations alarm environmental activists* acknowledges the South African government's opening the controversial hydraulic fracking process for public discussion. Ngcuka (2022) states, 'As the world faces an energy crisis and a scramble for oil and gas, the South African government is tightening its grip on the highly controversial hydraulic fracturing process and has opened up the subject for public discussion'. The article presents the fracking discourse within the global energy crisis, that is seemingly leading to what the author constructs as 'a scramble for gas and oil'. The article further provides a detailed context

and background to the publication of the notice by the minister. Essentially, the article provides the key aspects of the proposed regulations. Ngcuka (2022) attempts to provide the readership with adequate details pertaining to the proposed regulations. Often, the general populace is not provided with adequate information on the potential impacts of resource extraction. Therefore, it can be argued that the article by Ngcuka (2022) plays an essential role in educating the public. The notice by the minister on the proposed regulations called for public participation, however the public needs to be well-informed in order to contribute to the conversation on fracking. Therefore, the media's coverage of the proposed regulations on fracking in South Africa empowers the public to meaningfully engage with the proposed regulations. Furthermore, the media in its coverage of the proposed regulations played an important role of information dissemination. The article by Ngcuka (2022) also navigates into the legal perspective which is discussed in detail in the next section.

The environmental awareness perspective has also been noted in the media globally. Media articles have reported on the environmental awareness of the impact of fracking, with some articles highlighting the negative environmental impacts of fracking. Public concerns over fracking have included water supply impacts, greenhouse gas emissions, lack of personal control over risks, intrusion into communities, and the potential for earthquakes (Westlake, John & Cox 2023). Fracking produces a huge amount of contaminated wastewater as a byproduct, which has negative environmental health impacts (Gong, Lu, Beene, Li, Hu, Morgan & Lin 2022). Media reporting of fracking is partitioned broadly according to discussions of the economic benefits, or the environmental risks associated with the process. Additionally, research has focused on the environmental and economic impacts of unconventional oil and gas (UOG) development, including fracking. Fracking can poison groundwater, pollute surface water, impair wild landscapes, and threaten wildlife without rigorous safety regulations (Matthews & Hansen 2018). Essentially, it can be argued that media articles sampled in this study confirm the environmental awareness perspective covered by media articles in other parts of the world.

6.5 The Legal Perspective

Further analysis of the selected online media articles revealed another perspective which focused on the legal dimension constituting a new

discourse on fracking. Ngcuka (2022) unpacks the legal dimension to the proposed regulations pertaining to the exploration and production of onshore oil and gas requiring hydraulic fracturing. It is stated that the proposed regulations are an attempt by the government to regularize fracking processes after the regulations for petroleum exploration and production were declared *ultra vires* by the Supreme Court of Appeal. The court said: ‘The SCA held that the greater part of the petroleum regulations regulated environmental matters which only the Minister of Environmental Affairs, and not the Minister of Mineral Resources, had the power to regulate. This meant that the majority of the provisions of the petroleum regulations were *ultra vires* (requiring legal authority but concluded without)’ (Ngcuka 2022).

The court, according to Ngcuka (2022), further stated that no fracking should take place until the regulations had been lawfully concluded. Essentially, the ruling by the court revealed a legal lacuna in the fracking processes in South Africa. It can also be noted from the media article, the important role played by the legal system in South Africa in the management of the environment. The Supreme Court of Appeal ruling came after farmers and environmentalists went to court over the impending fracking processes in the Karoo. Hence, it can be argued that the court as shown by the case of the Supreme Court of Appeal can be a refuge for aggrieved environmentalists who often than not appear to be less powerful in the face of big companies with big money. In addition, while environmentalists have approached the protection of the environment using a different approach, the court has been instrumental in shaping the future of fracking in the country when required to make judgement.

The legal perspective to the proposed regulations on fracking is further offered in an article by Julienne du Toit in the Karoo Space titled *Whack a Fracking Mole*. Du Toit (2022) locates the conversation on the proposed regulations within the legal battle that ensued in the Karoo that culminated in the Karoo ruling of 2017. Du Toit (2022) cites the Graaff-Reinet lawyer who won the 2017 legal battle, Derek Light. Derek Light commented ‘The Department of Mineral Resources and Energy tried to jump the gun in 2015, and we won the case against them in 2017, by pointing out that it is not their mandate to issue regulations to protect the environment. Their attempt was illegal. The three Ministers of Water & Sanitation, Environment and Mineral Resources and Energy must engage with one another. The National Environmental Management Act (NEMA) comes into play, which is why Barbara Creecy’s Department has invited comments on

the draft regulations, under NEMA'. Therefore, the article extends the view that the government of South Africa seeks to regularize fracking after the legal setbacks that came to the fore with the Supreme Court of Appeal ruling of 2017. The National Environmental Management Act stipulates that three ministers must participate in the regulating of fracking in South Africa because the legal purview of fracking does not fall under the jurisdiction of a single ministry but all three. Resultantly, the legal perspective further reveals that the government of South Africa's proposed regulations counteracts the precautionary principle to a certain extent.

5.6 Cost - Benefit Analysis

The other theme that emerged from the analysis of the selected online media articles proffered a cost - benefit analysis of fracking to South Africa. The theme widens the conversation from the already discussed issues on the impact of fracking on water resources and ultimately food security. Du Toit (2022) shows that shale gas reserves have apparently been overstated, underpinned by the belief that there is less shale gas available for gas extraction. Citing proceedings from the Academy of Science in South Africa held in 2017, Du Toit (2022) indicates that there was a less than a 10% chance of establishing viable gas reserves in South Africa. The realisation that the shale gas reserves in South Africa were overstated according to Du Toit, can be utilised to explain the loss of interest by most companies which had initially expressed interest. Additionally, the article by Du Toit (2022) brings the reader's attention to the Strategic Environmental Assessment on Shale Gas Development (SEASGD) initiated in 2015. Du Toit (2022) reports, 'After nearly two years, the SEASGD brought home some unpalatable truths to pro-frackers. One is that, even at optimal levels of exploitable shale gas reserves, a maximum of 900 shale gas jobs would be open to South Africans. The other 3 000 jobs would be reserved for foreigners'.

These findings among others glaringly question the benefits that had initially been heralded as associated with fracking in South Africa. In a country that has an unemployment rate of 34,5 % (STATSSA 2022), the envisaged creation of jobs from fracking processes had been widely celebrated. Nevertheless, the environmental impact of fracking measured against a backdrop of the creation of only 900 shale gas jobs is revealed in the selected article as being unreasonable. According to the article by Du

Toit (2022), the potential benefits have been exaggerated as reflected by the findings of the Strategic Environmental Assessment on Shale Gas Development. Du Toit (2022) concludes, 'So, on South African shale gas dance floor, there still seems to be a bit of movement. But it's only the politicians that are still shuffling about there, in small, disconsolate circles. Everyone else seems to have left the building'. Essentially, the article argues that the proposed regulations on fracking in South Africa are part of politicians' efforts to resuscitate fracking for political reasons while sacrificing the environment. This attempt to lure investors by politicians has led to the sacrificing of the precautionary principle on the proposed fracking in South Africa.

5.7 Technical Oversight

The last perspective on the proposed regulations that emerged from this conversation can be termed the technical aspect. The technical perspective stems from the views of several technical experts within the geotechnical and hydrogeological experts among other specialist fields in geography. The technical view on the proposed regulations on fracking was pursued by the Southern African Faith Communities' Environmental Institute in their newsletter. The Southern African Faith Communities' Environmental Institute (2022) published a media release titled *Government's new amendments for fracking regulations do not make sense*. According to the Southern African Faith Communities' Environmental Institute (SAFCEI), the Department of Forestry, Fisheries and Environment's (DFFE) proposed amendments to fracking regulations (published 11 July 2022) are not helpful or new and, with very few exceptions, mostly state what is already contained in the National Environmental Management Act (NEMA) and other legislation. Essentially, SAFCEI (2022) argues that the proposed regulations are a duplication of what is already covered under the National Environmental Management Act. Dr Stefan Cremer, the Science Adviser for SAFCEI states, 'Some of the clauses in the 'new' regulations are outright nonsense and expose the absence of geotechnical or hydrogeological input.

The amended regulations try to appear tough and caring, but rather give a false sense of security and try to paint the department as being strict, when it is not. In several places the proposed amendments are contradictory in themselves and will ultimately lead to legal challenges instead of clarity'. According to the above view, the proposed regulations reveal an absence of

geotechnical input in the crafting of the regulations. Hence, it can be argued that according to SAFCEI (2022) there is an evident lack of consultation of technical expertise that was essential in drafting a regulatory framework on fracking in SA. Additionally, using the precautionary principle it can be argued the government of South Africa's regulations downplay the important contribution of specialist technical expertise in the drafting of regulations.

7 Conclusion

The evaluation of the coverage of the proposed regulations on fracking in South Africa using selected online media articles generated several themes. The author was guided by a precautionary principle theoretical framework to unpack the representation of fracking and coverage of the proposed regulations on fracking. The precautionary principle lens entails an approach that takes a cautious view towards potential hazards. The main recurring theme from the study was the coverage of the resistance to the proposed regulations on fracking in South Africa. The proposed regulations have drawn criticism from the agricultural industry and the civil society according to the online media articles selected for this study. The convergence between the agriculture industry and civil society shows a consistent alliance previously witnessed during the legal battle that led to the Supreme Court of Appeal ruling.

Essentially the selected online media articles portray the alliance between the agricultural industry and civil society as enduring in its resistance towards the decision to frack in South Africa in general. The other themes that emerged such as the legal perspective, cost - benefit analysis and food security concerns reveal a negation of the precautionary principle by the government of South Africa. Some of the online media articles widen the discussion on the potential impacts of fracking to food security concerns locally in SA and for her neighbours that rely on SA agricultural exports. The potential impact of fracking on water resources was also portrayed as having a domino effect on food security in South Africa as well as the Southern African region. The media analysis was also instructive, in many ways as was evident in the above themes, and it is recommended that the government of South Africa adhere to international environmental policy approaches informed by the precautionary principle. The criticism of the proposed regulations on fracking justifies the application of the precautionary principle to safeguard the environment.

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