# **ALTERNATION**

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# **PUBLIC POLICY Responses in the Time of Pandemic**



**Cheryl N. Mohamed Sayeed** 

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## **Alternation**

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## Public Policy Responses in the Time of Pandemic

Guest Editor Cheryl N. Mohamed Sayeed

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## **Editorial: Public Policy Responses in a Time of Pandemic**

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Understanding Public Policy requires an analysis of the legislation, programmes, and policy guidelines, which are set up by governments to respond to the socio-economic and political needs of society, and the impact of the policies themselves. Most public policies are aimed at guiding the delivery of public goods and services. However, some policies are designed to bring about change, whilst others seek to respond to change. Public policy is an expression of the commitment (political will), or lack thereof, on the part of a government to act on issues that affect society. The effectiveness of the public policy, can be best evaluated through an examination of the governance mechanisms adopted to achieve policy implementation, and the change brought about as a result of the policy. Here, governance refers to the strategies adopted to employ the laws, whilst balancing elements of monitoring, evaluation, accountability, inclusiveness and equity, among others. The effect of the changes, framed by the public policy, is generally the result of government formulating relevant guiding principles for public administration to carry out the policy agenda. The policy agenda outlines who gets what and how, and serves as the interface between the political will and administrative functions of government. Research into Public Policy, requires an understanding of the processes which guide the formation, implementation, monitoring & evaluation, and impact of policies, in response to issues that affect citizens, as the policies are indicative statements of what a government intends to do, and an absence of public policy would suggest the lack of political will to act in that area (Anderson 2011; Birkland 2011; Dye 2013; Dye 1972; Lasswell 2018). The declaration of COVID-19 as a pandemic is one such issue which, unlike other steady issues presented a crises situation, and required quick action on the part of political leadership, and their government machinery, globally.

The South China Morning Post reported that the earliest reported case of corona virus can be traced back to the case of a 55-year-old male in Hubei Province on 17 November 2019 (South China Morning Post 2020). The earliest cluster of infections was reported when the WHO China Country Office was notified on 31 December 2019. The infection was identified as a novel coronavirus (nCoV) on 7 January 2020. On the 13 January 2020, the first COVID-19 cases outside China were reported, and by 30 January 2020, the WHO declared a public health emergency. What unfolded in the months that followed has been very similar to the scenario 'predicted' by the now famous Ted Talk by Bill Gates in 2015 (Gates 2015), where he spoke about the next war, where missiles would be replaced by microbes, and where governments would be forced to make public policy responses in order to save lives and protect their health systems from collapsing. Similarly, the now famous Hollywood movie Contagion, released in 2011, mapped out the spread of a respiratory viral infection, which originated in a market in China and, subsequently resulted in the death of a large percentage of the global population, until a vaccine was found.

The WHO declared COVID-19 a pandemic on 11 March 2020. It is important to note that the declaration of a pandemic by the WHO requires governments to act. This arises out of the logic of the relationship between governments and citizens, where government is mandated to act, in what is deemed to be the best interest of its citizens. Such actions are described and defined in the shape and form of public policies that unfold. The declaration of a pandemic prompted public policy responses across the globe, to save lives, save the economy and protect health care systems, through various measures including rules for social distancing, lockdown of entire countries, and economic recovery measures, among other measures. Suddenly, it seemed that the doomsday scenario presented by Bill Gates in 2015, might become a reality. The fear and uncertainty that manifested from these sudden changes to people's lives created anxiety and fear. Pictures of the Spanish Flu began resurfacing to make people aware of what happened the last time a respiratory viral infection swept through the globe. There are a few important points to draw from the experience of the Spanish Flu. Firstly, 50 million people died, there was an ongoing war, and there were three waves of infection, with the second the deadliest. The book Pale Rider, written by Laura Spinney,

published in 2017, provides a narrative history, which traces how the Spanish flu travelled across the globe, and in the process exposed the vulnerabilities of humans, whilst they were simultaneously experiencing a world war. The book is significant in framing our understanding of pandemics and the role of government, because it traced the extent to which government functionality and family relations became disrupted, whilst as the same time, created opportunity for innovation in various areas, most notably in medicine. The book further traces the simultaneous major shifts in the way in which, not only people and communities considered their positions in the world, but made government rethink their local and global positioning. The pandemic of 1918, Spinney (2017) argues, was partly responsible for pushing India to independence, South Africa to apartheid, and Switzerland to the brink of civil war. It also created what she describes as a 'lost generation' due to the socio, economic, and political challenges that this period witnessed. Based upon the descriptions by Spinney (2017), the element of mental health was an additional dilemma, due to the dual impact of flu on the brain, combined with the socio-economic trauma that unfolded. This is currently proving to be an important dimension for investigation during COVID-19 as the impact of lockdown takes effect.

It is important to draw attention here to the logic and impact of lockdown. The fundamental rationale arises out of the need to keep people away from each other, and based upon mathematical models, keep rates of infections down, which in turn can ease the burden on health care systems. Mikes and Power (2020) have argued that,

> In many ways, lockdown is intellectually easy. It is unpleasant, economically damaging and hard to police. But as a remedy it is clearcut. The exit strategy is much less clear .... In the case of COVID-19, we expect that the process of transition will be lengthy but not smooth. Yet, we have little to guide us.

This is very much the scenario which has played itself out in South Africa. The passing of laws and regulations to impede movement was backed by political will and easy to pass. However, enforcement of these rules has proved to be problematic, as it extends greater powers to the police, and in the case of South Africa, the National Defence Force, whose language and actions have told us that they are at war with citizens. This brings out a contradictory character in the policy decision making process, because the policy demands during times

of turbulence, like COVID-19, requires decisions at the central level to be made immediately, whilst, the logic of being effective requires more decentralized, local level decision making. This has the potential to create conflict between what is the best practice from the view of national government, but may not necessarily be the best approach for individuals and households at the community level. The conferment of additional powers to the police and the South African Defence Force, are clear examples. In the case of the police service, who became responsible for the enforcement of new guidelines, which in some cases they did not quite understand, needed to be balanced with the realities that social distancing was impossible for many people, due to the nature of their socio-economic positions. The Defence Force, who have been in training for years with very little, if not no opportunity for deployment, were suddenly given powers over citizens. The death of Collins Khoza, at the hands of the Defence Force, is an example of what can go wrong when the contradiction in policy, creates a platform for the extension of powers for those who are not capable, and results in conflict between the intention of the policy, the realities, and policy implementation.

Perhaps the position by Hart (1961) is relevant here, where he notes that authority in any structure, like a legal system, is built on the basis that those functioning within the system understand the rules, accept the rules, and measure their conduct based upon the rules. Within the USA, the world watched the death of George Floyd at the hands of a police officer, and brought to the surface racial inequality and injustice by law enforcement, whilst simultaneously going through a pandemic. The world joined in calls for such abuse of power in all areas of all our lives to end. Hart's (1961) notion of authority is a key element for effective policy implementation and is complimentary to modern ideas of good governance, where elements of accountability, monitoring and evaluation, whilst operating within the legal framework are normative. It suggests a more persuasive form of public policy, where authority conferred is balanced with a negotiated agenda, and where there is balance between the needs and rights of the individual and community, with policies in themselves. In this regard, it is important to note that the rationale of the policy decisions around the pandemic are based on the logic of saving lives, saving the economy and the health care system. One would assume that citizens want this protection, that they support the strategies by government, and that those appointed in public office will facilitate the will of the people and government. However, the experiences of citizens at the hands

of law enforcement, the intersection of the pandemic and race in the USA, and citizens public challenges to the pandemic regulations in Germany, Italy and the USA, are indicative that not all citizens want government to make decisions which restrict their civil rights to associate. These experiences are important and they suggest that policy decisions need to be flexible enough to accommodate the multiple experiences and circumstances of citizens, and in doing so, the power of public officials over citizens needs to be balanced with these multiple realities, especially where fast-tracked policy decision making has taken place, which does not allow for a negotiated setting of agenda.

When the pandemic began we all tried to create and experience a new normal, to work, educate, and maintain personal relationships. COVID-19 has challenged the work that we do and forced organisations to rethink how they function. The circumstances which unfolded has forced the world to adopt digital mechanisms for communication and work, a process which had begun before the pandemic, but through the pandemic, individuals and organisations previously resistant to change, have been forced to adapt quickly, albeit at a huge cost. The growth of platforms like Zoom and Google Meets is indicative of this. The pandemic has forced us to question fundamental ideas about community, in terms of what is community and how do we relate to each other. The International Labour Organisation has predicted that an estimated 1.6 Billion people have suffered severe damage to their capacity to earn a living, with a large portion of these being informal workers (ILO 2020). The pandemic has required that those in leadership positions make effective decisions quickly, whilst being flexible, in order to manage people in a time of crises. Organisational and political leadership have needed to lead, to help prevent chaos, prevent panic, and to combat the development of the 'us and them' scenario, by forging a logic that we are all in this together. As we move through this pandemic, we have changed and we adapted to new ways of doing things. Change is no longer inevitable, it is happening now. As a result, it is important for policy makers to consider ways and means by which the evolving public policy agendas can assist with documenting the narrative of the pandemic and towards developing the post COVID-19 narrative.

Globally there have been varying public policy responses to COVID-19 offering useful case studies. From control in China, the quest for herd immunity in Sweden, controversy in Brazil, and to the effects of non-decision making evident from the case of the United States of America, under current President Trump, every country has a story. This is all within the overarching aim by governments to find a viable vaccine, for their citizens. While scientists focus on finding this vaccine, and governments commit resources towards this, it is important to consider the emerging counter narratives, where the loudest voice in this regard is perhaps Vandana Shiva. In her most recent book, *Oneness vs. the 1%: Shattering Illusions, Seeding Freedom*, in true Shiva style, she questions the involvement of the 1% population of Zuckerberg, Gates and others in the matters of health, digital monitoring and food production, and the kinds of investment into vaccines currently being witnessed, and coins this involvement as 'a new colonialism', one which colonises the mind!

For public policy makers, the pandemic has been the biggest test, requiring quick action and decision making to combat and curb the spread of the virus. As a health care crisis, with potential economic collapse, and the disruption of our social lives, COVID-19 has required unprecedented global action by public policy makers. For the Policy Sciences, COVID-19 requires understanding of the policy dynamics, and how these have shaped and influenced citizens, organisations and government, in their attempt to respond to the spread of the virus. This special edition of *Alter*nation seeks to highlight some of the key Public Policy issues which have shaped and impacted on the South African government's responses to COVID-19. It must be noted that at the time of writing this editorial, a second wave of infections is sweeping through Europe, bringing on a renewal of restrictions on movement and the reintroduction of lockdowns, which have already proved to be damaging not only to the mental health of communities, but the economic welfare and capabilities of people. Perhaps, the time since March, and the experiences gained and lessons learned from the first wave have been sufficient for those who occupy public office to make better decisions, and that the next round of public policies are effective, efficient and void of corruption. But then again, we live in a country where corruption has become endemic to the way in which government governs.

The pandemic has definitely brought about 'a fundamental shift' in our way of life, as described by President Ramaphosa, in his address to the nation on 15 March 2020. As we traverse this new terrain, and we are hopeful for the post COVID-19 narrative, academics, researchers, and practitioners, in all areas of life need to begin asking critical questions, including: How do we hold the state accountable for decisions made during a pandemic? What will the effects of COVID-19 be on state authority? To what extent will the experience of the pandemic help to expedite strategies to reduce social inequality? How can we design and implement projects that are flexible, and which respond and adapt to changing institutional arrangements? What are the effects and impacts in the existing socially-fractured nature of South Africa, with regard to matters of race and gender, post COVID-19? What potential is there for change in our public service? How do we measure a successful social contract post COVID-19? Has the role of public trust in determining good governance changed? What mechanisms are necessary to enable government to respond to change more readily and successfully to pandemics in the future? Can the public policy redistribution function be balanced with regeneration? What information is needed in order to help rebuild? How do we prevent the next pandemic? How can we better prepare for the next pandemic? What are some of the main sociocultural changes government has to consider, with regard to post-COVIDpublic policy development?

This special edition highlights some of the key policy issues that must be considered in considering current COVID-19 response strategies in the context of pre-COVID-19 capabilities, and the challenges arising out of the pandemic. The edition thus presents peer reviewed articles which seek to place a spotlight on recently completed research and policy considerations, which consider their findings and conclusions within the context of the current public policy conundrums, presented by COVID-19. The articles received reflected on the myriad of public policy challenges and opportunities which have unfolded since the declaration of a pandemic, and in true Public Policy style, the edition brings together contributions from academics, practitioners, and Supervisors with their PhD Candidates.

#### \*\*\*\*\*

The edition begins with the article by **Felicia Clement** and **Alan Whiteside** who in 'Lessons from the Comparison of Age Composition and Concomitant Mortality Profiles of COVID-19 Patients in Selected Developed and Developing Countries', provide an examination and analysis of COVID-19 data in order to identify reasons for the variation between developed and developing countries. The article is useful for understanding the policy context of COVID-19, because it draws out the stark realities of the pandemic in terms of infection rates, and reflects on the capacity of governments to respond. The analysis which focuses on the age profiles of populations in selected countries,

seeks to draw out the policy implications of this variation. The analysis reveals that high SDI countries can afford to support their populations for a time, whilst the situation in low SDI countries is bleak, as they have to cope with increased poverty, hunger and other diseases for many years. The article further highlights that the short-term policy impacts must be further investigated in order to ensure impactful public policies, because until there is a vaccine, effective public policies will play a pivotal role in containing the virus.

Policy responses in any environment are driven by the main approach adopted by government to respond to crises. Evidence-based policy making is increasingly being used as the mechanism for effective decision making in governments across the globe. In 'COVID-19 and Evidence-based Policy Making: A Case Study of Water and Sanitation in South Africa', Sibusiso Xaba and Cheryl N. Mohamed Sayeed, a PhD Candidate and Supervisor team, examine the extent to which evidence-based policy making informs decision making within the water and sanitation sector of South Africa, through a case study of eThekwini Municipality. In achieving this, the article, begins with a discussion of evidence-based policy making, and then reflects on some of the findings of the empirical investigation, undertaken by the PhD Candidate, by way of a mixed methodology approach. The article emphasizes that COVID-19 has brought to the fore the critical challenges regarding water access and that whilst the eThekwini municipality has been quick to respond through the use of available evidence, to the challenges related to access to water during COVID-19, the sustained ability to use the approach is limited by the capacity of policy decision makers to use available evidence.

As part of the COVID-19 response, governments and institutions alike have been forced to adopt digital platforms to not only function effectively, but to ensure continued survival. At the level of government, a key part of monitoring and evaluation of strategies adopted to curb the spread of the virus, has been to adopt an effective tracking and tracing of contacts, where positive results have been identified. In, 'Using Technology to Track-and-trace in the COVID-19 Era: An Analysis of South Africa's Legal Framework', **Lee Swales** outlines the legal framework for the adoption of a digital track and trace system within South Africa. Swales contribution further comments on the interaction between the Protection of Personal Information Act 4 of 2013 ('POPIA') and the COVID-19 Tracing Database, in so far as they impact on the freedoms of individuals. This discussion further examines the legal boundaries related to the rationality of some of the lockdown measures adopted to curb the spread of the virus. The article demonstrates that this database is not the ultimate solution, and it must be read together with other measures, whilst at the same time, balance the purpose together with the objective of the database.

In, 'Dissecting Disaster Response during COVID-19: An eThekwini Municipality Experience', Evangelos A. Mantzaris and Bethuel Ngcamu dissect the existing prevention, preparedness, and mitigating response and recovery strategies in minimizing the impacts of COVID-19 to the vulnerable communities of eThekwini Municipality, and to analyse the effectiveness of municipal enforcement agencies, operations, institutional arrangements and governance, as well as the efficiency of the response plans to the pandemic. The article adopts an ethnographic participant observation approach in order to reflect on the researchers' experiences, the realities of vulnerable groups living in informal settlements in eThekwini, combined with their susceptibility to the COVID-19 pandemic. In so doing, the article reflects on a qualitative case study, analysed through content analysis. The article reflects that the eThekwini Municipality Disaster Management Centre does not comply with particular crucial sections of the Disaster Management Act and cannot 'effectively, efficiently and proactively, prevent, mitigate and respond to the coronavirus and its effects'. This is based upon the shortage of qualified staff capable of achieving the objectives of the centre, which impacts on their functionality and inability to effectively co-ordinate. The article suggests that it is necessary for the Provincial government to intervene and that suitably qualified and capable individuals be employed in order to lead disaster management in the municipality.

**Desiree P. Manicom** and **Erna Kruger** reflect on the impact of the hard lockdown on small scale farmers in 'The Impact of COVID-19 'Hard' Lockdown Disaster Management Regulations on Small-scale Farmers: The Case of Central and Southern KZN Small-scale Farmers Employing Climate Resilient Agriculture Production'. The article reflects on the data from a qualitative structured survey that was conducted with small-scale farmers in a climate resilient agriculture (CRA) programme, which is run by Mahlathini Development Foundation (MDF). The article shows that the COVID-19 lockdown had a negative impact on the ability of poor rural households to survive. The article further highlights the role played by the police in enforcing the social distancing rules, and that the enforcement of these rules impeded on ability of poor households to maintain their and their community's food supply. The article reflects the contradiction in the policy design and decision making

process which was undertaken in developing and enforcing the Disaster Management regulations.

Ian A. Nzimakwe and Nokuthula N. Jili in 'Policy Responses to the COVID-19 Crisis: Depending on Local Governments for Long-Term Stability' explore the role of policy in a crisis. The article emphasizes that local government is a critical element of informing local governance due to its proximity to communities. This policy role of local government is further examined by **Purshottama Reddy** and **Ajiv Maharaj** in 'Local Government's Economic Response to COVID-19: The Case of eThekwini City Council in Durban, South Africa'. This article reflects on both the findings of an online business survey conducted by eThekwini Municipality, and on the municipal response in developing an economic recovery plan, to consider the role of local government in economic support and recovery. The findings mapped the COVID-19 provisions from a national and local level, and in so doing, the eThekwini Plan for recovery is presented. These articles contribute to the body of knowledge regarding COVID-19 impact and responses for local government.

The second PhD Candidate in this edition, John Modise together with his supervisors Derek Taylor and Kishore Raga present the article 'Service Delivery from a South African Police Service Perspective'. The article reflects on the findings of a recently completed PhD study, which aimed to investigate the expectations and perceptions of members of the public towards the South African Police Service (SAPS); as well as service delivery in the Community Service Centre (CSC) in the Kimberley Cluster, and to consider the implications of COVID-19 in this regard. The article reflects on the findings of a survey of one hundred respondents whose responses were analysed using Descriptive and Inferential statistics, with the five service quality dimensions of the Servqual Model, being the measure of the client's expectations and perceptions. The results revealed that in all five service quality dimensions: (tangibility, reliability, responsiveness, assurance and empathy); that there was a negative quality gap, and that there are significant differences between perception and expectations of the clients in all five service quality dimensions. The article calls for a need to improve all areas of service quality, and recommends the use of a conceptual model to explain the relationship between customer satisfaction and services delivered by the SAPS more extensively.

**Evangelos A. Mantzaris** and **Pregala Pillay** present the article 'COVID-19, Health Systems Corruption, Economic Priorities and Poverty:

The Case of South Africa', wherein they examine the intersection of the wide range of issues (sociological – criminological – historical) related to social policy issues, and the emerging 'responsibilities, capabilities and relationships of state layers and institutions, and the measures undertaken' to combat COVID-19. The article highlights, that while South Africa was progressive in its policy direction in the initial stages of the pandemic, the emerging consequences of 'chronic corruption at all levels and sectors', had negative consequences for the poorest communities. The article provides an important contribution as it shows that despite well-meaning policies, corruption continues to be a major stumbling block in the provision of services in South Africa, even during a pandemic.

**Zwelinzima Ndevu** in 'Understanding the effects of COVID-19 on Universities in South Africa: An Evidence Based Approach', the impact of COVID-19 on higher education is highlighted through reflection on the experiences of academic staff from a selection of institutions of higher learning. The article adopts a qualitative, interpretative empirical frame, and uses content analysis of primary and secondary sources, and six interviews with purposely selected academics from three universities in South Africa. The interviewees identified critical concerns which must be considered as they reflect problems faced by the students and academics at all levels, resultant from the adoption of online learning at the onset of the pandemic. The analysis is informed by the logic of evidence-based policy making. As part of the COVID-19 response, it has been critical for institutions of higher learning to find ways of adapting to the move to on line learning. Various challenges have been experienced partly due to access to devices and access to data, among other issues.

**Fazlun Peterson**, in 'Towards Student Inclusivity during COVID-19: Testing the #datafree Moya Messenger', reflects on the findings of a case study which piloted the #datafree Moya Messenger application. This is a zero-rated app, was designed for use by students of the University of Western Cape, to engage with online learning through the iKamva e-learning management system, as it was found that not all network providers had zero-rated the University website. Some of the findings highlighted in the article, include, that there were challenges in the initial implementation of the application, the app itself required the use of mobile data or WiFi, and the application was not available to iPhone users. The introduction of this app is innovative in its approach, and will allow students access to teaching material, and has the potential to enable students to participate in assessments, even if they have no available data. The article is a useful resource for all those engaging with on line learning, as it reflects that students, when offered reasonable equitable access to learning platforms, can participate, and that the accessible platform can help to address some of the challenges in terms of access and experience in different circumstances, as outlined in the preceding article by Ndevu. It is envisaged that there will be a second phase of this study to examine students' perceptions about the application itself, which can assist with making more informed decisions about the best methods and mechanisms for communicating with students at institutions of higher learning. These experiences at UWC, could no doubt be replicated at other institutions.

**Kunle Oparinde** and **Vaneshree Govender** in 'Disruptions from COVID-19: Challenges and Opportunities for Research Outputs in South African Higher Education', contribute to the discussions by Ndevu, and Petersen by considering the challenges and opportunities for academics, specifically in regards to knowledge production and productivity. In so doing, they identify several mechanisms for research opportunities arising out of the situation presented by COVID-19, which researchers and key stakeholders might need to consider.

These reflections by Ndevu, Petersen and Oparinde & Govender, of the experiences of academics and students, and the challenges and opportunities for research respectively, open the debate for critical policy issues in higher education, which Ashwin Desai in his article 'The Digital University: Of March Hares and Tortoises' does. Desai is provocative in his discussion, which raises awareness of the multi-layered reality of the learning environment of universities with the onset of COVID-19. Desai, in his examination of the experiences of lecturers, who have been challenged to teach online, asks key questions about the implications for disciplinary boundaries and knowledge production in academia during COVID-19. Desai critically examines the challenges to the 'traditional notions of the role of universities and the changing orientations of the academy against the backdrop of the global juggernaut of privatised higher education'. His imagery using the world of Aesops Fables, provides an extraordinary analysis of the 'wicked problems', arising out of the policy responses which unfolded with the declaration of a pandemic, and contextualises these. In reading the article, one quite easily imagines the logic of slow and steady, an approach promoted widely the 1980s as a viable public policy approach for successful, impactful change. Further,

that slow and steady might take one into the unknown, where sometimes little progress can be seen, and eventually seeing the end, and finding more value and improved ways of doing, thinking and being. Even more so, Desai raises critical questions about research and knowledge within academia, which must be given consideration when we emerge out of this pandemic, as these questions have direct policy relevance, and undoubtably can have impact on the shape, form and quality of academia beyond COVID-19.

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## Lessons from the Comparison of Age Composition and Concomitant Mortality Profiles of COVID-19 Patients in Selected Developed and Developing Countries

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**Abstract:** In late December 2019, authorities in Wuhan, China, were informed of a new respiratory disease. They, in turn, notified the World Health Organization (WHO). On 30 January 2020, when there were about 10,000 cases of COVID-19 globally, the WHO cautioned of 'A public health emergency of international concern'. By the middle of September 2020, there were about 30 million cases globally, and the cumulative number of cases continued to rise, albeit at a lower rate. The pandemic's impacts are not homogenous. Some countries' have seen a few cases, while in others, the numbers have been significant. The pandemic's progression and mortality rates differ considerably. This paper looks at one reason for this variation, focusing on the age profiles of populations in selected countries. We draw out the public policy implications of this variation.

**Keywords**: COVID-19, age, mortality, morbidity, population, public health, policy

#### Introduction

The SARS-CoV-2 pandemic has the largest impact on economic growth ever recorded. It has led to borders being closed, air travel suspended, massive unemployment and increasing poverty, and we are less than a year into the pandemic. This event is unlike anything the global community has experienced in modern times. Its effects go beyond the economic; they are political, social, and cultural, and although not yet fully appreciated, psychological. This global pandemic is the first in over 100 years, the last being the Spanish Influenza of 1918. The Spanish flu infected 500 million people resulting in 50 million deaths worldwide (Fottrell 2020a). Since the start of COVID-19, there have been some comparisons made to the previous pandemic. They have similar symptoms such as fever, coughing and body aches and spread through 'respiratory droplets' (Fottrell 2020a). However, one striking difference is the high rate of mortality among younger people. In the 1918 pandemic, 'mortality was high in people younger than 5 years old, 20-40 years old and 65 years old and older. The high mortality in healthy people, including those in the 20-40year age group, was a unique feature of this pandemic' (Fottrell 2020a). COVID-19's mortality is highest for those 65 and older.

COVID-19 was first officially reported to the World Health Organization (WHO) on 31 December 2019 (Mackenzie & Smith 2020: 45). The first cases allegedly stemmed from a local 'wet' market in Wuhan, China where domestic and exotic animals - live and slaughtered - were sold as food (Lake 2020: 124). COVID-19 occurred when a retrovirus entered humans as a zoonotic disease. Zoonosis refers to a disease that crosses the species barrier from animal to human and then spreads from human to human (Cuthbert 2020). The human immunodeficiency virus that causes AIDS is the best-known example of this type of disease (Whiteside 2016). Other instances include Ebola, SARS-CoV and MERS-CoV (Cuthbert 2020).

The etymology is complicated. The International Committee on Taxonomy of Viruses (ICTV) is in charge of naming viruses (ICTV 2020). This virus is officially called 'severe acute respiratory syndrome coronavirus 2', abbreviated to SARS-CoV-2'. COVID-19 is the name for the disease, the '19' because it appeared in 2019 (Coronaviridae Study Group 2020: 536). The disease spreads rapidly between humans. The virus enters an uninfected person's respiratory tract as droplets or in aerosols. There is also a risk of

transmission from touching contaminated surfaces (Mackenzie & Smith 2020: 46). COVID-19 has a wide range of symptoms, primarily but not restricted to fever, cough, and difficulty breathing (Lake 2020: 124). Although China was first to report the outbreak to the WHO, evidence suggests there were isolated cases in Europe before this. Retroactive testing in France confirmed a case from December 2019 (Yeager 2020). In the U.K., a cluster of illnesses was reported from a choir in Bradford in early January 2020 (Wright 2020). The index case was the partner of a chorister, who returned from Wuhan in mid-December (Wright 2020).

COVID-19 spread rapidly, and the number of cases grew exponentially. On 30 January 2020, when there were about 10,000 cases, the WHO officially warned of, 'A public health emergency of international concern' (PHEIC) (WHO 2020a). The PHEIC is a formal declaration of 'an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response' (WHO 2019). It is in reaction to a, 'serious, sudden, unusual or unexpected' situation, which 'carries implications for public health beyond the affected state's national border, and may require immediate international action' (WHO 2019). States have a legal duty to respond to a PHEIC. By July of 2020, there were COVID-19 cases in every nation. Countries responded by placing populations in lockdown, effectively confining people, other than essential workers, to their homes. International travel was and, at the time of this writing is, still banned or restricted, and internal movement remains heavily regulated. Canada and the U.S closed their shared border to non-essential travel in March; this closure was to remain in place until October 21st (The Canadian Press 2020). Many countries began to loosen up these regulations over the summer. Where there has been a resurgence of cases, countries are reapplying restrictions.

SARS-CoV-2's global case fatality rate, as of 21 September 2020, is 3.1 percent, which is significantly lower than its predecessors (Our World in Data 2020). It was 9.6 percent for SARS-CoV and 34.4 percent for MERS-CoV (Velavan & Meyer 2020: 279). What is certain is that the elderly (over 65) and those with comorbidities (underlying medical conditions) are the most vulnerable (Mackenzie & Smith 2020: 47). The main comorbidities associated with poor prognoses are diabetes, hypertension, respiratory diseases, cardiac issues, renal diseases and cancers (Guan *et al.* 2020: 11-12).

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Several excellent websites track the pandemic; these include John Hopkins University, European Centre for Disease Control and Prevention and Worldometer. The one we used most consistently is Worldometer. As of 21 September 2020, the hardest-hit regions were the America's with 15,704,633 cases, followed by Asia with 9,420,535, and Europe with 4,524,724 (European CDC 2020). Africa, on the other hand, had relatively low numbers, with only 1,408,440 cases on 21 September 2020 (European CDC 2020). The number of cases continue to change rapidly as each month passes. In July 2020, Europe had 129,306 more cases than Asia. However, in September 2020, Asia had surpassed Europe by 4,895,811 cases (European CDC 2020). Africa has the least, but its case volume grew by 990,126 (European CDC 2020).

In this article, we review how differences in population age compositions between selected countries potentially contribute to the varying COVID-19 mortality rates. We conclude by discussing the policy implications of this, both for national governments and the global community.

#### **Data and Vulnerability**

Epidemiologists, virologists, public health specialists, policymakers, and politicians have been working together to understand the virus. Although scientific knowledge is increasing exponentially, there is still a great deal that remains unknown. The pandemic continues to spread, and the numbers continue to rise, albeit more slowly, as seen in the graph below.

A COVID-19 infection is included in a country's data if a laboratory test verifies it. Initially, the only diagnostic test available was an antigen test, which determined if an individual was positive for COVID-19. There was no antibody test to show who had been infected and recovered. These numbers are important to determine; of those infected, 30 percent are asymptomatic, but will be infectious for about 15 days, and 56 percent have mild to moderate symptoms but can infect others for up to three weeks (Pueyo 2020). Ten percent have severe symptoms and require health care (Pueyo 2020). The last four percent will be critically ill, and up to half of them may die (Pueyo 2020). The more seriously ill a person is, the longer they will be infectious (Pueyo 2020). COVID-19 is unique and a significant public health emergency, as people are asymptomatic for the first four to five days after infection, but can infect others.



Figure 1: Our World in Data, Cumulative Confirmed COVID-19 Cases (2020)

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#### Methodology, Concepts, and Literature

Initially, this paper set out to 'examine' the hypothesis that countries (or regions) with older populations may have more cases and higher morbidity and mortality. Overall, this seemed to be the case, but more data was needed to confirm it. It is now clear that those who are older, and have comorbidities are at greater risk of becoming ill and dying. In this article, as mentioned earlier, we review how differences in population age compositions between selected countries potentially contribute to the varying COVID-19 mortality rates. The implications of this analysis, both for national governments and the global community, are useful in considering public policy options. All the data collected came from publicly available and official data sources, academic journals, and books supplemented with press reports.

The key concepts are<sup>1</sup>:

- Infectiousness (as measured by the reproduction rate, R<sub>0</sub>): This is the number of new infections one individual transmits. If each person infects more than one other, the epidemic will grow. If it falls below one, the epidemic will shrink.
- Infection fatality rate (IFR): How many infected people die? One must know how many are infected. If there are a large number of asymptomatic cases, it is not easy to establish the rate.
- Case detection rate: How many people with symptoms are detected?
- Case fatality rate (CFR): How many of the diseased died?

Arguably, the leading, reliable source of data is mortality (deaths). Most countries collect vital statistics, 'the number of births, deaths, or marriages which take place' (Collins Dictionaries 2020). Mortality data usually includes age, gender, and may give the cause of death.

<sup>&</sup>lt;sup>1</sup> These terms are basic epidemiology and can be found text books and associated websites. For example, cf. Centers for Disease Control and Prevention. <u>https://www.cdc.gov/biomonitoring/glossary.html</u>

There is a correlation between the size of the older population and mortality. We did not look at the proportions housed in nursing facilities. However, there needs to be greater attention by scholars to their mortality rates and how their respective society treats them. In Italy, Sweden and Canada, many elderly are in these facilities; in Brazil and South Africa, numbers are smaller, and there are fewer nursing homes. They are exceedingly rare in Algeria and Ghana.

#### **Age Composition**

The age structure of a population determines many aspects of society, such as economic growth, labour force participation rates, demand for, and utilization of educational and healthcare services. Demographers divide populations into three broad age groups: Children and young adolescents (under 15 years old), the working-age population (15-64 years), and the elderly (65 years and older). The age dependency ratio (people below 15 and over 65 as a proportion of the 16 to 64 cohort) is important. The younger cohort requires investment in their upbringing and education, while the older segments of the population require support and care. The age structure of many populations has changed dramatically, and we selected countries to illustrate this. The choice, over five months ago, was based on the different population pyramids, which enabled us to 'visualize the demographic structure' (Ritchie & Roser 2019). The yaramids show the numbers in each age bracket by gender (Ritchie & Roser 2019). They are a snapshot of the demography and a view of the future as cohorts 'age up'.

#### Why does Age Composition Matter?

COVID-19 gives new significance to mortality and age. Morbidity (ill-health) and mortality increase with age, mostly due to non-communicable diseases (NCDs). Globally the top five causes of death are cardiovascular diseases, neoplasms (cancer), chronic respiratory disease, respiratory infections (including T.B.), and neurological disorders (Institute for Health Metrics and Evaluation 2017a). In high socio-development index countries (SDI)<sup>2</sup>, they are

<sup>&</sup>lt;sup>2</sup> Socio-Demographic Index measures a country's socio-demographic development by its income per capita, level of education and total fertility rate.

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cardiovascular diseases, neoplasms (cancer), neurological disorders, and diabetes (Institute for Health Metrics and Evaluation 2017b). In low SDI countries, cardiovascular diseases, respiratory infections and T.B., maternal and neonatal disorders, enteric infections and chronic respiratory diseases constitute the primary causes of death (Institute for Health Metrics and Evaluation 2017c).

The global average life expectancy in 2019 was 72.6 years (Roser, Ortize-Ospina & Ritchie 2019). The life expectancy in the case study countries (Tables 1 and 2) ranges from 60.2 years in South Africa (United Nations, 'South Africa', 2019: 4), largely the result of the AIDS epidemic, to 85.4 in Italy (United Nations, 'Italy', 2019: 4). The countries first hit by COVID-19, China, South Korea, and Japan, were able to bring the epidemic under control (John Hopkins University 2020). Initially, the worst-hit European countries were Italy and Spain. By September 2020, the top four countries, with a million or more cases, were the USA, India, Brazil and Russia (Worldometer, 'Reported Cases', 2020).

#### **Country Case Studies**

We argue that understanding a country's age profile is vital, but not the only determinant of risk and impact. The responses of each country also create different epidemic curves. We chose to illustrate this with eight country case studies. In June 2020, we selected countries based on variances in their demographic structures and the COVID-19 data available. China was the epicentre and has an ageing population. The next three are high-income nations: Italy was the first European country to be affected and has a large demographic over the age of 65, Canada has a mixed demographic, and Sweden has an older population and took a different path to control COVID-19. Out of the developing and transitional countries, Brazil had the most out of control epidemic, although India now holds this unenviable status; South Africa has Africa's worst epidemic, while Algeria and Ghana provide different perspectives. Given the rapid evolution of this pandemic, we look at the COVID-19 epidemics in each country.

•				
	China	Italy	Sweden	Canada
Total Population (2020 est)	1,439,324,000	60,578,000	10,099,000	37,742,000
% of people over 65 (2020 est.)	12%	23.3%	20.3%	18.1%
Human Development Index Ranking (2019)	85	29	8	13
Life Expectancy (M/F) (2020 est)	M: 74.5 F: 79.0	M: 81.0 F: 85.4	M: 80.8 F: 84.4	M: 80.2 F: 84.3
GDP per capita (2019)	\$16,127	\$36,141	\$47,955	\$43,602
Gender Development Index (GDI) (2018)	0.961	0.967	0.982	0.989
Gini Co-efficient (2017)	38.6	35.4	29.2	34
COVID-19 cases per 1 million as of September 21, 2020	59	4,955	8,725	3,810
Case Fatality Rates as of September 21, 2020	5.2%	12%	6.6%	6.4%

Table 1-Demographic Data for Country Case Studies

Brazil	20 212,559,000	(2020 9.6%	t 79	(F) M:71.9	F: 79.3	(9) \$14,068	lt 0.995	17) 53.3	r 1 21,359 lber	as of 3%
South Africa	59,309,000	5.5%	113	M: 60.2	F: 67.1	\$11,756	0.984	63	11,118	2.4%
Algeria	43,851,000	6.7%	82	M:75.4	F: 77.8	\$13,639	0.865	27.6	1,132	3.4%
Ghana	31,073,000	3.1%	142	M: 62.6	F: 64.7	\$4,099	0.912	43.5	1,474	0.6%

Table 2-Demographic Data for Country Case Studies

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#### China

China has the world's largest population. Its growth rate has been falling steadily since 2000 (United Nations, 'China', 2019: 4) and may become negative by 2027 (Myers, Wu & Fu 2020). The decline is due to consistent economic growth, rising costs of education and housing, and the one-child policy from 1979 to 2015 (Myers, Wu & Fu 2020). The population pyramid (Figure 2) reflects this. The under 15s comprise 17.7 percent of the population, and the over 65s account for 12 percent (United Nations, 'China', 2019: 4). The population is getting older in absolute and relative numbers. There is a gender imbalance due to the desire for male heirs, which led to selective abortions. As the population ages, the need for care increases.



Figure 2<sup>3</sup>: U.N. Population Division, China (2019)

The first reported cases of COVID-19 were from Wuhan (Davidson 2020). The authorities reacted swiftly, and the disease has remained primarily confined to this area. The number of cases rose to 80,000 by early March 2020. By mid-September 2020, there have been 5,291 additional cases (Worldometer 'Reported Cases', 2020). Figure 3 shows the case fatality rates are significantly higher among the older populations. (Statista, 'China', 2020). The lesson from China is that it is possible to control the spread of COVID-19 and keep

<sup>&</sup>lt;sup>3</sup> All the population pyramids, and subsequent demographic data in each case study is based off of U.N projections for 2020.

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mortality low; the data shows fewer than 5,000 deaths (Worldometer, 'Reported Cases', 2020). As described in the New Yorker, China contained the virus through stringent control, which was willingly accepted by the citizens (Hessler 2020). The average case fatality rate in September 2020 was 5.2 percent (Our World in Data, 'Case Fatality Rate', 2020).



## Fatality rate of COVID-19 in China as of

Figure 3: Statista, China (2020)

#### Italv

Italy has the world's second-oldest population (after Japan) (Scommegna 2019). The median age is 47.3 and will increase to 50.8 by 2030 (United Nation, 'Italy', 2019: 4). Negative growth and rising life expectancy are creating a demographic crisis (Johnson 2020). The population pyramid (Figure 4) reflects this ageing structure as only 13 percent are under 15, and over 65s account for 23.3 percent of the population (United Nations, 'Italy', 2019: 4).

The first recorded case of COVID-19 was on 20 February 2020, in Lombardy province (Godin 2020). Initially, Italy delayed its response, and the numbers exploded in March and April (Worldometer, 'Italy', 2020). 'If Italy's experience shows anything, it is that measures to isolate affected areas and limit the movement of the broader population need to be taken early, put in place with absolute clarity, then strictly enforced' (Horowitz, Bubola & Povoledo 2020). As Figure 5 shows, the elderly populations bore the brunt of the total mortality. The 60-69 age range accounts for 10 percent of the deaths,

increasing to 26 percent for the 70-79 age range and 41 percent for those aged 80-89 (Statista, 'Italy', 2020).



Figure 4: U.N. Population Division, Italy (2019)

### Distribution of COVID-19 Deaths in Italy, by age group as of August 25, 2020



Figure 5: Statista, Italy (2020)

Italy's daily death toll declined from a high of 919 on March 27<sup>th</sup> to only three for a couple of days in July (Worldometer, 'Italy', 2020). The daily cases have increased since mid-August, but have not reached the same levels as seen in March (Worldometer, 'Italy', 2020). The overall case-fatality rate was high at 14.45 percent as of 2 July 2020, and decreased only slightly to 12 percent in September (Our World in Data, 'Case Fatality Rate', 2020). Up until mid-September there had been 299,506 total cases and 35,724 deaths (Worldometer, 'Italy', 2020). On May 16<sup>th</sup>, the government announced it would open its borders in early June to European tourists and lift the 14-day quarantine requirement (Euractive, 'Italy to reopen', 2020). After the country opened up again, the numbers initially remained low, and Italy appeared to be taking better control of its epidemic.

#### Sweden

Sweden has a looming demographic crisis, as the growth rate is below 1 percent (Macrotrends, 'Sweden', 2020). Figure 6 shows this disparity in growth as 17.6 percent of the population is under 15, while 20.3 percent is over 65 (United Nations, 'Sweden', 2019: 4).



Figure 6: U.N. Population Division, Sweden (2019)

As Sweden's life expectancy (82.6) and median age (41.1) continues to increase (United Nations, 'Sweden', 2019: 4), Sweden will have to re-allocate resources to older populations and look to immigration to boost its growth.

Overall, Sweden is a progressive country revered for its approaches towards gender equality, innovation, healthcare and education. However, questions have arisen, both domestically and internationally, regarding their handling of the coronavirus. The first recorded infection was on January 24<sup>th</sup>, when a woman from Jönköping county tested positive after returning from Wuhan (Roden 2020). Instead of imposing strict lockdown protocols, Sweden decided to take a different approach and work towards herd immunity. This process occurs when a sufficient portion of the population develops immunity, halting its spread (Habib 2020: 1). Unfortunately, as of the end of May 2020, a study revealed that only 6.1 percent of the Swedish population had detectable antibodies (Rothschild 2020). This percentage is problematic as 'Epidemiologists estimate that at least 70% of the population attaining immunity is necessary to achieve herd immunity' (Fottrell 2020b). In September 2020, Sweden's Public Health Agency website only suggested staying an arm's length away, had no enforcement of social distancing nor a mandatory mask policy (Folkhälsomyndigheten 2020).

### Distribution of COVID-19 Deaths in Sweden, by age group as of September 17, 2020



Figure 7: Statista, Sweden (2020)

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Older segments of the population, aged 60 and up, accounted for 96 percent of the total deaths in Sweden since the start of the pandemic (Figure 7). Additionally, out of high SDI countries, Sweden had the smallest population, but the highest cases per million at 8,725, compared to 4,955 in Italy and 3,810 in Canada (Worldometer, 'Reported Cases', 2020).

As of 21 September 2020, Sweden had 88,237 cases compared to 23,323 in Denmark, 12,954 cases in Norway, and 9,046 cases in Finland (Worldometer, 'Reported Cases', 2020). Sweden's case fatality rate was 6.6 percent in September 2020 (Our World in Data, 'Case Fatality Rate', 2020). These neighbouring countries began to lift restrictions in May but remained closed to Swedish travellers (Milne 2020). Gradually over the summer, they have opened their borders to Sweden.

#### Canada

In 2019, Policy Options predicted Canada would soon be at a 'demographic pressure point' due to its declining workforce, which will impact its economy, standard of living and resources needed for social programs (Gill 2019). Under 15s account for 15.8 percent of the population, while over 65s make up 18.1 percent (United Nations, 'Canada', 2019: 4).



Figure 8: U.N. Population Division, Canada (2019)

The bulge shown in Figure 8 illustrates the median age of 41.1 (United Nations, 'Canada', 2019: 4). Increased immigration is a potential solution to this demographic dilemma (Gill 2020).

Coronavirus entered Canada on 25 January 2020, when a man in his 50's returned to Toronto from Wuhan, China (Staff - The Canadian Press 2020). He fell ill, was isolated at Toronto's Sunnybrook Hospital and two days later, the National Microbiology Laboratory confirmed he was positive for COVID-19 (Staff-The Canadian Press 2020). The virus began to spread rapidly in mid-March, April and into May, with cases declining in June (Worldometer, 'Canada', 2020). Canada had 144,076 cases and 9,219 deaths as of September 21 2020 (Worldometer, 'Canada', 2020). The number of daily cases fell from early May but increased slightly at the end of August (Worldometer, 'Canada', 2020).



## Distribution of COVID-19 Deaths in Canada, by age, as of September 20, 2020

#### Figure 9: Government of Canada (2020)

Figure 9 shows the higher proportion of deaths in the older age brackets, with 97% of the deaths occurring in those aged 60 and over (Government of Canada 2020). This high fatality among older populations has mainly been in long-term care homes. The Canadian Institute for Health Information (CIHI) stated
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that, as of May 25 2020, 80% of Canada's COVID deaths came from these homes (Grant 2020). The CIHI's report shows Ontario and Quebec (the hardest hit) failed to enact safeguards to protect elderly citizens (Grant 2020). Canada's average case fatality rate was 6.4 percent in September 2020 (Our World in Data, 'Case Fatality rate', 2020). Canada, like Italy, delayed its response and left older populations unprotected.

After exploring the age composition and COVID-19 impacts in China, as it was the alleged origin of the pandemic, the paper then looked at high SDI countries (Italy, Sweden, and Canada). We now turn to lower SDI countries with younger populations: Brazil, South Africa, Ghana and Algeria. What these case studies will show is that having a younger population can be advantageous to combat the pandemic, but only if combined with a vigorous response by the government to protect their citizens.

#### Brazil

Brazil accounts for half of South America's landmass and is the most populous country on the continent. The growth rate has been below 1 percent since 2009 (Macrotrends, 'Brazil', 2020). Despite the decrease in growth, the country has a relatively young population with a median age of 33.5 (United Nations, 'Brazil', 2019: 4).



Figure 10: U.N. Population Division, Brazil (2019)

Figure 10 reflects this distribution 20.7 percent of the population is under 15, and 9.6 percent are over 65 (United Nations, 'Brazil', 2019: 4).

Brazil's first recorded coronavirus case was on February 26<sup>th</sup>. A 61year-old resident from São Paulo tested positive after returning from Lombardy (Al Jazeera, 'Brazil Confirms', 2020). However, retroactive testing shows that the virus was present earlier. The Oswaldo Cruz Foundation reviewed cases of individuals with respiratory problems in late January and discovered a deceased patient was positive for COVID-19 (BBC News, 'Coronavirus: First Brazil Death', 2020).

Incidence was low from February to April but increased exponentially from May with daily cases in the tens of thousands (Worldometer, 'Brazil', 2020). On 19 June 2020, Brazil became the second country (after the U.S.) to pass one million cases (Fonseca & Stargardter 2020). It held this unenviable status until August when India's cases surged.



# Distribution of COVID-19 deaths in Brazil by age and gender as of June 30 2020

#### Figure 11: Baptista & Queiroz (2020: 6)

The international community has criticized President Bolsonaro for his responses to the crisis. Nicknamed the 'Tropical Trump', Bolsonaro has denounced social distancing as a 'job-killing measure more dangerous than the virus itself' (Fonseca & Stargardter 2020)'. Bolsonaro, like, Trump has also

pushed chloroquine and hydroxychloroquine as possible treatments (Fonseca & Stargardter 2020). Since April 2020, Brazil had no permanent health minister in place, as two left their posts due to tensions with the President (Fonseca & Stargardter 2020). Instead, Army General Eduardo Pazuello (who has no medical experience) ran the department in the interim (Reverdosa, Wenzel & Pedroso 2020). In September 2020, President Bolsonaro swore him in as the official health minister (Savarese & Biller 2020).

The Brazilian government manipulated the COVID-19 numbers on their national website (Fonseca 2020). As a result, any data presented is questionable and demographic data regarding cases and deaths is nearly impossible to find. However, we located one paper on mortality rates up to 30 June 2020, see Figure 11 (Baptista and Queiroz 2020: 1). The highest proportion of deaths are Brazilians over 60 (Baptista and Queiroz 2020: 6).

As of 21 September 2020, according to Worldometer, Brazil had 4,547,150 cases and 136,997 deaths (2020). Its case fatality rate was also 3 percent at that time (Our World in Data, 'Case Fatality Rate', 2020). Brazil is an example where, despite having a younger population, lack of leadership, mitigation measures and reliable data have crippled its ability to contain the virus. The consequences of inaction are especially visible in the number of cases per million, as Brazil had 21,359, the highest of our selected countries (Worldometer, 'Reported Cases', 2020). These numbers demonstrate that age composition is important, but not the only factor to consider when analyzing the pandemic.

### South Africa

The South African situation is different from much of Africa; the population growth rate declined substantially and has been under 2 percent since 1996 (The World Bank 2019). The median age is currently 27.6, with 28.8 percent of the population under the age of 15 and over 65s accounting for only 5.5 percent (United Nations, 'South Africa', 2019: 4). The smaller percentage of older individuals is due to South Africa's low life expectancy (60.2 for men and 67.1 for women) (United Nations, 'South Africa', 2019: 4). What makes South Africa's demography unique is the mortality from the AIDS epidemic, especially before the arrival of comprehensive treatment in 2004. Effectively there was a 'lost' generation with women bearing a greater burden than men. UNAIDS's 2018 data showed that 7.7 million people (in a population of just

under 60 million) live with HIV. The prevalence rate among those aged 15 - 49 is 20.4 percent (UNAIDS 2018). In 2018, 71,000 people died from AIDS, but 240,000 people became infected with HIV (UNAIDS).

AIDS is still the primary cause of death; in 2017, it accounted for 28.5 percent of all deaths in the country (Institute for Health Metrics and Evaluation, 2017d). For women aged 15 to 49, the percentage of deaths from AIDS is an astounding 67.19 percent (Institute for Health Metrics and Evaluation 2017e). The older cohort remains small, and there are imbalances between men and women (Figure 12). Research into the links between HIV and COVID-19 is underway. The consensus is that HIV positive people taking Anti-Retroviral Therapy are not at greater risk. However, as the mortality data thus far has shown, those with immuno-compromised systems are high risk.



Figure 12: U.N. Population Division, South Africa (2019)

The National Institute for Communicable Diseases announced South Africa's first coronavirus case on 5 March 2020 (Minister of Health, Dr. Mkhize 2020). The first death occurred on 27 March 2020, prompting the government to implement an initial 3-week nation-wide lockdown with strict military and police enforcement (Delay, Ntshangase & Magome 2020). During the lockdown, the daily cases remained low. South Africa started to ease its restrictions on May 1<sup>st</sup> when the number of cases stood at 5,951 (Worldometer, 'South Africa', 2020). Shortly after, the daily cases grew exponentially,

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reaching numbers over 10,000 for most of July (Worldometer, 'South Africa', 2020). By 21 September 2020, there had been 661,211 cases and 15,953 deaths (Worldometer, 'South Africa', 2020) and an average case fatality of 2.4 % (Our World in Data, 'Case Fatality rate', 2020). Both the daily number of cases and deaths have decreased since mid-August but have been rising again.

# Distribution of COVID-19 Deaths in South Africa, in Selected Hospitals, by age group as of September 20, 2020



Figure 13: National Institute for Communicable Diseases (2020:1)

The National Institute for Communicable Diseases (NICD) conducts COVID-19 tracking in select hospitals (Figure 13). 269 Public and 244 Private hospitals are reporting admissions, interventions, discharges, and age and gender data for the deceased to the NICD (NICD 2020: 2). By 20 September 2020, NICD had provided age and gender data for 78% of South Africa's total deaths. The graph shows a significant proportion of deaths (10.98 percent), start in the age cohort of 40 to 49 and increase to 49 percent for those aged 50-69. The latter is not surprising as South Africa's average life expectancy is in the 60s; there are not many older people thanks to AIDS.

The next two countries show quite a different age profile.

# Algeria

Algeria's current growth rate is 1.85 percent, increasing its population by 800,000 each year (World Population Review 2020). Unlike the previous country case studies, Algeria has a high total fertility rate, with around three children per woman (World Population Review 2020). The country has a relatively young population with a median age of 28.5 (United Nations, 'Algeria', 2019: 4). As per Figure 14, 30.8 percent are under 15, and only 6.7 percent over 65 (United Nations, 'Algeria', 2019: 4).



Figure 14: U.N. Population Division, Algeria (2019)

The first recorded COVID-19 case was on 17 February 2020, when an Italian citizen tested positive (At Editor 2020). From late March onwards, cases were reported daily, with the largest number being 675, occurring on July 24<sup>th</sup> (Worldometer, 'Algeria', 2020). These numbers are minimal compared to the non-African countries listed in this article. As of 21 September 2020, Algeria reported 49,826 COVID-19 cases and just 1,672 deaths (Worldometer, 'Algeria', 2020).

There is limited data regarding the demographic breakdowns of COVID-19 cases in Algeria; however, researchers Saad Eddine Boutebal and Azzeddine Madani provide a glimpse into this with their May 2020 article.

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They found demographic data for 459 deaths, see Figure 15 (Boutebal & Madani 2020: 3).

# Distribution of Deaths by Age in Algeriaup to May 2 2020



Figure 15: Boutebal and Madani (2020: 3)

The number of deaths in the lower age brackets is minimal, while the older bracket accounts for 74.94 percent of the deaths (Boutebal & Madani 2020: 3).

As of 9 September 2020, the World Health Organization in the African Region (WHO) noted that Algeria accounts for 6.7% of the total deaths in Africa (3). However, 'complete data on age and gender distribution is only available for 1.1%' in the region (WHO African Region 2020: 3), thus making a more thorough analysis challenging.

The data available suggests that younger age demographics help lessen the disease burden; however, adequate measures need to be put into place to protect their older populations. Algeria has 30 labs for testing 'with an average capacity of 2,500 tests across these labs' (WHO African Region 2020: 9).

#### Ghana

Since the 1990s, Ghana's population growth rate has stayed under 3 percent (Macrotrends, 'Ghana', 2020). The decline was due to policy changes,

including increased investment in education and growing incomes for small farmers (Kaps 2020). Regardless of these changes, Ghana has the youngest population structure of our case studies, with a median age of 21.5 (United Nations, 'Ghana', 2019: 4). Figure 16 reflects this: 37.1 percent of the population is under the age of 15, and only 3.1 percent is over 65 (United Nations, 'Ghana', 2019: 4).



Figure 16: U.N. Population Division, Ghana (2019)

On 12 March 2020, the Ministry of Health released a statement advising Ghanaians of the country's first two COVID-19 cases, infected in Norway and Turkey, respectively (Ministry of Health, Kwaku Agyeman-Manu 2020). On March 28<sup>th,</sup> Ghana became one of the first African countries to declare a lockdown (Quakyi 2020). President Nana Akufo-Addo stated, 'We know how to bring the economy back to life. What we do not know is how to bring people back to life' (Quakyi 2020). The world praised Ghana's response; however, on April 19<sup>th,</sup> the lockdown ended, and cases began to increase (Quakyi 2020).

As of 21 September 2020, Worldometer reports Ghana has 46,004 reported cases and only 297 deaths (about 1.3 % of the total deaths in Africa) (WHO African Region 2020: 3). The average case fatality rate was 0.6 percent (Our World in Data, 'Case Fatality Rate', 2020). Ghana presents an interesting case, as its fatality rate remains low. Some argue that Ghana's poor health

infrastructure and testing capabilities may be contributing to its lower numbers; however, we postulate their young society is one of the factors keeping the pandemic at bay.

# Conclusion

The data presented shows that countries with younger populations have fewer severe COVID-19 cases and deaths. There are caveats to this paper. The first is that COVID-19 is a new disease, only identified at the beginning of 2020. This uncertainty means we are not sure how the epidemiology will unfold. Will Africa continue to see fewer cases? The Brazilian epidemic is severe; could it be a harbinger for Africa, due to its similar population distribution? Second, as is well documented, most infections are asymptomatic or very mild and are probably not recorded. This lack of data may mean COVID-19 has spread, largely unnoticed, through countries with younger populations. However, this is a protective factor because there will be fewer reported cases, and not as many older adults seeking care. COVID-19 may not add significantly to the disease burden.

China, the first nation to see COVID-19, brought it under control and contained it through draconian, authoritarian measures. China is hyperaware of the dangers of a resurgence and continues to monitor the situation. The cost has been tremendous, and the economy will go from rapid growth to potential contraction. The experience of SARS in 2002 provided a template for China, which meant that despite the severity of the disease, they have been able to contain it. This rapid containment also occurred in the few cases outside Wuhan city and Hubei Province (Hessler 2020).

The Italian case saw the nation's health sector being overwhelmed. The epidemic rose from 234 daily cases on February 28<sup>th</sup> to a peak of 6,557 by March 21<sup>st</sup>, and numbers remained high at about 3000 cases per day until early May (Worldometer, 'Italy', 2020). The Italian epidemic was worsened by comorbidities: smoking, high rates of chronic obstructive pulmonary disease, and ischemic heart disease. Additionally, Italy was the first country to see an uncontrolled epidemic, so it had no experience (Boccia, Ricciardi & Ioannidis 2020: 927-928). China, Italy and Canada illustrate the vulnerability of the elderly and the need to provide care for them.

Canada is a wealthy country with a well-developed public health system and a small population spread out over a large area. These factors,

combined with the SARS experience, means COVID-19 is under control, and the impact is not as devastating as in other high-income countries. However, Canada provides an example of how specific vulnerable groups can be overlooked and devastated, especially the elderly, in institutional care.

Sweden's epidemic is one to watch, especially as we begin to count the cost of the lockdowns on economies and society more broadly. If there is a less severe economic impact and the country does not see a second wave, then the 'herd immunity' approach will have been a gamble that, while it cost some lives, may have been worth it.

Brazil has a similar population distribution to South Africa and many other emerging middle-income countriesyet for a time had the second secondworst epidemic in the world. It is an outlier because of the lack of leadership, indeed the willful denial of the problem.

The ultimate experience of such denial was the HIV epidemic in South Africa, and the consequence of this was disastrous and long term (Whiteside 2016). South Africa has an additional burden of AIDS, and T.B. and observers and health care providers are uncertain about the implications (del Amo *et al.* 2020). Following the easing of the lockdown, the disease is spreading rapidly. The epidemic in South Africa, Algeria, and Ghana are some months behind other countries. Algeria has a youthful population, and Ghana has the youngest population of our cases. We postulate they may avoid a serious COVID-19 epidemic, and in the case of South Africa, the number of new cases had fallen dramatically. The age structure seems to be the key determinants of both the severity and spread of COVID-19. When combined with levels of poverty, inequality and standard of leadership, we may be able to account for all the variation between countries.

We did not address two issues in this paper, one is speculative, and the other is certain and evolving. It would be interesting to compare mortality rates across countries by looking at the treatment of older people when they can no longer live on their own. The global experience shows that long-term care homes had disproportionately higher morbidity and mortality rates, suggesting that when the care for the elderly is in extended families, their prospects could be better. However, this may not be the case if there was a higher rate of exposure. This analysis is beyond the scope of this paper.

The public policies that were put in place as the pandemic grew were draconian and highly reactive. Perhaps the most stringent were in China. 'Neighbourhood committees ... enforced the rules, and in many places, they

limited households to sending one individual outside every two to three days to buy necessities' (Hessler 2020). Other interventions included the mandatory wearing of face masks, restrictions on where and how citizens could travel, and the need to keep a distance from others.

Many of the interventions put in place worldwide may seem extreme; however, they helped slow the spread of the virus, giving the health services time to prepare for influxes in patients needing extensive interventions.

However, economic, social, psychological, and cultural costs have been enormous. This year has been a year of deaths, not just the estimated, but the death of everyday life, the death of ambitions and plans, and forms of social interaction, to name a few. It is hardly surprising that we are collectively in mourning.

The inevitable consequence of COVID-19 is the contraction of economies. High SDI countries can afford to support their populations for a time. The situation in low SDI countries is bleak. They will have to deal with increased poverty, hunger and other diseases for many years. It will be imperative to research the impacts of these short-term public policies.

The case studies above demonstrate that epidemic preparedness should consider the age structure and chronic diseases of the population served by each healthcare system. Overall, even when there is a vaccine, effective public policies will play a pivotal role in containing this virus.

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# **Evidence-based Policy Making and COVID-19: A Case Study of Water Service Delivery in eThekwini Municipality**

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#### Abstract

Within the context of South Africa, access to water and sanitation remains a challenge 26 years into democracy. Coupled with the risks and challenges presented by COVID-19, municipalities, as implementers of water and sanitation policy, have been required to respond quickly, with great efficiency, in order to assist government with its response strategy. The logic of evidencebased policy making is that it seeks to enhance the capacity of policy decision makers to respond to risk, and adjust decisions accordingly, for effective and efficient public policy implementation. This article seeks to reflect on the extent to which evidence-based policy making informs decision making within the water and sanitation sector of South Africa, through a case study of eThekwini Municipality. Secondly, the article seeks to reflect on the extent to which the policy responses by the municipality to COVID-19, have been driven by evidence. The article is informed by some of the findings of an empirical investigation conducted by way of a mixed methodology approach by one of the authors as part of a PhD investigation. The article concludes that, whilst the respondents recognize the potential role of evidence in improving policy decision making, there is limited application due to lack of capacity. The effectiveness of evidence-based policy relies largely on existing or stable public policy issues, for sustained impact, rather than policy decision making during a crisis.

**Keywords**: Evidence-based policy, water and sanitation, public policy, COVID-19

## **Introduction and Background**

Public policy is viewed as,

an instrument of government which reflects a willingness or unwillingness on the part of government to act on particular issues that affect society (Dye 2013; Anderson 2011; Birkland 2011; Howlett & Ramesh 2003; Cloete, Wissink & de Conning 2006).

In its simplest interpretation, as outlined by Lasswell, public policy outlines the problem orientation and response strategy adopted by governments, whilst the politics element determines 'who gets what, when and how' (Cloete et al. 2006). In an era of populism and political manoeuvring, the need for public policies to be designed and implemented in a manner that delivers effectively and efficiently is critical. The starting point is that governments should have sufficient understanding of the environments of their citizens, and their needs, in order to be responsive through relevant public policies, and their implementation strategies. In other words, governments should ideally have information or evidence that suitably guides public policies. One such policy area is the provision of water, a Universal Right. This right, is entrenched further in the Sustainable Development Goals Target 6.1, which expressly identifies the importance of access to safe and affordable drinking water for all. This target recognizes that water is life (UN 2018:11), because achieving this right is considered to be a catalyst in the attainment of other basic necessities of life such as environment, economy, health, to name the few. In 2018, the Sustainable Development Goal 6 Synthesis Report on Water and Sanitation (2018) by the United Nations, indicated that globally 844 million people (11%) still lack access to basic water services (UN 2018: 11-13).

When the first case of COVID-19 was reported in South Africa, by the National Institute for Communicable Disease (NICD) on 5 March 2020, the response by His Excellency, President Cyril Ramaphosa, was to declare the coronavirus pandemic a national disaster in terms of the National Disaster Management Act, 2000. By 23 March 2020, he announced a national lockdown and a package of extraordinary measures to combat this public health emergency. At the time, there were 402 confirmed COVID-19 cases in South Africa. The proposed measures were implemented through the introduction of regulations as required by the National Disaster Management Act. In response to the

pandemic, and taking lessons learned from China, it was evident that stringent hygiene practices is one of the preventative measures in dealing with the spread of the pandemic (WHO 2020; Presidency 2020). As part of its policy response, which included the issuing of lockdown regulations, South Africa advocated for stringent hygiene practices with an emphasis of the washing of hands with water and soap, for at least 20 seconds. In considering the policy position, it is important to note that globally, improving Water, sanitation and hygiene (WASH) is considered to have the potential to deter at least 9.1% of the disease burden and of the total burden of ill-health preventable by improvements in WASH. However, even though the provision of improved water supply and sanitation facilities make it effortless to practice good hygiene, on their own they are not sufficient to significantly decrease morbidity and mortality rates. Hand washing with soap at critical times, has been proven to reduce the prevalence of respiratory infections (Water Aid 2012). On the surface, the idea of promoting the washing of hands is a simple thing to do. However, within the context of South Africa, where 11% of households still do not have access to running water 26 years post democracy (StatsSA 2019), despite policy provisions (Mohamed Sayeed & Matha 2019), it was critical that measures were implemented to ensure access to water by all citizens. The pandemic thus required an immediate and rapid response to the current reality, with the looming possibility of a catastrophe. It was necessary for government to consider the evidence being presented in terms of the pandemic and the realities of South Africa, in order to identify and implement suitable policy responses.

Governments have thus been using evidence as the source for decision making during the pandemic. From monitoring the prevalence of cases, through the contact and trace systems, to mapping out measures to ensure the basic resource for combating the virus is available, water. The aim of this article is to examine the extent to which evidence-based policy making informs decision making within the water and sanitation sector of South Africa, and to reflect on the extent to which the policy responses by the municipality to COVID-19, have been driven by evidence, through a case study of water service delivery in eThekwini. The article is informed by some of the findings of an empirical investigation conducted by way of a mixed methodology approach by one of the authors as part of a PhD investigation. The methodology adopted in the article is twofold. It is important to note here, that this article was written 100 days after the first case of coronavirus patient was recorded in South Africa.

### **Research Methodology**

The methodology adopted in the article is three-fold. Firstly, the article reflects on the findings of an empirical study into the use of EBP within the municipality. The aim of this study was to investigate the extent in which evidence informs the implementation of water and sanitation policies. The study interrogated the three key questions, however, only one is considered in this article namely: What is the extent of evidence use currently in policy making at the Department of Water and Sanitation? The PhD study adopted a mixed methodology approach. Firstly, 13 qualitative semi-structured interviews were conducted with key policy informants, occupying policy making and oversight positions from institutions responsible for water and sanitation within the eThekwini Municipality. This included respondents from the National Department of Water and Sanitation, eThekwini Metropolitan Municipality, National Department of Cooperative Governance and Traditional Affairs, Water Research Commission and Pegasys Institute (an independent policy advisory service). The aim of these interviews was to capture the nature and understanding of EBP from the participant's experiences, opinion and point of view. The rationale here, was that the experiences of those required to oversee the design of policies would be important. Secondly, a quantitative self-administered questionnaire was used to obtain opinions from the managerial employees at eThekwini Municipality, which is responsible for ensuring effective translation of policy objectives into actual water and sanitation delivery in terms of the Water Services Act, 108 of 1997. Here, 100 survey questionnaires were sent out to officials at task grade 14 to 18 from eThekwini Water and Sanitation Department, and was met with a 72% response rate. Data from both interviews and survey was analysed and consolidated into the pre-determined themes for effective interpretation. For the purpose of this article, only the findings relevant to policy knowledge and experiences of EBP are considered. The third element of this methodology was a qualitative analysis of the policy responses by the municipality to the challenges presented by COVID-19, and to reflect on the extent to which evidence informed the policy decisions. This aspect involved documenting the status quo of water and sanitation provision in eThekwini Municipality within the first 100 days of the COVID-19 lockdown period. It entailed studying municipal interventions from the National Department of Water and Sanitation as well as from the eThekwini municipality to ensure access to water and

sanitation in response to the pandemic, and to reflect on the extent to which evidence informed these decisions. But first, what is evidence-based policy making?

### Understanding Evidence-Based Policy Making From Theory to Evidence-Based Policy Decision-Making

Post the Second World War, the focus was on social problems, and ideas about public policy were influenced by the dominant Basic Needs Approach. In the 1950s and 1960s ideas about public policy were dominated by the Keynesian Economic Model, which incorporated socio-political and historical prevailing ideals as key drivers of public policies (Heineman, Bluhm, Peterson & Kearny 1997:14-16). The 1970s to mid-1980s witnessed the dominance of gender needs being integrated into public policies and resulted in the inclusion of the language of equity, anti-poverty and efficiency into public policies. The emerging focus during this period was that women's strategic needs and role in change needed to be considered and incorporated into public policies, because of the potential positive impact of their inclusion (Karl 1995:94-96). The mid 1980s into the 1990's saw the emergence and dominance of good governance as a key factor in service delivery (May 1997:1-3). During this period issues related to accountability, transparency and monitoring and evaluation became key. Beyond 1990s, the focus has been on democratizing decision-making in Africa and emphasizing on building capacity and developing responsive governments (Kayizzi-Mugerwa 2003:15). Currently, the language of evidence as a key driver for successful public policies prevails (Heineman, Bluhm, Peterson & Kearny 1997; Karl 1995; May 1997; Kayizzi-Mugerwa 2003). These shifts in broader thinking reflect an evolution from opinion or ideology-based policy making, as demonstrated in the evolution literature from 1950 to early 2000s, to evidence-based decision-making process from 2000s and beyond. Evidence has thus come to play a central role not only in evidence-based medicine, but also within the field of public policy (Sutcliffe & Court 2005; Head 2015; Ansell & Gever 2017). Advocates of evidence-based approaches (Parsons 2002; Banks 2009; Head 2015; Howlett & Mukherjee 2017; among others) recognise the need to move away from using theories or and populism as sufficient grounds for decision making, to examining research evidence in order to inform decisions. The move to focus on evidence-based approaches in the early 2000s represents the current major

shift in the search for improved policy implementation and overall impact in society.

#### What is Evidence-Based Policy Making?

Evidence based practice finds its origin from the medical field, commonly known as Evidence Based Medicine, which was adopted as common practice as early as 1930 (Bouffard & Reid 2012: 2). The concept of 'evidence-based policy making' (EBPM) can be traced back to over a century ago in Britain (Davis 2004; Sanderson 2002; Head 2015), but was more recently made popular by the Blair Government administration, which was elected on a platform of 'what matters is what works', and aimed at ending ideologically-based decision making, and 'questioning inherited ways of doing things' (Freiberg & Carson 2010; Ansell & Geyer 2017; Sanderson 2002; Sutcliffe & Court 2005).

Evidence-Based Practice as an emerging paradigm is sometimes referred to as Evidence-Based Policy (EBP) (Sutcliffe & Court 2005; Davis 2004), Evidence-Based Practice (EBP) (Bouffard and Reid 2012), Evidence-Based Policymaking (EBPM) (Freiberg & Carson 2010), Evidence-Informed Policy making (EIPM) (Head 2015), and Evidence-Informed Decision Making (EIDM) (Head 2015; Langer, Stewart, Erasmus & de Wet 2015). Therefore. providing a comprehensively all-encompassing definition is particularly difficult. However, there is consensus on what the concept means in the specific field and context in which is being applied. That is, it refers to the practice in which decisions are taken based upon the best available evidence. Additionally, it is important to note that the definition of what count as evidence is dependent on the researcher's assumptions, school of thought (Bouffard & Reid 2012) and context-based (Punton 2016). At the level of local government strategic planning, evidence includes 'research evidence, practitioner expertise, and participant preferences, values, and goals' (Bouffard & Reid 2012: 4). Governments have responded to the notion of the use of EBPM in various ways. Within the United Kingdom, the use of EBPM is common, and the notion of evidence in their practice is inclusive of

> expert knowledge; published research; existing research; stakeholder consultations; previous policy evaluations; the Internet; outcomes of consultations; costing of policy options; output from economic and

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statistical modelling (Kalle & Ejnavarzala 2016: 41-42).

In the USA, EBPM was institutionalised with the foundation of the US Coalition for Evidence Based Policy in 2001, which aimed at increasing government effectiveness through the use of rigorous evidence about what works (De Marchi, Lucertini & Tsoukiàs 2014: 24). Marais and Matebesi (2012) assessed the level of evidence-based decision making in respect of the development of Provincial Growth and Development Strategies (PGDSs) in South Africa. Marais and Matebesi (2012) concluded that, evidence can be 'official statistical data', 'official government policies', 'government research outputs', and 'scientific research from universities and non-governmental organizations'. This understanding however, excludes experts' knowledge, stakeholder consultation, values and beliefs which this article considers as valuable evidence. In terms of understanding what is regarded as evidence in this context, this article holds that evidence should be every kind of information and data, that can be contextualized around the policy problem, and has the potential to provide insight to the nature and form of the problem, and thus can potentially assist in drawing appropriate and relevant policy decision interventions.

EBPM is thus increasingly recognized as an effective mechanism by which policy decision making can be improved. In this article, evidence-based policy making is understood as a set of methods/steps that guides policy makers to make well informed policy decisions by using the best available evidence. Here, evidence is viewed as a tool to making informed rational decisions during policy development, and about making policy decisions based on knowing, with an estimated degree of certainty, what works, at achieving which outcomes, for which groups of people, under what conditions, over what time span, and at what costs. The rationale behind EBP is that, decisions should be informed by available evidence, and should include rational analysis, because decisions that are taken based on systematic and strong evidence, are more likely to produce better outcomes. The EBP approach to decision-making seeks to ensure that implementation is successful (Parsons 2002; DPME 2015). Too often decisions are taken and implemented, but the intended results are not met (Makae 2009: 134; Majola 2014: 12; NDP 2011: 417; Tebele 2016: iii; SERI 2011: 63). Focusing on evidence, when making decisions, ensures that development initiatives will directly address the problems identified in society. Evidence-based decision-making approach is therefore seen as mechanism to

improving public decision making and ultimately improving its implementation (Parsons 2002; Juma & Onkware 2015; Tebele 2016; StatsSA 2019; SAHRC 2014; Komo & Tshiyoyo 2015). It provides for a 'rigorously objective evidence as a key informant of decisions, but also for improving implementation of public services' (DPME 2015).

Before the article moves on, it is important to note that EMPM is not without its faults and detractors. Marais and Matebesi (2012), when assessing evidence-based policy development in South Africa, discussed a number of limitations in the use of research to develop policies. They range from consensus on evidence-based process, what constitutes evidence, selective use of evidence, political influence on evidence, whether monitoring and evaluation can provide enough evidence, and the position of research conducted for the sole purpose of informing policy decisions, among others. At the end, Marais and Matebesi (2012: 362) conclude that there's an acknowledgement that research is still playing a minimal role in policy decision-making in South Africa, and that this is due to

> the fact that the goals of policy makers are complex and mostly difficult to test, research is easily labelled as irrelevant, there is seldom consensus in respect of research, there is commonly a range of competing evidence or the existing knowledge is of poor quality.

Similar challenges are raised by other writers (Head 2015; Freiberg & Carson 2010; Bouffard & Reid 2012; Uzochukwu, Onwujekwe, Mbachu, Okwuosa, Etiaba, Nyström & Gilson 2016) in other countries. In the assessment of the utilization of evidence for policy development, Head (2015), commences by arguing that government agencies gather and assess a significant amount of information, but there has been little analysis of how this information is utilized for policy and program improvement. Uzochukwu *et al.* (2016) argue that policy makers and researchers fail to understand the synergy between the two. They view each other as responsible for their own respective outputs instead of them engaging in a continuous process. This kind of behaviour negatively impact on every small chance that may emerge for these practitioners to find each other (Uzochukwu *et al.* 2016). Freiberg and Carson (2010) interrogates evidence-based policy in criminology in Australia. They argue that evidence alone is unlikely to be the major determinant of policy outcomes and there's a need for a different kind of evidence-based modelling that will consider other

factors such as emotions, symbols, faith, belief and religion in the criminal justice system. However, Bouffard and Reid (2012) view EBP as a discipline with complexities that needs to be understood before its implemented (Bouffard & Reid 2012: 3). These challenges point to issues with understanding the role of evidence, and the capacity of decision makers and policy implementers to engage with evidence in ways that can have impact.

Case studies on evidence-based policy raises the argument that studying the process alone without looking at the capacity and skills within the institutions is not enough (Marais & Matebesi 2012; Young, Gropp, Pintar, Waddell, Marshall, Thomas, McEwen & Raji 2014). Young *et al.* (2014: 587-588) submit that

developing organizational capacity and individual skills are all key components of the successful adoption and establishment of EIPM (Evidence Informed Policy Making), enhanced education and training in both research and policy realms will be necessary to facilitate EIPM in this sector.

Head (2015) further locates the debate about the use of evidence within the context of improved effectiveness in service delivery and accountability in democratic countries. He argues that democracies and institutions are adopting an evidence-based approach because they are looking for ways to improving their organisational efficiencies and effectiveness in providing services. This in turn can contribute to notions and perceptions of good governance. Prime to challenges in implementing evidence-based policy making is thus the capacity and competencies of policy practitioners to link scientific research, by interpreting the results, with the policy problem. This also extends to capacity to translate and convert the evidence into a solution. Evidence does not solve policy problems, but it provides scientific knowledge which is open to interpretation and relevant for scenario planning (Freiberg & Carson 2010), and thus can provide the basis for more effective public policy decision making.

### **Evidence and the COVID-19 Response**

The declaration of a pandemic by the WHO has required governments across the world to respond speedily and effectively. The nature of the pandemic, a health crisis, requiring the implementation of social distancing rules, the promotion of washing of hands or disinfecting, and the cessation of economic activities, was always going to have devasting impacts on the socio-economic well-being of communities. The pandemic of 1918, the Spanish Flu, is the only pandemic of similar proportions from which we can consider potential impact and model suitable responses. In other words, the first set of evidence, originates in understanding the potential impact. At the beginning of the pandemic, the evidence of the Spanish Flu, and the knowledge of COVID-19, informed scientists that the impact could possibly be devasting. One of the fundamental mechanisms to combat the virus is based upon the presupposition that all individuals have access, sufficient access, quality access to water.

In order to achieve this, it is important to note that an evidence-based approach becomes more necessary than ever before. The pandemic situation requires rapid responses in the mist of uncertainty, high potential loss, time pressure, and competing values (Yang 2020). Ashtari (2020) argues that the failure to adopt, in many circumstances, evidence-based policies throughout the coronavirus pandemic in the United States resulted to poor response to the pandemic (Ashtari 2020). Governments are seen to be more likely to combat the COVID-19 pandemic if their strategies and policies are rooted and validated by evidence. James (2020) concludes that the effectiveness of countries in managing the COVID-19,

will largely depend on government leaders' reliance on accurate and real-time evidence for their strategies, while engaging the entire society through effective communication of what is at stake and what needs to be done. The COVID-19 outbreak has tested governance systems and proves that collaborative and evidence-based approaches to policy have the potential to shape governance and policymaking at the national and international levels (James 2020).

There are a number of ethical judgments which must be made in achieving this about what is evidence, how should it be used and what the most suitable response should be.

#### The State of Water Services Policy in South Africa Pre COVID

Following the dawn of democracy in 1994, the new Constitution (*The Constitution of the Republic of South Africa*, 1996, Act 108 of 1996) has

created new processes, structures, institutions and procedures that serve as mechanisms for public policy formulation in the new constitutional democracy. The Constitution provides that public policy making in South Africa takes place at various government levels, i.e. National, Provincial and Local government levels. This means that there are three policy levels in the South African policy making system (Matshikwe 2004). The national Department of Water and Sanitation is responsible to manage and regulate water supply and sanitation in the country through the development and implementation of appropriate policies. De Coning and Sherwill (2004) summarises the policy development process at the Department of Water and Sanitation by asserting that,

> in various workshops with DWAF managers and officials, the remark has often been made that despite having and using almost no theoretical knowledge of policy process models, the water community in South Africa followed a logical, participative, legitimate and otherwise sound process. However, the unplanned nature of the policy process as well as the dominance of the legal drafting process, did impact negatively on the water policy process, notably on the limited time and effort spent on the policy analysis and formulation phase (de Coning & Sherwill 2004).

The Department of Water and Sanitation has recently drafted the departmental Standard Operating Procedures (SOP) for policy development. The aim of the SOP was to create a clear approach and guideline to the development, implementation and management of all DWS departmental policies and to ensure that those members of staff involved are clear as to their roles and responsibilities (DWS 2019).

The new policy context post 1994, provided the basis for the extension of water and sanitation services to citizens who were previously excluded. This new policy context, combined with international funding through the Reconstruction and Development Programme, and shifts in overall government expenditure, provided the context for expanded delivery. Despite early gains in the provision of water post 1994, the provision slowed down notably after 2014 with the percentage of households with access to an improved source of water only increasing by less than five percentage points between 2002 and 2018 (growing from 84,4% to 89,0%). Whilst access to improved sanitation seems to have stagnated at around 80%, and the last 20% seem to be hardest to achieve (General Household Survey 2018). With the latest statistics indicating that 11 % of households remain without access to water in the country, South Africa is still battling with the supply of sufficient portable water for all its citizens, especially in informal settlements and rural areas. The typical example is the case of Maluti-A-Phofung Municipality, in QwaQwa, Free State, which continues to experience poor access. Residents in this municipality recently embarked on violent protests, demanding an effective and efficient water supply (SABCNews, February 2020). In eThekwini Metropolitan municipality area, the focus for this article, more than 20 000 households are without access to clean portable water (Ethekwini Municipality IDP 2019/20).

The Water Services Act introduce the logic of the Water Services Authority (WSA), which is defined as any municipality, including a Metro, District or Local council, responsible for ensuring access to water services. Water Services Act and its related policies defines the role of local government (Water Services Authorities) as that of implementation and management of water supply and sanitation services, operation and maintenance of services to residents/consumers, supported by national and provincial government. It is worth noting that, provision of water and sanitation can only be performed by certain municipalities that are classified as Water Services Authorities (WSA). The performance monitoring and regulation of WSAs is undertaken by the Department of Water and Sanitation. The principle of cooperative governance is based on the premises that all spheres of government are there to service the citizens as one and work collaboratively in various programmes and policies to achieve a common objective, i.e. development and service delivery. Cooperative governance requires all spheres of government and state organs to inform and consult one another on matters of common interests. In the context of this article, eThekwini Municiaplity is a WSA.

In addition to the roles and responsibilities identified in the Water Service Act, the priorities of the National Development Plan, which is the guiding document for policy in the country, the South African government has made commitment to water for all, and to invest in evidence-based approaches to policy and decision making (DPME 2015; Langer, Stewart, Erasmus & de Wet 2015). These investments come in a form of partnering with other institutions in building capacity amongst senior officials of government on evidence-based approach (DPME 2015; Paine, Cronin & Sadan 2015). These
investments are made on the logic that evidence shows that policies in South African are hardly or poorly informed by any evidence (Marais & Matebesi 2012; and Paine *et al.* (2015).

## **Key Findings from the Empirical Study**

From the self-administered questionnaire, who were respondents from the WSA, approximately 50% of the respondents indicated that the state of internal policies is 'effective', while 38% perceive them as being in a 'poor' state, and about 13% being 'not sure'. The findings from the interviews and selfadministered questionnaire reflect that the staff employed to make policy decisions recognize that evidence is important, identify that it is a key element for effective policy, but, are unsure of what evidence should be used. This was reflected when they were given two statements on whether the Department uses evidence to inform policy decisions or uses evidence to support decisions that were already taken by the Department, and respondents in both statements 7% 'strongly disagree', 56% are 'not sure', and 38% chose to 'agree'. 88% of Survey respondents from eThekwini Water and Sanitation Department agreed that expert knowledge; stakeholder consultation; previous evaluations; published research; and, values and beliefs all constitute key sources of evidence. However, there was no consensus on the importance of evidence and its use thereof in the policy making process, nor was there understanding of a shared definition of what evidence is. The Department of Water and Sanitation respondents were more explicit in their understanding of evidence. They defined evidence as ranging from site visits, research reports, conducting case studies and evaluation research (D\_P 2019; ASD\_P 2019). Although most respondents, from the WSA do undertake research (69%), and with about 93% of respondents considering research as important evidence in policy making process, about 38% of respondents undertake research merely to comply with the requirement of filing a research report, while 25% conduct research for purposes of submitting to Council. It is worth noting that none of the respondents share their research outputs with either the Water Research Commission or the Department of Water and Sanitation. The gap between research and policy in this instance is quite visible and potentially has implications for the policy decisions adopted by the municipality, as there is potentially useful evidence emanating from these which could inform the policy making process.

#### COVID-19 and Water Service Delivery in eThekwini Municipality

From the eThekwini Municipality's perspective, there was consensus that evidence is crucial in policy making process and that

there should be other documents to be visited, research alone cannot be used as the only evidence, I think some of the documents they use should be visited (AH\_WS: 2019).

This point was also supported by another respondent when highlighting that,

My understanding policies are a law and if the law is not informed then it means that the law is not gonna be enforceable (PE\_WS: 2019).

This assertion was further supported by surveyed respondents from the WSA where 38% of respondents agreeing with this assertion and about 63% strongly agreeing. However, responses on whether the current policy formulation process is informed by evidence, respondents were not convinced that this takes place. The majority formed part of 'not sure and disagree' percentage. About 13% disagreed with the statement that the current policy formulation process is informed by evidence, while 57% was not sure, and only 31% agreed that it is informed by evidence. Of significance to note for this article, is that the respondents further indicated that there is a lack of capacity within their units, with some indicating that the most experienced professionals have retired, whilst the new incoming incumbents, who constitute the larger number, being ill experienced and lack institutional memory. Hence, whilst there is common understanding of the multi-sectoral and messiness of the policy process within the sector, respondents lack understanding of the roles and responsibilities of each party in the process. However, the overall findings indicate that there is enough evidence being produced in the sector that remains unutilized to inform policy decisions.

## The Policy Response to COVID-19

Based on the need for a rapid response to the pandemic, the Water and Sanitation COVID-19 Command Centre was established and was based at Rand Water in Johannesburg. The Minister responsible for water and sanitation was tasked by the president to ensure that 'there is water for all communities in order to flatten the curve and to stop the spread of the virus' (The Presidency,

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Media Statement, 7 April 2020). This call challenged the way in which policies related to water provision were being carried out, and it required that policy makers and implementers devise a plan to deliver, quickly, efficiently and to provide a sufficient supply of clean water to those who do not have access. The new policy approach in the sector due to COVID-19, resulted in a change in the role of Municipalities (that are Water Services Authorities). They were redefined from being solely responsible for the provision of water to that of supporting function. Additionally, municipalities needed to ensure the continuous supply of water, including refill of community water tanks and exempting non-paying households by not cutting water supply to their homes. Fast forward, 100 days after the first case was confirmed, the cumulative number of confirmed COVID-19 cases in South Africa was 61 927, with 3 360 new cases identified on day 99, 1354 deaths and 35008 recoveries. The strategy adopted by Rand Water, the leading delivery agency, was to oversee the procurement, supply and installation of water tanks and tankers to communities without water; ensure up-to-date reporting on water provision across the country (DWS 2020). In addition, the Minister issued an instruction to all municipalities not to cut water supply to non-paying communities, as a mechanism to support the national intervention on ensuring water supply as a means to combat the virus.

According to the KwaZulu-Natal Provincial Command Council, 100 days after the first case of COVID-19 was confirmed in South Africa, a total number of cumulative cases under eThekwini Municipality were 2254 with 1209 recoveries, and 54 fatalities (KZN Provincial Command Council, 13 June 2020). EThekwini Municipality has a significant population living in densely populated informal settlements. With the call for social distancing and improved washing of hands, the City has embarked on an awareness-building campaign in informal settlements to raise awareness around the disease, coupled with the awareness campaign the City has also delivered soaps and sanitizers to vulnerable residents in the informal settlements, community residential units (CRUs). In addition to these, the City also ramped up its provision of water provision by installing in excess of 34 water dispensers, 223 static water tanks and provided more than 130 Chemical toilets (eThekwini Municipality IDP 2020/2021: 652). The question that needs to be answered, is why have these measures to improve access not been employed to allow those in the metro who do not enjoy access? The second question is, if the municipality is able to use the evidence from other countries to inform its

response strategy, why has this approach not been adopted based upon the evidence being generated within the Municipality itself?

In order to effectively apply the regulations and ensure that communities comply with the basic standards of hygiene as a preventative measure, the President made the commitment that,

Emergency water supplies – using water storage tanks, water tankers, boreholes and communal standpipes – are being provided to informal settlements and rural areas.

It is important to note here that this mechanism of providing water to communities, more commonly referred to as Water tinkering, is not a new phenomenon in the South African water sector. The Minister of Water and Sanitation made commitment that 5 000 water tankers will be distributed in the areas experiencing poor water access, as a short-term intervention. By the beginning of June 2020, Rand Water (2020) confidently reported that it has successfully distributed and installed 7594 water tanks in water-stressed communities throughout the country and in addition, supplied more than 350 in schools, and 1320 in transit to schools across the country. Pre COVID-19 water tinkering, has been characterized by a number of challenges. Prime to the challenges are the provision of continuous and uninterrupted supply; inadequate water to cater for the entire community; and overcrowding at water collection points, which was evidenced after the installation of some of these points (Rising Sun October 5 2016). These challenges continued with the inset of the pandemic, and in some many cases wide scale violations of social distancing rules were reported, as the rules of social distancing in themselves did not consider the realities of the poor and marginalized communities, who continue to exist without consistent access to water. This reiterates the idea that policies do not necessarily consider the realities of those for whom the policy has been designed. What is also important to also note is that it has been recently reported that the Water and Sanitation Unit is subject to a fraud and corruption inquiry regarding an estimated R700 million of COVID-19 related funds. Hence, despite on the surface presenting a proactive COVID-19 response, the realities of the system within which the change is required, remains problematic, despite the policy and despite the evidence which is already being produced within the system.

## Conclusion

It is undeniable that COVID-19 brought about complexity, challenges and lessons that can be used to shape future public policy responses. Amongst the lessons, for Departments of Water and Sanitation, is to improve monitoring, accountability and implementation systems by centralizing critical function such as bulk procurement services and using reputable service providers. Effective public policy decision making can only be possible if there are strong intergovernmental relations both horizontal and vertical, irrespective of the amount of evidence available. This requires collaborative planning and implementation in order to realize rapid maximum impact, in addition to legislative support. In the short and long term, the lessons learned, and the evidence generated, through the policy responses to COVID-19 offer opportunity to learn. Whether these learning manifest into changes to policy implementation and result in sustainable and comprehensive positive impact in people access to water, will depend on the decision-making approach adopted, and the political will to support such strategies or reprimand infringements. Whilst the overall response to COVID-19 indicates that interventions based on lessons learnt from similar or same experiences proves to be more successful, and even resulted in a commendation from the World Health Organization, the continuation of such efforts towards more permanent solutions are vet to be seen.

Declaration: This article is adapted from the PhD study of the main author.

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# Using Technology to Track and Trace in the **COVID-19 Era: An Analysis of South Africa's** Legal Framework

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#### Abstract

On 15 March 2020, due to the global outbreak of the novel Coronavirus (COVID-19), South Africa declared a national state of disaster in terms of section 27(1) of the Disaster Management Act 57 of 2002 ('the DM Act'). This followed the World Health Organization's characterization of COVID-19 as a pandemic on 11 March 2020. Pursuant to the declaration of disaster in South Africa, various regulations have been promulgated in terms of section 27(2) of the DM Act with a view to curbing the spread of the virus. Some of these regulations have drastically affected a variety of constitutional rights - such as the right to freedom of movement and the right to privacy. On 2 April 2020 amended regulations issued by the Minister of Cooperative Governance and Traditional Affairs set out a first for South Africa's Constitutional democracy - a legislated basis for authorities to use technology to track and trace persons infected by the virus (or reasonably suspected to be infected) via a COVID-19 Tracing Database. On 29 April 2020, a further set of amended regulations were published and although the section numbers have changed, the track and trace provisions remain unaltered (Chapter 2, section 8 of the regulations under the heading Contact Tracing creates the COVID-19 Tracing Database). Although constitutional rights may be validly limited by section 36 of the Constitution of the Republic of South Africa, 1996, this may only be done by a law of general application, and only to the extent that the limitation of rights is reasonable and justifiable in a democratic society. This contribution will analyse the difference between a state of disaster and a state of emergency – and comment on the State's ability to limit constitutional rights, exploring whether a state of disaster was the appropriate choice in relation to COVID-

19. Further, this article will analyse whether the provisions setting out the COVID-19 Tracing Database (which include 19 sub-sections) are a justifiable and reasonable limitation of the right to privacy. Finally, the article considers how the regulations, read together with the Protection of Personal Information Act 4 of 2013 ('POPIA'), will ensure that personal information is processed appropriately. Accordingly, the purpose of this contribution is to analyse the legal framework surrounding the tracing provisions, to comment on their legal validity, and to consider the interaction between the POPIA and the COVID-19 Tracing Database. This article considers the legal position up to and including 5 October 2020.

**Keywords:** COVID-19, track and trace, COVID-19 Tracing Database, COVID-19 Designated Judge, tracing database, right to privacy, protection of personal information, POPIA.

## **1** Introduction

On 31 December 2019 the Wuhan Municipal Health Commission in China reported a cluster of pneumonia cases in Hubei, a landlocked province located in central China. Subsequently, the World Health Organization ('WHO') reported on social media on 4 January 2020 that a pneumonia illness – with no current deaths at that stage - had originated in Wuhan in the Hubei province. As a result, as January progressed, the WHO published technical guidance, disease outbreak news, and on 22 January 2020, convened an emergency committee to determine whether the outbreak constituted a public health emergency. The WHO emergency committee was reconvened on 30 January 2020, and the outbreak of pneumonia cases was declared a public health emergency of international concern - the outbreak was referred to as the COVID-19 virus (World Health Organization, Technical Guidance 2020). By 30 January 2020, there had been 7 818 reported cases worldwide, including 82 in 18 countries outside China. Human-to-human transmission was confirmed, and the WHO gave a risk assessment of 'very high' for China, and 'high' for the rest of the world (World Health Organization 2020).

During February 2020, the WHO released response plans, and convened a research and innovation forum. As a result of enormous increases in reported cases, together with the fact that the disease had spread rapidly throughout the world, on 11 March 2020 the WHO declared COVID-19 a

pandemic<sup>1</sup> (World Health Organization 2020). As pointed out in *Mohamed v President of the Republic of South Africa* [2020] ZAGPPHC 120, a pandemic is 'an epidemic of disease that has spread across a large region, for instance multiple continents or worldwide, affecting a substantial number of people'. By 11 March 2020, COVID-19 had been confirmed in at least 114 countries (Bremmer 2020) – the WHO has faced criticism from a number of Western countries, including from the American president (Hernández 2020), but has received backing from the African Union and certain African countries, including South Africa (Reuters 2020).

Following the characterization of COVID-19 as a pandemic, on 15 March 2020, South Africa declared a national state of disaster in terms of section 27(1) of the Disaster Management Act 57 of 2002 ('the DM Act'). As a result, a plethora of regulations and directives have subsequently been issued in terms of section 27(2) of the DM Act, resulting in a 'lockdown' which curtails certain constitutional rights – including, *inter alia*: a restriction on the movement of persons and goods, a prohibition on gatherings, closure of national borders, and restrictions of certain economic activity (see the amended regulations issued in terms of section 27(2) of the DM Act where certain restrictions are imposed on all persons in South Africa). In addition, in a first for South Africa's constitutional democracy, section 8 of the amended regulations creates a legislated basis for authorities to use technology to track and trace persons infected with COVID-19 with what is called a COVID-19 Tracing Database<sup>2</sup>.

This article seeks to distinguish a state of disaster from a state of em-

<sup>&</sup>lt;sup>1</sup> According to the South African Government: 'an outbreak is a sudden rise in cases of a disease in a particular place. An epidemic is a large outbreak. A pandemic means a global epidemic'. Further, a pandemic does not reflect the severity of the disease, but rather it means that the disease is 'spreading widely and at an alarming rate'. (South African Government Coronavirus COVID-19 Frequently Asked Questions 2020).

<sup>&</sup>lt;sup>2</sup> This is a database established by the National Department of Health to enable the tracing of persons who are known or reasonably suspected to have come into contact with any person known or reasonably suspected to have contracted COVID-19 and created by virtue of section 8(2) of the regulations to the DM Act. See further paragraph 4 below for a discussion of the regulations dealing with this database.

ergency in terms of South African legislation; and will thereafter seek to determine whether the provisions setting out the COVID-19 Tracing Database are a justifiable and reasonable limitation of the right to privacy and related constitutional rights. Finally, this contribution will analyse the South African legal framework regulating aspects of the lockdown, and to comment on the interaction between the Protection of Personal Information Act 4 of 2013 ('POPIA') and the COVID-19 Tracing Database.

## 2 State of Disaster versus a State of Emergency

### 2.1 Overview

Before dealing directly with the legal provisions that enable a COVID-19 Tracing Database, it is pertinent to briefly outline the legislative position in relation to South Africa's legal framework regulating disasters and emergencies, and briefly consider whether the correct decision was made to characterize COVID-19 as an event that required the declaration of a state of disaster (as opposed to a state of emergency).

A state of disaster is clearly distinct from a state of emergency. South Africa has opted for a state of disaster in order to deal with the outbreak of COVID-19, primarily so that the State can deploy available resources to fight the virus (Government Notice No. 313 of 15 March 2020). Both a state of disaster and a state of emergency facilitate the limitation of constitutionally protected rights. However, holistically, the primary differences between the two drastic measures are that, firstly, a state of emergency permits a more fundamental limitation of rights. Secondly, a state of emergency is aimed at restoring 'peace and order', whereas a state of disaster is typically aimed at a situation involving some natural disaster (see, for example, Propshaft Master (Pty) Ltd v Ekurhuleni Metropolitan Municipality 2018 (2) SA 555 (GJ)). Thirdly, a state of emergency is derived directly from section 37 of the Constitution, whereas a state of disaster derives its power from legislation. Fourthly, a state of emergency lasts for up to only 21 days, and requires the approval of the National Assembly for extension, whereas a state of disaster lasts for up to three months and may be extended without the approval of the National Assembly. Finally, a state of emergency envisages direct oversight by Parliament, whereas in a state of disaster this is not directly provided for in the legislation (but is inferred in view of parliaments roles and responsibilities).

## 2.2 State of Disaster

The purpose of the DM Act, according to the preamble thereto, is to: provide an integrated and coordinated policy that reduces the risk of disasters; facilitate emergency preparedness; provide effective responses to disaster recovery efforts; and establish a National Disaster Management Centre ('DM Centre'). A key term in the DM Act is a 'disaster'. In terms of section 1 of the DM Act, a disaster is defined as a sudden, widespread natural or human-caused occurrence which causes death, injury or disease, and is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources (Mbatha v City of Johannesburg Metropolitan Municipality 2015 (4) SA 591 (GJ)). Importantly, the Minister of Cooperative Governance and Traditional Affairs administers the DM Act, and has responsibility to promulgate regulations; however, in terms of section 26, the national executive is 'primarily responsible' for the co-ordination and management of national disasters. The DM Act creates a DM Centre which, according to section 9, is responsible for promoting an 'integrated and coordinated system of disaster management, with special emphasis on prevention and mitigation by national, provincial and municipal organs of state'. The DM Centre must, before a state of disaster can be declared, in terms of section 23(1)(b), *classify* the disaster as local, provincial or national. This was done by the head of the DM Centre, Dr. Tau, on 15 March 2020 in terms of Government Notice No. 312 of 15 March 2020, where the coronavirus was classified as a national disaster.

Following the classification of a disaster as national, the Minister administering the DM Act may *declare* a national state of disaster, in terms of section 27(1), if existing legislation does not adequately provide for the national executive to deal with the disaster, or where special circumstances exist that warrant the declaration of a national disaster. Ultimately, having regard to the 'magnitude and severity' of the COVID-19 pandemic, the responsible minister, namely the Minister of Cooperative Governance and Traditional Affairs, Dr. Dlamini-Zuma, *declared* a national disaster on 15 March 2020 in terms of Government Notice No. 313 of 15 March 2020. Primarily, COVID-19 was declared a disaster as a result of the 'special circumstances' that exist, and in order to 'augment the existing measures undertaken by organs of state to deal with the pandemic'.

Typically, a state of disaster will be declared by the State in an attempt

to bring social conditions back to normality, following some natural disaster such as a flood, water shortage or severe weather event (i.e.: the severe event means that those affected require assistance from the State, with the primary objective being to take society back to what it was before the disaster, or as close thereto as possible in the circumstances). A state of disaster will unlock certain funds for government to spend on combatting the disaster, and will facilitate spheres of government working together with the national executive to mitigate against damage caused by the disaster, and provide support for citizens and persons affected by the disaster. Critically, section 27(2) of the DM Act empowers the responsible minister to make regulations or issue directions with a view to controlling the disaster, and providing relief for society. As noted in para 6 of *De Beer v Minister of Cooperative Governance and Traditional Affairs* [2020] ZAGPPHC 184, the making of regulations in terms of the DM Act are subject to:

- a) consultation with the responsible cabinet Minister<sup>3</sup>;
- b) section  $27(2)(a) (o)^4$  of the DM Act which sets out what the regulations should concern;

<sup>&</sup>lt;sup>3</sup> For example, if a regulation pertains to sports, consultation with the Minister responsible for that portfolio should take place.

<sup>&</sup>lt;sup>4</sup> In terms of section 27(2), the regulations should concern:

<sup>(</sup>a) the release of any available resources of the national government, including stores, equipment, vehicles and facilities;

<sup>(</sup>b) the release of personnel of a national organ of state for the rendering of emergency services;

<sup>(</sup>c) the implementation of all or any of the provisions of a national disaster management plan that are applicable in the circumstances;

<sup>(</sup>d) the evacuation to temporary shelters of all or part of the population from the disaster-stricken or threatened area if such action is necessary for the preservation of life;

<sup>(</sup>e) the regulation of traffic to, from or within the disaster-stricken or threatened area;

<sup>(</sup>f) the regulation of the movement of persons and goods to, from or within the disaster-stricken or threatened area;

<sup>(</sup>g) the control and occupancy of premises in the disaster-stricken or threatened area;

c) section  $27(3)(a) - (e)^5$  of the DM Act which sets out the purpose of the regulations.

The internal limitations of the DM Act notwithstanding, the powers contained in section 27(2) of the DM Act are wide-ranging, and are only subject to the supremacy of the Constitution found in terms of section 1(c) and section 2 of the Constitution. What does supremacy of the Constitution mean? Briefly, it means that the Constitution is the supreme law of South Africa, and all conduct must be consistent with its values; accordingly, no person, entity or organ of State may violate anything contained in the Constitution, and a constitutional right may only be limited in terms of section 36 (see discussion in paragraph 3 below). On 2 June 2020, in *De Beer v Minister of Cooperative Governance and Traditional Affairs* [2020] ZAGPPHC 184, the High Court ultimately found that regulations promulgated by the Minister in terms of section 27(2) of the DM Act (for lockdown levels 3 and 4) were unconstitutional and declared them invalid. This decision is being appealed, and on 30 June 2020, in *Minister of Cooperative Governance and Traditional Affairs v De Beer* [2020] ZAGPPHC 280 at para 12, leave to appeal aspects of the judgment to

- (j) the maintenance or installation of temporary lines of communication to, from or within the disaster area;
- (k) the dissemination of information required for dealing with the disaster;
- (l) emergency procurement procedures;
- (m) the facilitation of response and post-disaster recovery and rehabilitation;
- (n) other steps that may be necessary to prevent an escalation of the disaster, or to alleviate, contain and minimise the effects of the disaster; or
- or to alleviate, contain and minimise the effects of the disaste
- (o) steps to facilitate international assistance
- <sup>5</sup> In terms of section 27(3), the regulations may only be exercised to the extent necessary for:
- (a) assisting and protecting the public;
- (b) providing relief to the public;
- (c) protecting property;
- (d) preventing or combating disruption; or
- (e) dealing with the destructive and other effects of the disaster.

<sup>(</sup>h) the provision, control or use of temporary emergency accommodation;

<sup>(</sup>i) the suspension or limiting of the sale, dispensing or transportation of alcoholic beverages in the disaster-stricken or threatened area;

the Supreme Court of Appeal was granted<sup>6</sup>. Since that date, further regulations have been promulgated and South Africa has moved to lockdown level 1.

However, regardless of the outcome of the appeal, it is worth noting that, in *Affordable Medicines Trust v Minister of Health* 2006 (3) SA 247 (CC), the Constitutional Court again confirmed the basic cornerstone of a constitutional democracy: any exercise of public power must comply with the Constitution. Further, in *Doctors for Life International v Speaker of the National Assembly* 2006 (6) SA 416 (CC), at para 38, the Constitutional Court stated as follows in relation to the principle of constitutional supremacy:

... under our constitutional democracy, the Constitution is the supreme law. It is binding on all branches of government and no less on Parliament. When it exercises its legislative authority, Parliament 'must act in accordance with, and within the limits of, the Constitution', and the supremacy of the Constitution requires that 'the obligations imposed by it must be fulfilled'. Courts are required by the Constitution 'to ensure that all branches of government act within the law' and fulfil their constitutional obligations. This Court 'has been given the responsibility of being the ultimate guardian of the Constitution and its values'. Section 167(4)(e), in particular, entrusts this Court with the power to ensure that Parliament fulfils its constitutional obligations. This section gives meaning to the supremacy clause, which requires that the obligations imposed by [the

<sup>6</sup> The court only granted a limited appeal, and at para 12, found as follows:

- 1. Leave is granted to the Minister of Cooperative Government and Traditional Affairs ('the Minister') to appeal to the Supreme Court of Appeal against the declaration of invalidity of those regulations promulgated in terms of section 27(2) of the Disaster Management Act 57 of 2002 which have not been expressly identified in the judgment of this court dated 2 June 2020.
- 2. Leave to appeal the remainder of the judgment and orders, including leave to appeal against the declaration of invalidity of those regulations mentioned in the judgment, being regulations 33(1)(e), 34, 35, 39(2)(m), the exception to reg 46 (1) and 48(2), is refused.

Constitution] must be fulfilled. [footnotes omitted]

In addition to the supremacy of the Constitution, regulations promulgated must be rationally related to their purpose – for example, the regulations promulgated in terms of the DM Act must be rationally connected to containing the spread of the coronavirus (*Khosa v Minister of Defence* [2020] ZAGPPHC 147). Rationality forms a key part of the rule of law (section 1(c) of the Constitution), and is tested objectively – in other words, an irrational decision, even if taken in good faith or made mistakenly will still be irrational and therefore should be set aside (*Pharmaceutical Manufacturers Association of SA: In re Ex Parte President of the Republic of South Africa* 2000 (2) SA 674 (CC) at para 86).

That aside, looking at a state of disaster generally, as a point of departure in terms of section 27(5), a state of disaster lasts for up to three months, but it can be terminated earlier, and it may also be extended for periods of one month at a time (in the event that a valid reason exists to extend the state of disaster). On 14 September 2020, in terms of Government Notice No. 995, the state of disaster was extended to 15 October 2020. South Africa appears to have passed the peak of COVID-19 infections, which according to the latest data occurred towards the end of July (South African Government COVID-19 Statistics in South Africa 2020). See figure 1 below<sup>7</sup>, which is a graphical illustration of the number of COVID-19 infections per day as at the end of September 2020.

However, the position remains fluid, and many parts of the world, including the United Kingdom and parts of Europe are preparing for a 'second wave' of COVID-19 infections (Johnson & Yorke 2020). That notwithstanding, with the benefit of hindsight, it does appear as if the initial projected mortality rates were somewhat inflated, and the early models appeared to forecast a dire position which, fortunately, has not come to fruition. The Actuarial Society of South Africa has recently revised its COVID-19 estimates from a range of between 46 000 and 88 000 deaths in April 2020 to a range of between 27 000 and 50 000 deaths in September 2020 (Actuarial Society of South Africa 2020).

<sup>&</sup>lt;sup>7</sup> The graph is presented by Wikipedia via data drawn from *COVID-19 Statistics in South Africa* from the South African government at www.sacoronavirus.co.za (Accessed on 29 September 2020.)



Figure 1: COVID-19 Infections Per day

Given that there are over 33,7 million infections worldwide, with over 1 million deaths (World Health Organization Coronavirus Disease (COVID-19) Dashboard 2020), some experts believe that the pandemic will last for between 18 and 24 months (Woodward 2020). However, as pointed out by global consultants McKinsey & Company, it is likely that the world will return to some form of normalcy in the third or fourth quarter of 2021: this will represent an almost 18-month pandemic if that projection is accurate (McKinsey & Company 2020). As a result, South Africa appears to have a

legitimate basis, at least in the short-term, to continue in a state of disaster. However, questions remain over the rationality of some of the lockdown measures, and further questions remain over whether these measures were successful given the damage to the economy (*Financial Times* 2020).

## 2.3 State of Emergency

Section 37 of the Constitution directly provides for a state of emergency in circumstances where the nation is threatened by war, invasion, general insurrection, disorder, natural disaster, or other public emergency; *and* where the declaration is necessary to restore peace and order. As a result of section 37 of the Constitution, the State of Emergency Act 64 of 1997 was promulgated to flesh out the mechanism for declaring a state of emergency. The State of Emergency Act provides that the president should declare a state of emergency (unlike the DM Act, where this is delegated to a responsible minister). In addition, section 3 provides for parliamentary supervision in that it is expressly set out that the National Assembly may reject any regulation, and may make recommendations to the president in connection therewith.

A state of emergency effectively permits the State to suspend certain constitutional rights; however, it is more strictly managed in that it only lasts, initially, for 21 days from the date of declaration. Further, if a state of emergency is to be extended, a majority vote of the National Assembly is required – any subsequent extension requires a 60% vote of approval by the National Assembly. Primarily, a state of emergency is designed to 'restore peace and order', and although it may derogate constitutional rights contained in the Bill of Rights, this may only happen to the extent the suspension of these rights is required by the emergency. Importantly, regardless of the emergency, certain rights may never be suspended (contained in a table of non-derogable rights in section 37 of the Constitution) – such as the right to life, the right to dignity, and the right to equality.

## 2.4 The Right Decision?

The wording of the DM Act is sufficiently wide to ensure that a disease such as COVID-19 can be comfortably classified as a national disaster. In relation to a state of emergency, one could argue that the disease represents a public emergency, but in addition, the declaration of a state of emergency must also be necessary to restore peace and order - does COVID-19 represent such a circumstance? In other words, would COVID-19 meet the threshold in the State of Emergency Act? In order to do so, it would need to constitute a public emergency (which it clearly is), and the declaration would be necessary to restore peace and order. Arguably, there is no need for the State to restore peace and order as a result of a virus. In addition, from the perspective of the State, a declaration of a state of emergency would entail having to appear before the National Assembly to extend the initial 21 day period - the first extension could only be for a maximum of three months, where after, 60% of the National Assembly would have to approve a second extension (an extension may only be granted for a maximum period of three months at a time). In addition, all regulations would need to be placed before parliament in terms of section 3 of the State of Emergency Act, Parliamentary supervision. Accordingly, in order to *slightly* circumvent<sup>8</sup> direct parliamentary oversight, and in order to ensure the state of lockdown can ensue for longer periods of time, without National Assembly approval, it seems a state of disaster is the most prudent and expedient option for the State in the current circumstances.

Holistically, however, it should be borne in mind that the state of disaster notwithstanding, constitutional rights may only be limited on a basis that is reasonable and justifiable in the circumstances – arguably, as will be discussed below in paragraph 3, some of the limitations South Africans have faced have been unreasonable and not justifiable. Further, South Africa's

<sup>&</sup>lt;sup>8</sup> Parliament should fulfil an oversight role in all circumstances, and is responsible, *inter alia*, to ensure that all government action is consistent with the Constitution (Parliament Oversight and Accountability Model, n.d.). However, as noted by the Executive Secretary for the Council of the Advancement of the South African Constitution, it appears as if Parliament has not provided much in the way of oversight during the coronavirus outbreak (Naidoo 2020). However, on 5 April 2020, Parliament released a statement noting that '[i]n performing its constitutional obligations during this period, Parliament must not be seen as interfering with the responsibility of the Executive to implement measures for which the National State of Disaster has been declared', but Parliament did reiterate its oversight role by pointing out 'Parliament, whose Members are regarded as an essential service, in terms of the lockdown regulations, has the authority to execute its oversight functions during a lockdown or social distancing period'.

economy has recorded its worst slump in decades with the gross domestic product falling drastically (*Financial Times* 2020). Only time will tell whether the harsh lock-down measures imposed in South Africa from March 2020 to September 2020 will be regarded as successful.

## **3** Limitation of Constitutional Rights

It is trite that the rights enshrined in the Constitution are not absolute (*Dawood v Minister of Home Affairs* 2000 (3) SA 936 (CC); Woolman & Bishop 2008), and that a limitation of any right in the Bill of Rights must be justified in terms of section 36 of the Constitution (*Mlungwana v* S 2019 (1) SACR 429 (CC) paras 57 - 59). Section 36 is often colloquially referred to as the 'limitations clause'. Essentially, a section 36 analysis requires a weighing up of the nature and importance of the right(s) with the extent of the limitation. The application of section 36 involves weighing competing interests on a case-by-case basis to reach a decision that is based on proportionality (*S v Manamela* 2000 (3) SA 1 (CC)).

When may the State limit constitutionally enshrined rights? Put simply, only if done so by a law of general application, and only to the extent that the limitation of rights is reasonable and justifiable in an open and democratic society. As repeatedly noted by South Africa's Constitutional Court, determining whether a limitation is reasonable and justifiable involves a *balancing* of interests; this is often referred to as an exercise in proportionality (*Johncom Media Investments Limited v M* 2009 (4) SA 7 (CC)). Several important Constitutional Court judgments, entire books, and many journal articles have been written on the topic of limitation of rights and proportionality, but holistically, one must consider the following: what is the nature and importance of the right(s) being limited? What is the purpose of the limitation? What is the extent of the limitation? Is the impairment of rights proportional to the purpose it seeks to achieve? Is there a less restrictive means to achieve the purpose? Accordingly, each case will turn on its own unique facts and requires independent analysis.

Importantly, as pointed out in recent cases dealing with challenges to government action in relation to the coronavirus, such as in para 6 of *De Beer v Minister of Cooperative Governance and Traditional Affairs* [2020] ZAGPPHC 184, para 40 – 42 of *Mohamed v President of the Republic of South Africa* [2020] ZAGPPHC 120, and para 19 of *Khosa v Minister of Defence* 

[2020] ZAGPPHC 147, constitutional rights should only be limited where justifiable. As the court in *De Beer* puts it, the question should be asked: 'how can we as government limit Constitutional rights in the least possible fashion whilst still protecting the inhabitants of South Africa?'

In light of cases such as *Khosa v Minister of Defence*, where the SANDF allegedly brutally assaulted Mr. Collins Khosa, leading to his death (see the full extent of the allegations at para 34 of *Khosa v Minister of Defence* [2020] ZAGPPHC 147), together with other allegations of SANDF and police brutality, which have allegedly led to the loss of at least eleven lives as a result of lockdown enforcement (Haffajee 2020), it does appear as if South Africa has gone too far in the limitation of constitutional rights in some instances. These allegations of overzealous enforcement, and the dire state of the South African economy mean that at least some of the lockdown objectives could surely have been achieved in a less restrictive fashion.

Be that as it may, in what appears to be a first for South African constitutional jurisprudence, the High Court in *Khosa* ordered that notwithstanding the state of disaster and the lockdown in terms of the DM Act, the SANDF, the South African Police Service, and the Metropolitan Police Department must 'act in accordance with Constitution and the law'. Further, that these entities are obliged in terms of section 7(2) of the Constitution to respect, protect, promote and fulfil the rights in the Bill of Rights. The court also confirmed the obvious: all persons in South Africa are entitled to human dignity (section 10 of the Constitution), the right to life (section 11 of the Constitution), the right not to be tortured (section 12(1)(d) of the Constitution), and the right not to be treated or punished in a cruel, inhuman or degrading way (section 12(1)(e)) of the Constitution.

## 4 Track and Trace Database

### 4.1 Overview of Contact Tracing Regulations

As alluded to above, a raft of regulations has been published in terms of section 27(2) of the DM Act. In relation to tracking and tracing citizens in the context of the coronavirus, in a first for South Africa's constitutional democracy, on 2 April 2020 (Government Notice No. 446 of 2 April 2020), concepts such as 'contact tracing' and 'COVID-19 tracing database' were introduced into legal parlance. Initially, the section was inserted as 11H into the then applicable regulations (of 2 April 2020) – since then, following an amendment on 29 April

2020 (Government Notice No. 480 of 29 April 2020), the applicable section now falls under section 8 (contact tracing) of Chapter 2 (general provisions applicable during national state of disaster).

Broadly speaking, the section authorizes the National Department of Health to develop and maintain a national database to facilitate the tracing of persons who are known to be infected with COVID-19, or reasonably suspected to be infected with COVID-19. In addition, the regulation empowers the Director-General for Health to request geolocation<sup>9</sup> data to monitor location and movements – from 5 March 2020 to the date when the State of Disaster lapses.

## 4.2 The Contact Tracing Regulations

Section 8(1) introduces definitions for the COVID-19 Tracing Database, and the COVID-19 Designated Judge. The tracing database, which is set out in section 8(2), obliges the National Department of Health to create a national database to 'enable the tracing of persons who are known or reasonably suspected to have come into contact with any person known or reasonably suspected to have contracted COVID-19'. This provision therefore facilitates the wide-scale monitoring<sup>10</sup> of persons in South Africa who are thought to have been exposed to the coronavirus. Although this far-reaching ability to monitor citizens at first blush appears directly out of a dystopian horror movie, one must appreciate South Africa's tremendous socio-economic inequality, and the limited resources government has at its disposal. Further, South Africa has an enormous number of citizens living with HIV and other health related comorbidities. In addition, the regulation provides a basis to track and trace movement and whereabouts - subsection 12 specifically confirms that the regulations do not authorize any interception of electronic communications. As a result, the tracing database has the potential to allow government to monitor movement to curb the spread of the virus. As a result, in practice, this means the government may ask for information about your location, and where you

<sup>&</sup>lt;sup>9</sup> Geolocation refers to information that can be used to identify the real-world physical location of an electronic device.

<sup>&</sup>lt;sup>10</sup> See also the Regulation of Interception of Communications and Provision of Communication-related Information Act 70 of 2002 which provides for the interception and monitoring of direct and indirect communications.

have been, if you are exposed to the coronavirus, but even where a person has been exposed, these regulations do not entitle the government to intercept and monitor electronic communications; such interception and/or monitoring would require a warrant in terms of the Criminal Procedure Act, or the Prevention of Organised Crime Act or similar legislation, or compliance with other applicable legislation such as the Regulation of Interception of Communications and Provision of Communication-related Information Act. In terms of the DM, the Minister of Justice and Correctional Services appointed former Constitutional Court judge Kate O'Regan as the COVID-19 Designated Judge,<sup>11</sup> on 3 April 2020, to oversee citizens' rights (Ministry of Justice and Correctional Services, 3 April 2020).

Section 8(3) sets out the type of information that should be included in the COVID-19 Tracing Database – the wording of the section, 'including but not limited to', gives authorities the ability to include information beyond what is set out in the regulation, as long as it is 'necessary for the contact tracing process to be effective'. The information will include a person's name, identity number or passport number, address and mobile phone number; the COVID-19 test results of that person; and the details of all known or suspected contacts of any person who tested positive for COVID-19. Effectively, the information relating to known or suspected contacts will provide authorities with a reasonable basis to track and trace those persons identified as being exposed to the virus. Section 8(4) confirms that the information held in the COVID-19 Tracing Database is confidential, and section 8(5) sets out that no person may disclose any of the information held therein unless for the purpose of 'addressing, preventing or combatting the spread of COVID-19'.

Section 8(6) places an obligation on the medical professionals taking a sample for the purposes of testing. If testing, the medical professional must obtain the personal information set out in section 8(3), and in addition thereto, a copy of some photographic identification (such as passport, driver's license, identity card or identity book). In a similar vein to section 8(6), section 8(7) places an obligation on any laboratory testing for COVID-19 to send relevant personal information and the test results for inclusion in the COVID-19 Tracing Database; while section 8(8) places this same obligation on the

<sup>&</sup>lt;sup>11</sup> Section 8(13) of the DM Act, to be discussed below, provides that a former Constitutional Court judge should be appointed to act in an oversight role in relation to protecting citizens' right to privacy.

National Institute for Communicable Diseases to send all personal information, contact information, and test results for inclusion in the COVID-19 Tracing Database. The information contained in the tracing database will therefore be drawn from a number of sources – it remains to be seen whether the information will be accurate, and whether the tracing will assist with combatting the virus.

Section 8(9) obliges every 'accommodation establishment' (this term is not defined), to submit for inclusion in the COVID-19 Tracing Database personal information regarding each guest, as well as a copy of photographic identity. The term accommodation establishment should be interpreted in its normal manner, and would include any hotel, bed and breakfast, or another other establishment where a person pays for accommodation. Presumably, this part of the regulation is in place to assist the monitoring process and identify persons who may be at risk when a case of COVID-19 is identified.

Section 8(10) permits the Director-General for Health to contact any electronic communications service provider in South Africa (licensed in terms of the Electronic Communications Act 36 of 2005)<sup>12</sup> to obtain, without notice to the person affected, location and movement data of persons infected or reasonably suspected to be infected with COVID-19 from the period 5 March 2020 up until the state of disaster is terminated (the termination date is not yet known given that the pandemic is on-going).

In addition to the ability for government to directly obtain this data from service providers, many mobile phone operating systems – such as Apple's iOS and Google's Android – have automatically introduced COVID-19 tracking applications to the software with recent updates, regardless of whether a user would want such software (Apple 10 April 2020). However for now, the feature does allow a user to disable the function. In iOS, the feature is located within 'Privacy', then 'Health', then 'COVID-19 Exposure Logging'. For example, see the screenshots below, taken from my own mobile phone:

<sup>&</sup>lt;sup>12</sup> This piece of legislation, which regulates broadcasting, signal distribution and telecommunications in general should not be confused with the similarly named Electronic Communications and Transactions Act 25 of 2002. The latter is a wide-ranging piece of legislation regulating, *inter alia*, the legal requirements for data messages and issues relating to electronic evidence, cryptography providers, cybercrime, consumer protection, critical databases and domain name authority.

### Using Technology to Track and Trace in the COVID-19 Era

09:	25 ৵		.,   奈 ∎.)
Pri	vacy	Health	
COVID-19 Exposure Logging > Off			>
When enabled, iPhone can exchange random IDs with other devices using Bluetooth. This enables an app to notify you if you may have been exposed to COVID-19. Exposure Logging cannot access any data in, or add any data to, the Health app.			
Hea	dphone Audio Le	evels	>
APPS			
	Clock		>
$\textcircled{\begin{time}{2.5pt}}$	Discovery		>
	Health		>
<b>\</b>	Strava		>
As apps request permission to update your Health data, they will be added to the list.			
RESEARCH STUDIES			
None			
As research studies request permission to read your data, they will be added to the list. You can review and manage all the studies you are enrolled in by going to the Research app.			

**Figure 2:** COVID-19 Exposure Logging in the iOS software (located within 'Health' in the 'Privacy' setting).

09:25 ৵	ııl ≎ 🖸
Kealth COVID-19 Exp	osure Logging
Exposure Logging	
You cannot turn on Exposure La app installed that can send Exp	ogging without an authorised osure Notifications.
When enabled, iPhone can excl devices using Bluetooth.	hange random IDs with other
The random IDs your device co exposure log for 14 days. This e authorise to notify you if you m COVID-19.	llects are stored in an exposure log allows an app you ay have been exposed to
If you are diagnosed with COVI your own device's random IDs y can notify others anonymously.	D-19, you can choose to share with the authorised app so it
Learn more	
ACTIVE APP	
No installed app	
Exposure Checks	>
This is a record of all requests from the past 14 days.	to check your Exposure Log
Delete Exposure Log	
There are no random IDs on yo	ur device to delete.

Figure 3: COVID-19 Exposure Logging settings in iOS.

Further, the South African government has also released its own application to trace COVID-19 exposure called 'COVID Alert' (this App can be downloaded voluntarily, and it should not be confused with the government's COVID-19 Tracing Database). A user has the ability to disable exposure notifications, and via the user settings, a person can also choose to disable their 'travel status'<sup>13</sup>. The App does not record where a person has been nor does it collect personal information – its exclusive purpose is to determine 'how close and how long you have been in contact with others using the App'.

<sup>&</sup>lt;sup>13</sup> This setting notifies the government if a person has travelled outside their 'active region' in the past 14 days but it does not include information about where the person has travelled or their location. The purpose of the App is exclusively to monitor exposure to COVID-19 and not to track a person's movements.



Figure 4: South African government COVID Alert App for iOS main screen.

11:15 . III 😤 🚮 COVID Alert K Back **Exposure Notifications** National Department of Health South Africa Join the COVID ALERT SA community. Slow the spread of COVID-19. Stay Safe, protect loved ones, your community and all of South Africa. Let's work together to save lives. The COVID Alert SA app gives you the power to slow the spread of COVID-19 in South Africa and to keep yourself, your loved ones and everyone else safe. COVID Alert SA is part of COVIDConnect - the National Department of Health's digital COVID-19 response platform. The app has been designed to protect your identity and security. Your identity will always remain private. For more information on COVID-19 visit

For more information on COVID-19 visit www.sacoronavirus.co.za or call the 24 hour hotline on 0800 029 999. Alternatively send "Hi" to 0600 12 3456 on WhatsApp.

#### Set As Active Region

This will set National Department of Health as the active region for Exposure Notifications.

Open National Department of Health App

**Figure 5:** South African government COVID Alert application for iOS explanation regarding privacy.



Done

# **How It Works**

#### I Receive Notifications

Receive notifications if you have been in close contact with other app users when they confirm their positive diagnosis. We will guide you through what to do to protect yourself and your community.

#### Send Notifications

If you have tested positive for COVID-19, you can help to anonymously alert other app users who have been in close contact with you, so they can take appropriate action to protect themselves and their community.

#### 🕑 Privacy

We are committed to your privacy. This app does not record where you have been. It is only used to determine how close and how long you have been in contact with others using the app.

This app will not share your name or any personal information about you or your location with other app users. Your personal and health data remains private.

#### Next Steps

Get advice on the next steps to take if you've been exposed to someone using

**Figure 6:** South African government COVID Alert application for iOS explanation regarding how the App works.

Turning back to the regulations, section 8(11) provides further guidance in relation to 8(10), and largely repeats what is contained in other sections – it seeks to confirm the limitations in place on the manner in which the data can be used, and when it should be destroyed. Section 8(11)(a) repeats what is in 8(10) by stating that the geolocation data may only be accessed as far back as 5 March up until the date the state of disaster is terminated. Section 8(11)(b) repeats what is contained in 8(5) by confirming that only authorized persons may access the data, and only to the extent that it is used to combat COVID-19. Section 8(11)(c) to an extent repeats what is contained in 8(10) by noting that the data collected relevant to contact tracing must be included in the COVID-19 Tracing Database (although, this begs the immediate question: what else would it be collected for?). Finally, section 8(11)(d) introduces something new by providing that apart from what is included in the COVID-19 Tracing Database, all other data collected must be destroyed after 6 weeks.

Critically, section 8(12) provides that nothing in the regulations entitles any person to intercept the contents of any electronic communication. As a result, government is authorized to collect tracking data – to form a view on the location of a person, and their movements. However, government cannot intercept e-mails, electronic messages, phone calls or any other form of communication as a result of these regulations. A concern initially raised in the media and some social media platforms was that these regulations would allow government to spy on citizens – this is not the case. The regulations allow government to track and trace location data in order to curb the spread of the virus, but they do not facilitate monitoring of communications.

Section 8(13) provides that the Minister of Justice and Correctional Services (Mr. Ronald Lamola) must appoint a Constitutional Court judge discharged from active service – as pointed out above, this was done on 3 April 2020 where former Constitutional Court judge Kate O'Regan was appointed as the COVID-19 Designated Judge. The oversight role performed by the COVID-19 Designated Judge will be critical in relation to protecting citizens' right to privacy and ensuring that the limitation of constitutional rights is as minimal as possible.

In terms of section 8(14), the Director-General for Health must file a weekly report with former Justice O'Regan setting out the names and details of all persons whose location or movement data was obtained in terms of section 8(10) from electronic communications service providers. This obligation provides a measure of comfort because in theory an independent

observer will have a view on the amount of people being tracked and traced. Further, in terms of section 8(15), the COVID-19 Designated Judge is empowered to make recommendations to Cabinet in order to safeguard the right to privacy in relation to this regulation. However, 'recommendations' are exactly that – recommendations. They are not binding, and Cabinet or the relevant Minister is not obliged to follow the advice given; the advice must be considered, and taken into account, but it need not be followed.

Section 8(16) provides that the Director-General for Health, within 6 weeks after the state of disaster has lapsed, must notify every person whose information was obtained from an electronic communications service provider. As mentioned above, section 8(10) empowers the Director-General for Health to obtain this information directly from service providers without notifying the person concerned – section 8(16) at least facilitates affected persons being informed of the breach to their right to privacy, albeit after the fact.

Section 8(17) sets out important obligations in relation to the COVID-19 Tracing Database once the state of disaster has lapsed. In terms of 8(17)(a), the information contained in the database must be de-identified. Typically, deidentification is a process of ensuring that a person's personal identity is not revealed; in other words, all personally identifiable information has been removed. Although this term is not defined in the regulations, the meaning of this word is set out in the Protection of Personal Information Act 4 of 2013, which defines the term to mean:

'de-identify', in relation to personal information of a data subject, means to delete any information that -

- (a) identifies the data subject;
- (b) can be used or manipulated by a reasonably foreseeable method to identify the data subject; or
- (c) can be linked by a reasonably foreseeable method to other information that identifies the data subject,

### and 'de-identified' has a corresponding meaning

However, in terms of section 8(17)(b), the de-identified information can be retained for research, study and teaching purposes; section 8(17)(c) provides that all other information not de-identified must be destroyed, and crucially,

section 8(17)(d) obliges the Director-General for Health to file a report with the COVID-19 Designated Judge recording the steps taken, as well as the steps taken pursuant to the notification of affected persons set out in section 8(16). In terms of 8(17), Justice O'Regan is entitled to give directions as to any further steps to be taken in order to protect the right to privacy; unlike the 'recommendations' contained in 8(15), section 8(17) is a direction, and the regulation specifically notes that any directions given by the designed judge must be complied with. This is an important step to ensure a reasonable limitation of rights, and to ensure a modicum of oversight.

Finally, in terms of section 8(19), the report setting out the steps taken to de-identify information, and to contact affected parties, will be tabled in parliament – this is an important obligation, and adds a layer of accountability and credibility to the process.

## 4.3 Are the Contact Tracing Measures a Reasonable and Justifiable Limitation of Constitutional Rights?

What rights are infringed by the COVID-19 Tracing Database? Primarily, the right to privacy contained in section 14 of the Constitution – and this is borne out by the repeated references to this right in the regulations; see for example, section 8(15) and section 8(18) of the regulations. In addition, one could cogently argue that the right to dignity, enshrined in section 10 of the Constitution, and often regarded as a foundational constitutional value (*The Citizen 1978 (Pty) Ltd v McBride* 2011 (4) SA 191 (CC) para 143) will be infringed by the COVID-19 Tracing Database in that a citizen could have her movements tracked without her knowledge. In addition, it may be argued that being monitored by the State will infringe the right to freedom and security of the person contained in section 12 of the COVID-19 Tracing Database.

It is often said that when analyzing whether a right may be permissibly limited in terms of the Constitution, one must weigh up or balance competing interests (*Johncom Media Investments Limited v M* 2009 (4) SA 7 (CC) para 24). In this instance, the competing interests are those constitutional rights listed above, and the duty on the State to protect its citizens by limiting the spread of the coronavirus – the State must act to save lives and ensure that all is reasonably done to prevent further harm. In relation to the limitation of rights facilitated by the tracking and tracing of citizens, is the limitation of
constitutional rights reasonable and justifiable in terms of section 36 of the Constitution? In my view, the short answer is yes.

In terms of section 36 of Constitution, the first threshold is whether the limitation is created in terms of a law of general application. The lockdown regulations in terms of the DM Act apply to all citizens, so clearly the limitation of rights created by the COVID-19 Tracing Database passes this threshold. Next, one must consider whether it is reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom, and take into account all relevant factors<sup>14</sup>.

The rights that are limited by the track and trace mechanism implemented by the State are indeed sacrosanct rights that are critical to a healthy constitutional democracy. However, as noted above, they are not absolute. The importance of the limitation, in the current circumstances, must weigh higher and heavier than the Constitutional rights it affects. As at 30 September 2020, there are around 33,7 million infections worldwide, with over 1 million deaths (World Health Organization Coronavirus Disease (COVID-19) Dashboard 2020). Given the enormous risk to citizens, and the worldwide phenomenon caused by the coronavirus, it is important that the State takes reasonable steps to prevent further harm; tracking and monitoring the spread of the virus is one such step, and further, it is consistent with what many other jurisdictions are doing (BBC 18 June 2020). In addition, the South African government has a severe limitation on available resources; this is further exacerbated by the significant levels of inequality in society, and the many millions of South Africans that live in abject poverty. Further, many millions of South Africans live with HIV and other comorbidities - the South African landscape is a complicated one, and given the overall greater good, the importance of the limitation must outweigh the importance of the rights (in other words, the importance of tracking the disease in a third world country must outweigh the right to privacy - providing, of course, that the appropriate safeguards and checks are in place as discussed above in paragraph 4.2).

<sup>&</sup>lt;sup>14</sup> These factors include, but are not limited to:

<sup>(</sup>a) the nature of the right;

<sup>(</sup>b) the importance of the purpose of the limitation;

<sup>(</sup>c) the nature and extent of the limitation;

<sup>(</sup>d) the relation between the limitation and its purpose; and

<sup>(</sup>e) less restrictive means to achieve the purpose.

Moreover, when considering the nature and extent of the limitation, the State is not authorized to monitor or intercept communications, and a well-known credible former Constitutional Court judge has been appointed to act in an oversight capacity. The regulations also facilitate the personal information being de-identified or deleted after the state of disaster has lapsed. Cabinet is empowered to review relevant reports, and provided the oversight mechanisms in the regulations are adhered to, and the database is used in good faith for its primary purpose, the limitations appear to be justified. Is it ideal to have the State infringing upon a person's privacy and potentially monitoring whereabouts? No, of course not. But, we are not in an ideal situation – we are facing an unprecedented pandemic, a once in a generation crisis, perhaps even a once in a century crisis. Citizens cannot continue as normal and expect society to operate as if the pandemic did not happen – particularly given South Africa's socio-economic disparities, and especially given the systemic inequality that perpetuates society.

One must also consider whether there is a relation between the limitation and its purpose. In this instance, unlike some other regulations promulgated (see, for example, para 7 of De Beer v Minister of Cooperative Governance and Traditional Affairs [2020] ZAGPPHC 184), the track and trace regulations which limit certain rights do appear to be logically and rationally linked to the purpose – namely, to prevent the spread of the virus. Given that many South Africans do not have the benefit of adequate space, proper housing, running fresh water, electricity, and food security, there is definitely a need to ensure that the State takes measures to protect vulnerable members of society by keeping tabs on hotspots, and understanding the whereabouts of persons who are infected so as to ensure the infection is limited as far as possible. Although Mr. X living in a 200 square meter three-bedroom apartment in Sandton, a wealthy suburb in Johannesburg, may bemoan the limitation of rights, and complain of a 'police State' or a 'nanny State', when considering the greater good, and the purpose of the database, there is a definite link (which is rational, reasonable and justifiable) between the limitation and its purpose.

Finally, when considering whether there are any less restrictive means to achieve the purpose, one must note the South African population and socioeconomic position. Many South Africans, despite living conditions and food security have access to mobile phones – depending on the statistics considered, this figure is anywhere from 40% (O'Dea 27 February 2020) to 80% (Gilbert 3 April 2019). The wide variance in statistics notwithstanding, given the budgetary constraints, and the dynamics of South Africa's population, there seems to be very few viable options in monitoring the spread and movement of the disease – other than to monitor geolocation data.

However, the solution is imperfect, and authorities are grappling with trying to do what is reasonably possible with technology today, and within the confines of what is legally permissible. For example, with geolocation data, the data has its own problems in that its accuracy may not be able to determine if a person came within one meter of another infected person, or within 15 meters of them; further, the data will not be able to definitively determine how long persons were in contact, and the circumstances of the contact – both persons may have been wearing protective gear, and there may be very little risk with the contact (Wild 2020). However, the steps taken appear to be necessary given that at least authorities can form a view on hotspots and infection movements.

The concerns with the data notwithstanding, the South African government was required to take decisive legally permissible steps to curb the spread of the virus – given high rates of poverty, and alarming levels of inequality, the COVID-19 Tracing Database<sup>15</sup>, when considered as a whole, represents in my view a reasonable and justifiable limitation of the right to privacy and related rights. Further, keep in mind that this is a temporary measure. Put simply, in the short term, the needs of society – particularly vulnerable members of society – must come before the interests of a single person, or a small group of wealthy persons.

This database is not the ultimate solution, and it must be read together with other measures; and when considering the limitations the database creates, and the purpose of the limitations, together with the objective it seeks to achieve, given that millions of people around the world are infected, and when

<sup>&</sup>lt;sup>15</sup> Although it should have no decisive impact on the legal discussion above, one should also bear in mind that prior to COVID-19, contact tracing for persons affected by an illness was already being used in South Africa in relation to tuberculosis patients (Hanrahan *et al.* 2020) – this type of methodology is therefore not new, and has already been used in a South African context (but this fact should make no major difference in the assessment as to whether the COVID-19 Tracing Database is a reasonable and justifiable limitation on the right to privacy).

thousands of new cases were occurring daily, there did not appear to be any less restrictive means to assist in monitoring data to facilitate curbing the spread of the virus in a country like South Africa.

#### **5** Protection of Personal Information Act

The Protection of Personal Information Act 4 of 2013 ('POPIA') seeks to give effect to the right to privacy enshrined in section 14 of the Constitution. It is an important piece of legislation in that it provides guidelines for the processing of personal information for public and private bodies, and sets out internationally recognizable conditions for processing personal information. Once in full effect, POPIA will align South Africa with many foreign jurisdictions in relation to best practice concerning data protection. Essentially, POPIA sets out conditions for lawful processing of data – these conditions are provided for in sections 8 to 25 of the Act. These sections form the primary provisions in relation to regulating how data should be used, collected, stored, processed and deleted. Briefly, these conditions are: 1) accountability; 2) processing limitation; 3) purpose specification; 4) further processing limitation; 5) information quality; 6) openness; 7) security safeguards; and 8) data subject participation.

On 11 April 2014, after years of discussion and the consideration of draft legislation, section 1 of POPIA (the definitions), Part A of Chapter 5 which contained sections 39 - 54 (dealing with the Information Regulator), and sections 112 and 113 (dealing with regulations to POPIA) were made effective (Government Notice No. 25 of 11 April 2014). It should also be noted that after years of waiting, on 22 June 2020, the presidency announced that the effective date for most of POPIA will be 1 July 2020. Sections 2 to 38, sections 55 to 109, section 111, and section 114 (1), (2) and (3) will commence on 1 July 2020. Sections 110 and 114(4) will commence on 30 June 2021 – the reason for the delay of the latter sections is to allow for the transfer of enforcement of the Promotion of Access to Information Act 2 of 2000 from the South African Human Rights Commission to the Information Regulator in terms of section 114(4), and to allow a further year to pass for the amendment of laws in terms of section 110.

In relation to COVID-19, on 3 April 2020, the Information Regulator – which is empowered to monitor and enforce compliance with POPIA – released a guidance note relating to processing personal information in the

context of containing the COVID-19 pandemic (Information Regulator Guidance Note on the Processing of Personal Information 3 April 2020). As part of the guidance note, the Regulator poses the following question:

Can Electronic Communication Service Providers process (provide) location-based data to the Government to process (use) for the purpose of tracking data subjects to manage the spread of COVID-19?

**Yes.** The Electronic Communication Service Providers must provide the Government with mobile location-based data of data subjects and the Government can use such personal information in the management of the spread of COVID19 if:

a) processing complies with an obligation imposed by law on the responsible party; or

b) processing protects the legitimate interest of a data subject; or

c) processing is necessary for the proper performance of a public law duty by a public body; or

d) processing is necessary for pursuing the legitimate interests of the responsible party or of a third party to whom the information is supplied.

However, the Government must still comply with all the applicable conditions for the lawful processing as set out in this Guidance Note.

As a result, the key principles contained within POPIA must still be complied with – however, the government can legitimately monitor the geolocation data if the conditions mentioned above in the Information Regulator's guidance note are followed. The responsible party will be the Department of Health ('DOH'), and it will be able to satisfy, arguably, all of the four conditions listed above; although the DOH only needs to satisfy *one* of the conditions – the section is disjunctive in that the conditions are separated by an 'or'.

In terms of the conditions noted by the Regulator in the guidance note above: a) the DOH will be complying with an obligation imposed by the regulations to the DM Act; or b) the DOH will be protecting the legitimate interests of the data subjects by being able to track infections and warn citizens; or c) the DOH is performing a public duty as a public body; or d) the processing is necessary to protect the DOH - it must act reasonably to ensure the virus is monitored, that adequate steps are taken, and that citizens are protected - if it doesn't act, it may well open itself up to legal action for failing to fulfil its mandate, and failing to act reasonably.

However, even though authority exists to process the data of citizens lawfully, as the Information Regulator notes, 'government must still comply with all applicable conditions for lawful processing'. What does this mean? Even though the DOH is authorized (and required) to collect personal information, the processing thereof must still take place in a lawful manner simply put, the DOH must comply with the eight conditions for lawful processing. In brief, the DOH is ultimately accountable - it must process personal information in a responsible and lawful manner, and only to the extent permissible in the regulations (which is in order to detect, contain and prevent the spread of COVID-19). Usually, a responsible party would require consent, but in these circumstances, as the DOH will satisfy one or more of the four conditions pointed to above, consent of the data subject is not required. However, the data must only be collected for the specific purpose of managing the coronavirus, and as set out in the regulations, the DOH will be required to destroy or de-identify the data (with the exception of when the data is required for historical, statistical or research purposes and provided adequate safeguards are in place). At this early stage, it is not known how the DOH will deal with the data following the termination of the state of disaster, however, this is an issue that citizens and the Regulator ought to closely monitor to ensure compliance with POPIA, and to ensure that constitutional rights are only limited where reasonable and justifiable. That notwithstanding, the DOH must take steps to ensure the data is only processed for the purpose for which it was collected, and that adequate steps are taken to ensure the quality of the information. Importantly, the DOH must retain documentation on its processes and operations relating to the detection, containment and prevention of COVID-19. Further, the DOH must ensure appropriate technical steps are taken to safeguard the data, and that only authorized persons have access thereto – in the event of a breach, reasonable steps must be taken which will include reporting the breach to the Regulator. Finally, where requested to by a data subject, the DOH must confirm whether or not it holds personal information about that data subject.

In the event that personal information is not lawfully processed, or where there is some other breach of POPIA, a data subject may lodge a

#### Lee Swales

complaint with the Regulator in terms of section 74 of POPIA – the Regulator has a duty in terms of section 40 of POPIA to monitor and enforce compliance, and a further duty in terms of section 50 of POPIA to establish an enforcement committee; it remains to be seen whether this body will be an effective guardian in giving effect to the important right to privacy<sup>16</sup>. However, early signs are good – the Regulator has been established with professional and experienced staff, and it has been active in workshops and in broader society thus far; one hopes that funds are available for it to fulfil its mandate.

Further, in terms of section 99 of POPIA, a data subject, or at the request of a data subject the Information Regulator, may institute a civil action for damages for any breaches of POPIA. In addition to the statutory remedy in POPIA, a person whose privacy has been breached also has the ability to take civil action in terms of the common law right to privacy on the basis of the *actio iniuriarum* (McQuoid-Mason 2000). To be successful with a cause of action based on the *actio iniuriarum*, a person would need to establish an invasion of privacy that is wrongful where fault exists in the form of negligence or intention (*Jansen van Vuuren NNO v Kruger* 1993 (4) SA 842 (AD) at 9 – 11). As a result, if a person whose privacy has been breached would like to claim damages, that person must either institute action in terms of section 99 of POPIA, or in terms of the common law<sup>17</sup>.

## 6 Conclusion

The COVID-19 Tracing Database represents a watershed moment in the development of data privacy law in South Africa. For the first time since the birth of constitutional democracy, government authorities are authorized (and required) to actively monitor the location of certain citizens. At first blush, this seems an insidious infringement of the right to privacy – however, the limitation of rights facilitated by this unique database is lawful and reasonable given the purpose and ultimate objective. South Africa is ravaged with

<sup>&</sup>lt;sup>16</sup> In terms of section 107 of POPIA, dealing with penalties, a person convicted of an offence may be subject to a fine or imprisonment.

<sup>&</sup>lt;sup>17</sup> In terms of section 109 of POPIA, if a responsible party commits an offence in terms of POPIA, and is ordered to pay an administrative fine, this fine is payable (in terms of section 109(9) of POPIA) to the National Revenue Fund referred to in section 213 of the Constitution.

inequality and socio-economic issues, and all considered, there does not appear to be a less restrictive means to achieve the goal of monitoring the virus and preventing its further spread - particularly in light of South Africa's limited resources, and given the fact that many of its citizens live in poverty, or with underlying comorbidities. However, the regulations provide a measure of oversight, and read together with the obligations created by the POPIA, the Department of Health is required to act reasonably and limit processing of personal information - once the pandemic is over, whenever that may be, information must be destroyed or de-identified, or if retained for statistical or other purposes, reasonable protective measures must be taken. Much depends on how the COVID-19 Designated Judge fulfils the role of safeguarding the right to privacy, and once the state of disaster has lapsed, the Information Regulator will play an important role in ensuring that POPIA is complied with, and that where appropriate, its provisions are enforced. Like it or not, we live in interesting times (Robert F Kennedy Affirmation Address at the University of Cape Town 6 June 1966 quoted in De Beer v Minister of Cooperative Governance and Traditional Affairs [2020] ZAGPPHC 184).

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## **Dissecting Disaster Responses during COVID-19: An eThekwini Municipality Experience**

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#### Abstract

The national Institute for Communicable Diseases confirmed a first COVID-19 patient on the 05 March 2020, which influenced the South African government (10 days later) to declare a National Disaster, as per Section 27(2) of the Disaster Management Act of 2002. This study is triggered by the scant and confusing roles and responsibilities of municipalities (including the eThekwini Municipality) in mitigating the impacts of the virus and proactively responding to the pandemic. The adverse effects of the pandemic to the vulnerable and impoverished communities and the ineffectiveness of the interventions and initiatives to prevent and mitigate the impacts of the COVID-19 in this municipality during the lockdown period, also have influenced this study. This article aspires to dissect the existing prevention, preparedness, and mitigating response and recovery strategies in minimizing the impacts of COVID-19 to the vulnerable communities of eThekwini Municipality, and to analyse the effectiveness of municipal enforcement agencies, operations, institutional arrangements and governance, as well as the efficiency of the response plans to the pandemic. The direct relationship between eThekwini municipality and its Disaster Management Centre is emphasised throughout. Design and research methodology: This paper followed an ethnographic participant observation approach design and research methodology where researchers' experiences and understanding of the vulnerable groups living in the informal settlements and their susceptibility to the COVID-19 pandemic were strategically reflected upon. In addition, a qualitative case study was supported

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by a conventional content analysis through researching and coding media articles from different newspapers and official documents, and reporting on COVID-19 and its effects on vulnerable groups. This study espoused the view that the eThekwini Municipality Disaster Management Centre does not comply with certain crucial sections of the Disaster Management Act and cannot effectively, efficiently and proactively, prevent, mitigate and respond to the coronavirus and its effects. The centre faces a shortage of staff and lacks a qualified workforce capable of achieving the objectives of the centre, a reality that makes them unfit to holistically coordinate the municipal programmes in responding to the slow killer virus. The mass evictions of the people living in the informal settlements by the municipal enforcement agents during the strictly regulated lock-down period, suggest that the municipality is not interested in the health and safety of their residents. This article has a potential impact on the government and its agencies' officials, as it will identify a number of bottlenecks and provide suggestions on their contingency plans in minimizing the impacts of the pandemic. In identifying current research hotspots in the COVID-19 discourse, given the paucity of published data on the application of the disaster management principles, this study will make a valuable contribution.

**Keywords**: COVID-19, preparedness, mitigation, thematic analysis, multistakeholder recovery strategy

## Introduction

Urban municipalities across the globe are the hotspots of the coronavirus as they are mostly densely populated and home to millions of people living in informal settlements. Friedsen and Pelz (2020) aver that there is one billion of people who are living in the informal settlements across the globe who are mostly vulnerable to infectious diseases. South Africa (with 59 million people) has become the most affected by the SARS-COVID-2 virus in Africa. Furthermore, South Africa is regarded as the most unequal country in the world which is attributed to the legacy of the apartheid. The World Bank (2020) reveals that the same country has a Gini-coefficient of 0.63 with a total of 14% of people living in the informal settlements without proper houses and sanitation. Statistics South Africa (2020) has recorded the high unemployment rate of 29% amongst its citizens. Urban informal settlements are also prevalent in cities where millions of people reside in densely populated and restricted areas, where the propensity for mass transmission of the COVID-19 cannot be escaped. This has been supported by Wilkinson (2020) and Van Belle et al. (2020) who have written that urban informal settlements have been unable to adhere to unaffordable and unfeasible rules and regulations regarding social distancing and washing of hands. The authors attributed the latter to a geographical nature of such settlements which are densely populated with inadequate access to water and proper sanitation. The difficulties on social distancing in the informal settlements (Masiphumelele and Klipfontein Glebe) has been observed by Gibson and Rush (2020) in Cape Town, where they found that people were unable to effectively execute social distancing. Meanwhile, the shortcomings in infrastructure in the urban informal settlements have been considered as a public health challenge due to the fact that it is difficult to enforce the public health regulations and protocols (Nyashanu, Simbanegavi & Gibson 2020). There is an existing gap in the literature regarding the role of South African municipalities in curbing the spread of the coronavirus which has necessitated this study. Against this backdrop, this study aspires to determine whether the eThekwini Municipality Disaster Management Centre's (EMDMC) existing structures (including the workforce), and its capabilities in proactively responding to the coronavirus, do comply with the legislations governing disasters at a local sphere of government. The municipality's strategies and approaches on the vulnerable groups living in the informal settlements and their effects on perpetuating the spread of the coronavirus are analysed in this paper. Furthermore, the preparedness of the disaster preparedness and response plans of the municipality to COVID-19 and the bottlenecks in the implementing such plans, are interrogated.

#### **Literature Review**

Numerous researchers (Bong *et al.* 2020) opine that the novel viral illness which emerged in China in January this year has reached the underdeveloped and developing countries with the most devastating effects being counted and the difficulties of municipalities to respond, noticed and South Africa is no exception. Recently, a number of commentators have written on the coronavirus and made compelling suggestions regarding the approaches and strategies that could be harnessed by municipalities in responding holistically

to the pandemic, with respect to the people who are living in the informal settlements who are deemed to face high risk. For instance, a policy plan was published by Corburn et al. (2020) identifying ways to reduce the transmission of the virus in the urban informal settlements across the globe, which suggested various interventions by local governments able to arrest the unprecedented spread of the slow killer virus (COVID-19). The authors recommended the development of emergency planning committees, a moratorium on evictions, minimum payments to the poor, community health workers to be dispatched to the informal settlements, including traditional healers (Izinyanga/ Izangoma), the improvement in the access to water and proper sanitation, food support, removal of the solid waste and routes opened for dedicated settlements. An empirical study conducted by Austrian et al. (2020) in Kenya determining the impacts of the COVID-19 transmission as a result of the inadequate basic needs in the informal settlements and overcrowding have provided pertinent solutions. The authors suggested that the communication channels from government should target the illiterate households who are mostly prone to the pandemic. Another interesting study by Nyadera and Onditi (2020) in Kenya (focussing in Nairobi) determined the challenges faced by the slum dwellers during pandemic and concluded that residents in such settlements were directly and indirectly vulnerable to the impacts of the pandemic due to its inadequate planning, poor policies and systematic marginalisation.

A host of researchers (Alirol et al. 2011; Johnston-Robertson et al. 2020; and Neiderud 2015), mention that urban informal settlements are nucleated and overcrowded, with poor access to proper water and sanitation, hence they can be severely affected by the coronavirus. This is why Favas (2020) asserts that such people who are residing in informal settlements are vulnerable to COVID-19. Jarvis et al. (2020) ponder that the lockdown regulations which have been successfully implemented and enforced in the developed world (such as China and Europe), where the virus has been suppressed, can have less success in the urban informal settlements. eThekwini Municipality cannot be considered as an exception. According to Stiegler and Bouchard (2020), the highly regulated lockdown in South Africa experienced serious challenges in the informal settlements including the food supply which has led to the riots and conflicts with the police. The authors posit that restrictions on movements and physical contacts measures are physically unfeasible to apply in the urban informal settlements as they can paralyse the socio-economic conditions of their inhabitants (Dahab et al. 2020).

## **Theoretical Framework**

Duze (2016) utilised an empirical research project in an attempt to use its findings as the basis of the creation of an innovative framework instrumental in elevating the levels for disaster risk reduction for municipalities. This was attempted through a case study of eThekwini Municipality. He adopted a case study-based qualitative approach and a semi-structured questionnaire as the main instrument of data collection, and utilised a purposive sampling technique that led to the selection of 41 research participants consisting of three managers of the MDMC, seven eThekwini Municipality Heads of Departments, ten MDMC Disaster Management practitioners and 20 City Councillors. In terms of the findings, interestingly, his most articulated discovery of the effort was the acknowledged absence of a municipal comprehensive disaster risk profile, which could be the foundation of a comprehensive guidance to the multisectoral disaster risk reduction planning. It has been mentioned that such a step forward was forthcoming and it would consist of a ward-based, all-inclusive scientific disaster risk assessment rooted sound procedures because disaster risk assessment is a key mechanism instrumental in achieving the ideals of the existing legislation, rules and regulations (Duze 2016:165).

Another weakness or omission discovered by the researcher was the fact that despite the common knowledge and understanding that municipalities are obligated to strengthen and develop their internal institutional structures and mechanisms in order to improve disaster risk management, the Municipal Interdepartmental Disaster Management Committee that is important in the process of planning, facilitating and coordinating key matters of disaster risk reduction within the municipality, did not exist. This despite the knowledge of the municipal leadership that such a committee is of significance because it is responsible for developing and operationalizing specific and clear terms of reference aligned to those created by the South African National Disaster Management Centre (Duze 2016:166). The researcher emphasised the fact that lack of such crucial internal organisational arrangement undermines disaster risk reduction processes and functional integration and leads to an approach that tends to be fragmented. This reality leads to lack of coordination amongst municipal entities and departments responsible for disaster risk reduction because they lack focus in the coordination between assessment and disaster risk reduction plans (Duze 2016: 167). The non-existence of MDMAF (a Municipal Disaster Management Advisory Forum), a structure that has been highly recommended by the country's policy and legislative frameworks, is a serious barrier to an analysis and dissection of the multi-dimensional and the multi-sectoral nature of disaster risk reduction. The non-existence of such a body is a barrier to equal stakeholder coordination and integration, a fact that becomes more evident in the lack of technical capacity of staff and funding which are key weaknesses of Municipal Disaster Management Centres. These realities lead to lack of coordination, planning and implementation of disaster risk reduction which is needed, together with intensified capacity building programmes and continuous engagement with political principles and decision makers.

It was interesting that there was unanimous agreement amongst the executives of the eThekwini Disaster Management Centre regarding the lack of sufficient disaster management, a reality that was a serious obstacle to the efficiency of operations undertaken by the centre especially in terms of the focus and implementation of a robust disaster risk reduction agenda (Duze 2016:168). The widely acknowledged lack or 'partial compliance' with disaster management policies and legislation has been described as undermining the progress of systematic well planned and implemented disaster risk reduction programmes. This has been described by the research participants as a reality that exists because of lack of disaster risk assessment profiles and applicable disaster risk reduction plans (Duze 2016:169). The above background sheds light on the dysfunctionality of the EMDMC and the bleak prospect for the effective, effective and proactive response to the coronavirus and worse, to the people living in the informal settlements.

#### **Research Approach**

This is a qualitative paper that has adopted a participant observation method (Shah 2017), aimed at determining the COVID-19 effects on the socioeconomic conditions of vulnerable groups who are living in informal settlements within eThekwini Municipality. The participant observation produces new knowledge which has been silenced (in the case of the living conditions of the people residing in the informal settlements) pre and during the COVID-19 pandemic. The new theory is produced in this article and realised in action as researchers have long-term engagement (long-duration) with the group of people in the informal settlements. Furthermore, the researchers have a deep understanding of the group of people and their social processes as they grew up in informal settlements, conducted empirical research studies in such settings and has also been observing their social lives over the past 40 years (Shah 2017). This study has been shaped by researchers' experiences and understanding of informal settlements – those who are prone to the detrimental effects of the coronavirus. Themes which guided this study were identified and questions set. This approach is appropriate as the researchers looked back and examined the past in order to learn from history and to gain knowledge from challenges experienced, thereby assisting in continuous improvement of the discourse.

A qualitative content analysis has also been followed in this study. Research was conducted into the communicative characteristics of language by focusing on COVID-19 content and its effects on the socio-economic conditions of people and businesses, the underlying themes and the meaning of the texts examined. A conventional content analysis was followed in this article, with the coding categories being derived from the text data (Bryman 2014).

A thematic analysis was chosen and used in this paper as the analysis is not associated with a specific philosophical orientation. The patterns and themes that emerged from the data set were identified, analysed and described. Furthermore, a thematic analysis was used in order to interpret features of COVID-19 and its effects (Braun & Clarke 2006).

## **Context of COVID-19 in South Africa**

International and national studies (Corburn *et al.* 2020; Duze 2016; Ngcamu 2011) have shown conclusively that the careful planning and implementation of a sound disaster management framework is the key to the protection of communities, especially vulnerable communities, through the rigorous application and implementation of disaster preparedness, mitigation and prevention. On 5 March 2020, the NICD confirmed the first COVID-19 case in the country (NICD 2020). The first victim was travelling from Italy to Johannesburg. On 11 March 2020, a traveller, having visited Germany, Switzerland, Austria and Turkey, was confirmed to be the first case in the Western Cape (Parker *et al.* 2020:4). When the number of infected South Africans reached 51 on Sunday 15 March 2020, the declaration of a national state of disaster signed by the COGTA Minister of Cooperative Governance on the March the  $15^{th}$  2020 was based on the severity and magnitude of COVID-19 outbreak. The Minister followed Section 3 of the Disaster Management Act 2002 (Act No. 57 of 2002) (RSA 2002) and in terms of - 1)

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Section 27(1) of the Act declared a national state of disaster. The Act was considered necessary for the realisation of personal and property protection, relief provision and assistance for the public against the effects of the pandemic (RSA 2020).

## The eThekwini Disaster Management Set-up: The Present Realities and the Coronavirus Conundrum

Disaster possibilities, challenges and realities not only in KwaZulu-Natal but throughout the country, are acknowledged in the South Africa's Constitution (RSA 1996:114) as being the legal responsibility of the state that is obligated to provide appropriate disaster management services rendered as a service to all the country's people. As the well-being of all people is the most important priority of the state, all layers of the government are obligated by law to protect all citizens, communities, the environment, state and private property and for all these, there is always the need for safety against disaster. This begins with plans and implementation of disaster risk reduction, mitigation of climate change and continuous effort on the part of state and government institutions to aim at the reduction of the vulnerability of all people, existing and future infrastructure and all other national assets (RSA, 1996:114).

In supplementing the country's Constitution, Section 53 (1) of the Disaster Management Act (RSA 2002: 61) makes local government responsible for the preparation of customised plans and regular reviews of plans in ensuring that they deal efficiently, effectively and continuously with all matters related to disaster management, with special emphasis on disaster preparedness, prevention and mitigation. The above section has been supplemented by Sections 43 and 44 of South African Disaster Management Amendment Act No. 16 of 2015 (RSA 2015), which states that every municipality is responsible in its management capacity to establish, plan, and implement disaster management functions. In this process, it is the responsibility of local government to strive for a synchronised, well-planned and cohesive method in disaster management with disaster risk deduction as a fundamental objective through the utilisation, cooperation, coordination and synergy amongst all relevant departments and sections of the municipality. Within this context, the Disaster Management Act of 2002 supplements dictates of the Local Government Municipal Systems Act No. 32 of 2000 (RSA 2000), which includes clauses indicating the requirement of disaster

management plans to be organically integrated into preparation processes of the Integrated Development Plan (IDP) of every municipality. The unifying combination of commitment in the most fundamental biding document in the local government terrain is rooted on the legal objective of guaranteeing the reduction of the possibility of disaster risk and vulnerability. On paper, eThekwini seems to possess a well-equipped response and recovery capacity in terms of disaster management and the municipal structures are made of Cluster Deputy City Managers who report to the City Manager while the Heads of Units report to specific Cluster Deputy Municipal Managers. In general terms, Departments report to the Heads of Units. There is a general feeling recorded in the official documents of the municipality that the 'past response' points to the fact that the entity believes that it is ready and able to deal with incidents of a 'major emergency or disaster scale' (eThekwini Municipality 2020:941). The Disaster Operations Centre (DOC) leads the overall coordination of response with the support of the CCTV Operations Room and the Units Emergency call centre.

There is a large number of internal and external departments that become activated when there is the need for mobilisation planning and action. There are also standby rosters that ensure that all services are continued when the DOC is activated, as it aims to provide an efficiently run operational environment that facilitates all existing agencies to function effectively and cooperatively under all circumstances so that strategic decisions can lead to solving problems in the response to existing or impending disasters or emergencies. The key function of the DOC is to direct the management of resources and deployments at all levels by identifying the priorities and the existing dynamics of complicated incidents. Thus, the function and processes undertaken allow the required shift in controlling the co-ordination dynamics of the response activities from one agency/section to another. There are more than 700 staff members in the Disaster Management Centre who are divided into the main sections, consisting of the Disaster Management Operations, CCTV and the Call Centre. According to the Integrated Development Plan of the eThekwini Municipality, the Disaster Management Operations occupy 15 dedicated staff members who are responsible for disaster responses exclusively and the centre has a database of over 600 disaster volunteers living in the most vulnerable municipal wards of Durban, who are deployed to a number of disaster management functions when needed; all disaster response efforts involve a very wide variety of internal and external stakeholders. The list of internal stakeholders involved in disaster is based on 19 entities including Management, EMACC (the Emergency Mobilising Security and Communication Centre), electricity and engineering services, the fire and emergency services, the Health and Human Settlements departments, the Metro Police, the Parks, Recreation and Culture Departments, the City Fleet and the Community Participation and Action Support (eThekwini 2020: 942). The external stakeholders include NGOs, Community- Based Organisations, religious organisations, the Departments of Social Welfare, Health, Agriculture and Education, Transport RTI (Road Traffic Inspectorate), the South African Police Services (SAPS), Emergency Medical Services, technical specialists, academics, the South African Weather Services (SAWS) and the Disaster Command Vehicle that serves as a mobile disaster operation centre responsible for onsite strategic coordination. It is basically used as a Venue Operations Centre for major incidents, disasters and for the safety management of events. There are at present two satellite Centres at Pinetown and Verulam that have a 24/7 call centre and CCTV monitoring at areas of high risk. They are fully equipped and function independently (eThekwini 2020: 942-943).

Despite the official presentation of the leadership and staffing of the municipality's Disaster Management Centre in the entity's official documents, the realities facing its structures, functions and limitations were exposed publicly on a number of occasions, beginning during the first days following the devastating storms that hit Durban's townships in mid-March 2019, which left a trail of destruction as a number of wards were badly affected. However, most of the damage took place in the northern regions, such as Inanda, KwaMashu, Ntuzuma, Phoenix and Verulam. While experts estimated the cost at R50 million, there was a general feeling that the Disaster Unit was in fact a 'disaster on its own' because it had not throughout the years assessed flood prone areas throughout the city wards and had not updated its Disaster Risk Assessment for the municipality. During the public debates, a municipal firefighter openly declared that there was no plan to deal with the heavy rains and their repercussions for the infrastructure, while the Chairperson of the Human Settlements and Infrastructure Committee of the municipality stated that the city would be discussing interventions to respond more effectively to disasters, build alliances with NGOs and train communities to act on disaster relief interventions before they occur and to be educated about how drains get blocked. Following the devastation of the floods, all items distributed to displaced victims mainly consisting of 400 blankets 200 mattresses and hot meals for a hundred people were donated by Muslim organisations and the Red Cross (Pillay 2019a). However, a research study conducted by Ngcamu and Wallis (2011) in the Kennedy and Foreman informal settlements in Durban revealed the majority of the respondents as receiving the humanitarian assistance from the NGOs and the civil society groups, as compared to the eThekwini Municipality, in the aftermath of disasters.

KwaZulu-Natal and eThekwini Municipality have been over the last decade facing a wide range of very serious disaster risks that are the result of a multiplicity of weather and human factors and actions, as the ever-increasing realities of climate change and global warming lead to a wide variety of effects associated with dangerous, severe and hazardous conditions that lead to human vulnerability throughout society and communities. Populations throughout the world and especially their most vulnerable sections, face a wide variety of disasters that put thousands of lives at risks, but simultaneously create serious socio-economic setbacks and disadvantages to the poor and marginalised sectors and communities. In most instances, such phenomena have detrimental repercussions for physical and natural physical resources upon which human beings depend for their own life and survival. Hence Wilkinson (2020) has recommended the combination of the public health and socio-economic interventions should be balanced. The author further maintains that the local residents in such settlements who have an unsurpassed knowledge of the area should partner with municipalities in the development of appropriate control strategies.

Within such an environmental challenge, eThekwini Municipality has over many years experienced a continuous, even relentless, increase of disaster risks and catastrophes at a number of levels. Such disasters take place within a physical environment where a substantial segment of the population lives under poor, congested, and unhygienic conditions that are seriously fragile ecologically as in the case of the many informal settlements within the municipality. In one of the latest disasters that lasted from November 2019 to January 2020, more than 3148 houses were completely destroyed and 5632 were damaged. Close to 30 000 people were affected. There was a confirmation of 44 fatalities and 193 injuries recorded due to the devastation by summer storms, including massive rainstorms and tornados (Singh 2020). A total of 445 incidents were reported to the disaster management centres in the province during period, showing the consequences of extremely fatal that thunderstorms, strong winds and heavy rainfall, and including very serious

damages that took place during the festive season of Christmas and the New Year. These incidents included 133 structural fires, 112 incidents related to strong winds, 108 incidents of extremely heavy rainfall, 67 related to lightning, 19 hailstorms and 8 drowning. 99 schools in the province (KZN) were damaged by storms during this period.

Ngcamu (2011) utilised the case study of two heavily populated informal settlements in Durban (situated in Kennedy and Foreman roads) and the role of disaster management in case of fires, a disaster that has been very frequent in the city's vulnerable areas. His empirical effort concentrated on the analysis and dissection of existing or absent processes and structures instrumental systemic and/or functional operations associated with preparedness, response, prevention, recovery and rehabilitation, as well as the repercussions related to implications related to finances, functional and institutional responsibilities and future expectations.

His study utilised a dual approach consisting of a qualitative approach in the data analysis obtained from interviews with eThekwini Municipality officials working directly or indirectly in various fields of disaster management and communities. The interviews conducted with the municipal officials included a variety of disaster management strategies and research variables including attitudes, knowledge and opinion in respect of functionality of disaster response, mitigation, preparedness, recovery and rehabilitation (Ngcamu 2011:130). The purposive sample of eThekwini Municipality officials included nine senior municipal managers in the disaster management terrain, including planning, housing, infrastructure, fire services, electricity, revenue, safety and security and a ward elected politician (Ngcamu 2011:137).

The researcher's findings pinpointed the existence of a wide variety of important relations and connectivity within the spectrum of the existing variables fundamental in the understanding of the existing realities of disaster management initiatives, successes and/or failures in cases of fires in informal settlements. The research pinpointed the existence of a number of weaknesses associated with the processes of the municipal centre of disaster management. Such weaknesses were mainly evident in the existing operational framework and planning of disaster management that has been implemented when fires occur, especially in the case of informal settlements. Urban locations, because of the existing realities, are difficult terrains for operations, mainly because fires have occurred frequently in the last few years. The findings led the researcher to the conclusion that the municipal political and administrative leadership need to develop a classification of a system or systems associated with hazard mitigation strategies. These categories should be directly and indirectly related to community protection, hazard control, practices of building construction, protection of building contents and land-use practices. The non- existence of the recognition of recovery period mitigation and incorporation of such an objective into recovery planning was also mentioned as a key structural and functional challenge.

A study by Dludla (2016) also related to the levels of effective mobilisation of the eThekwini's disaster management machinery and reduction strategies in cases of fires with the Clare Estate informal settlements as a case study. It was a qualitative study utilising the case study method and a judgmental sampling frame that led to a wide array of responses regarding a disaster risk reduction strategy. The sample consisted of a number of 12 staff members in the municipality's disaster emergency and control unit, the fire management unit and fire fighters, five activists from the civil society movement Abahlali Base Mjontolo, and eleven residents from the Clare Estate informal settlements. Basically, the study revealed that the relevant unit of the Disaster Management Centre is seriously understaffed and this reality has been instrumental in hindering the fundamental processes that ought to be carefully planned, implemented and enforced according to the city's plan for preventing a fire. Interviewees acknowledged that the existing official Disaster Centre organogram is misleading in terms of existing posts and number of staff, as the reality is that there is a complete discrepancy in terms of the department's employee numbers. This means that it was acknowledged, that while there are a number of disasters occurring around the eThekwini municipality, the entity employs a small number of people who are unable to attend to them. The Department's senior officials expressed the view that the key challenge faced by the leadership is the lack of a budget that would facilitate the employment of new staff. This was the concern shared by all members of the municipal staff who were interviewed including those officials working in the Fire Department.

# Non-compliance to the Legal Prescripts on Disaster Management

It became evident in the audit report that the Municipal Disaster Management Advisory Forum only had a meeting in November 2015 and its functions have been inadequate for years while there was no functionality in the E-Sponder system, an incident-reporting system. The eThekwini Municipality Disaster Management Centre's malfunctioning of the Disaster Management Advisory Forum contravenes section 51(2) of the Disaster Management Act, which opines that the role-players represented in the Forum must consult each other and coordinate their actions and plans on matters regarding disaster management within a municipality. Various role-players are enshrined in section 51(1d), who form part of the Forum as designated by the mayor which includes the organised business and labour, CBOs, traditional leadership, academic institutions, insurance industry, agricultural sector, medical, specialised organisations (scientific and technological and other civil society groups for relief) are non-existent during the scourge of the COVID-19 pandemic. One of the staff members in the Centre indicated that while the 2019 first quarter audit report pinpointed a number of worrying realities, there were in fact discrepancies which were outlined in the meetings where the report was debated. This, it was argued, was because of the fact that the disaster management plan in existence suffers from a number of things, because despite that it is extensive and detailed, it could be classified as outdated given the new climate and disaster realities, but also because when emergencies arrive the plan is not implemented. It was said that the reality was that the early warning systems and processes were not implemented in the 2017 floods, or in April 2019 flood disaster, which proves the point. Such issues have been outlined in the audit committee's report which also found that future early warning systems had not yet been fully implemented, especially in terms of real-time forecasting of droughts, floods, and seasonal changes. The bleak picture painted above has been supported by the municipal councillors from the opposition political parties (IFP and DA), that the Disaster Management Centre is a disaster on its own and that the disaster management plan is not implemented during emergencies and disasters. The non-implementation of the disaster management plan by the municipality is in contrast with Section 53(1a,b,c) of the Disaster Management Act as it mandates all municipalities to conduct disaster risk assessment and risk identification and mapping of communities and households who are vulnerable to physical and humaninduced threats (COVID-19 is not an exception). Section 53 (ad) further posits that the municipalities should coordinate and align the implementation of the organs of state and the role players. To make things even worse, while the KZN provincial government allocated over R600 million to eThekwini to assist residents affected by disasters that occurred between October 2017 and April

2019, it became evident that the municipality failed to spend R46 million allocated in the last financial year. This means that the municipality failed to implement disaster relief programmes and it could not be allocated more funds from the provincial government because of the unspent budget. This occurred in most of the 10 municipalities involved (Duma 2019).

A number of the visible and known weaknesses of eThekwini's Disaster Centre are honestly outlined in the municipality's Integrated Development Plan and include inadequate resource allocation, language limitations in communication strategies and implementation, absence of efficient supervision, backlog in terms of Disaster Management Centre human resources capacity and strain on existing resources, insufficient funding and staff, lack of infrastructure services (utilities) to informal settlements, inability to provide full requirements of the Act due to lack of more experienced and sufficient staff, and the lack of an integrated response to incidents (eThekwini 2020:943).

#### EThekwini Municipality Disaster Management Centre

The latest disasters a few months before the pandemic reality of the great weaknesses of the Disaster Management Unit were exposed as the Municipality's audit committee officially and openly declared that the city was seriously ill-equipped to respond to natural disasters. This was because of the lack of staff and the failure of the leadership and the municipality at large to recruit volunteers. The absence of early warning systems exacerbated the problems. One of the stalwarts of a Durban-based environmental nongovernmental organisation, stated that for a municipality that has major environmentally and nature-based disaster problems since the late 1990s not to have an 'emergency plan', is a clear indication that it is a city that does not take climate change seriously. He produced documents showing correspondence with eThekwini's leadership dated as far back as 1998 requesting the municipality to produce an emergency plan to no avail. It was stated that the 2019 devastating disasters were on-going. The new challenges related to the Corona pandemic are an emergency of major proportions and it is a great pity that 'no one knows where and when to run'. The question thus remained although there is enough staff, much infrastructure and above all, a very big budget, but how are the people, especially the poor, the marginalised and the vulnerable, to be safeguarded? All these serious questions were directly related to the April 2019 floods and the devastation later that year, that resulted in tens of deaths and wounded and thousands of homeless and displaced people as well as a damage of over R 1 billion.

A municipal first quarter audit report indicated that the Disaster Management Unit was unable to meet its objectives effectively and efficiently because its staff resources were 'inadequate'. The report indicated that by March, while only 11 out of 85 posts had been filled, only 21 out of 110 wards in the city had volunteers to help in the event of a disaster. This reality showed conclusively that the municipality has violated section 54 of the Disaster Management Act which deals with the disaster management volunteers. Section 58 (1) of the Disaster Management Act indicate that a metropolitan (eThekwini in this case) must establish a unit structure for the volunteers to partake in disaster management within a municipal area. Subsection 2 of the same section suggests that anyone who meets the requirements may apply to enrol as a volunteer and that the National Disaster Management Centre (NDMC) must maintain the database of the registered volunteers (subsection 3a) and that volunteers can participate in exercising related to disaster management (subsection 4). The transgression of the previous prescript suggests that the municipality has failed to harness on the available workforce with various talents and skills at their disposal in order to proactively respond to the COVID-19 pandemic. The bottom-up approach is essential in such health-related disasters where volunteers who are active in societies and to all wards and communities and committees as they work at a grassroots level with various stakeholders, CBOs, NPOs, communities and households. The volunteers who are trained to be impartial can play a pivotal role in responding and mitigating the impacts of the spread of the slow killer virus. Furthermore, the volunteers can perform a myriad of activities in ensuring that there is a smooth communication between the municipality and affected communities who are mostly affected and infected by this slow killer virus. The volunteers can also identify the needy designated groups and direct the humanitarian assistance to the indigent persons who are at high risk during the COVID-19 lockdown period. The Report also indicated that in the various suburbs and wards of the municipality, both recruitment and training of potential volunteers were incomplete, and the responsible committee discovered that records of training were not available for audit (Pillay 2019b).

A Municipal Councillor was adamant that the politicians 'who really cared' knew the real situation in the Disaster Centre and the various departments, sections and entities both internal and external that were integral components of its success in all aspects of their duties and responsibilities. The position was that much smaller local municipalities with less expertise, funds and staff had better plans when compared to eThekwini, the only Metropolitan entity in the province. This was, it was said, because even having their own functional and financial problems these municipalities had better plans, as their response to disasters (Pillay 2019b). This was said because the eThekwini leadership 'centrally' do not seem to understand the importance of the Disaster Centre and the municipality's own audit committee findings and recommendations. The truth that there were key vacancies in the Department that were not filled was acknowledged as a key step backward. This meant that the executive council throughout the years have approved millions of rand in order to assist people affected by disasters, but there are not enough and welltrained staff able to ensure that the funds are distributed to people, communities and groups who really need them. Plans are discussed, agreed upon, planned and implemented, but there is no one to ensure that this implementation is the one that it was approved. The recent developments on the malfunctioning the EMDMC is reminiscent on an empirical and pioneering study conducted by Ngcamu and Wallis (2011), which aimed at contributing to the formulation of the disaster management policy and plan, efficient and effective EMDMC which is central on the disaster management plan. The researchers concluded that the planning policies fail dismally to assist the densely populated informal settlements from the impacts of disasters. Ngcamu and Wallis (2011) further asserted that the municipality does not allow those living in the shacks to formalise their houses which makes people unsafe from any form of disaster. The study by these authors recommended the municipality to comply with the Disaster Management Act as it contravened the latter prescript in its totality. For instance, the authors mentioned that the eThekwini Municipality disaster management policy, plan, centre and frameworks were non-existent as mandated by the Act.

#### Government's Hypocrisy and Municipal Defiance

The South African municipalities have embarked on mass illegal evictions, abuse, victimisation and attacks on the informal dwellers in the advent of the highly regulated Level 5 period which restricted movements and enforced the distancing of people, all very impractical in such settlements. During this

quarantine period, eThekwini Municipality has illegally evicted informal dwellers in various parts of eThekwini Municipality which made them susceptible to be infected by the slow killer virus and the subsequent high transmission of the virus throughout the country. This is happening while municipalities (including eThekwini Municipality), are hard hit by the virus without human capabilities and measures to reduce infections in the disaster management centres. This is perpetual at the eThekwini Municipality as, long before the COVID-19 pandemic, its Disaster Management Centre (EMDMC) has been dysfunctional, due to shortage of staff generally and especially qualified workforce; a disaster management plan that is partially implemented and an advisory forum that is ineffective or non-existent. Meanwhile, eThekwini Municipality is amongst the seven metros that were declared on the 28 May 2020 by the Minister of Co-operative Governance and Traditional Affairs as hotspots in the country for the coronavirus (Government Gazette. No 43364). The additional cities include Tshwane, Johannesburg, Ekurhuleni, Nelson Mandela Bay, Buffalo City and Cape Town. The eThekwini Municipality's culture of a top-down approach and manner of dealing with the economically vulnerable informal dwellers as non-citizens, increase the likelihood of spreading of the coronavirus to such marginalised areas. Furthermore, the civil society groups, non-profit organisations (NPOs), faithbased organisations (FBOs), relief organisations, traditional leaders and health specialists have been marginalised in the response on the COVID-19, although such a step is contrary to the Disaster Management of 2002 (Act 57 of 2002) as amended in 2015 (Act16 of 2015).

The eThekwini Municipality DMC has compromised the already compromised city due to its inadequate response to the COVID-19 pandemic. The government's lockdown strategy and regulations during the coronavirus have been strong on physical distancing, which is impossible in the nucleated informal settlements located within eThekwini Municipality. This is exacerbated by the eThekwini Municipality's victimisations, attacks by the municipal agents, evictions and demolitions of the shack settlements during the lockdown period. The municipality undertook the process to evict the the poor and marginalised surviving mostly in the informal settlements, during the COVID-19 pandemic which makes the DMC complicit as they form part of the municipal Community and Emergency Services cluster. This cluster is a decision-making body which also deals with evictions. The DMC falls under the eThekwini Municipality Disaster Management and Emergency Control Unit. This is happening in the advent of the lockdown and a clear statistical knowledge that the eThekwini Municipality is home to a total of 550 informal settlements with 226 000 inhabitants (eThekwini Municipality, Tuesday, 01 August 2019), which is mostly susceptible to fires (normally called shack fires), natural disasters, criminal businesses, unlawful evictions, drug and human trafficking, and informal business which are owned by the shack landlords. The majority of the settlements are illegally occupied and built on the municipal, private companies' or individuals' land. In response to the COVID-19, eThekwini Municipality has embarked on evictions and demolitions projects of the informal settlements in selected areas within eThekwini Municipality.



#### Figure 1: Evictions by eThekwini Municipality

#### **Source: The Authors**

According to Pikoli (6 April 2020), the Abahlali BaseMjondolo which campaigns both against evictions and for adequate public housing, was cited

as indicating that the evictions were unlawful. Such uncalculated evictions happen despite the escalation of the coronavirus on the vulnerable informal settlements that are densely populated, overcrowded and lacking of basic services. Calculated and risky moves by the eThekwini Municipality can be attributed to the revenge directed to the informal settlements' residents who openly vote for the opposition parties during the election seasons. Such analogy can be supported by an investigation by Ngcamu and Wallis (2011) within eThekwini Municipality on the strategies and capabilities of the metro in responding to disasters in the prominent informal settlements (Foreman and Kennedy Road). These authors argued that these settlements receive too much political interest from the local politicians as they play a deciding factor during elections in Ward 25 and beyond.

Such evictions are contrary to the government's moratorium on evections as outlined by the Minister of Justice (Figure 1). However, the prevalence of evictions in the informal settlements was instituted by eThekwini Municipality despite the explicit prohibition of evictions under Alert Level 5. This was evident in Cato Crest in Durban, where a total of 14 homes were demolished by a company (Calvin Family Security Services) contracted by eThekwini Municipality. The Socio-Economic Rights Institute (SERI) representing the informal dwellers challenged the persisting evictions and the Court interdicted the municipality and its land invasion unit to ease on evicting and demolishing the informal settlements inhabitants. 'However, eThekwini Municipality continued to evict squatters from homes without a court order and SERI filed an urgent application in the High Court for an interdict, contempt and compensation for the damage to property and the matter was settled on the 24 April 2020, where the City undertook to refrain from demolishing, burning and removing informal structures. In the aftermath of the court order, the informal dwellers continued to experience victimisations, abuse and violence from the City. The unlawful evictions of the informal dwellers by eThekwini Municipality in the face of the slow killer virus (COVID-19) has violated section 26(1) of the Bill of Rights, which states that every person has a right to access to proper housing.

Section 36 of the Government Gazette (No 43364) (1) Subject to subregulation (2), states that:

A person may not be evicted from his or her land or home during the period of Alert Level 3 period.

(2) A competent court may grant an order for the eviction of a person from his or her land or home in terms of the provisions of the Extension of Security of Tenure Act, 1997 (Act No. 62 of 1997) and the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act, 1998 (Act No. 19 of 1998): Provided that an order of eviction may be stayed and suspended until the last day of the Alert Level 3 period, unless a court decides that it is not just and equitable to stay and suspend the order until the last day of the Alert Level 3 period.

In addition, the Municipality also violated subsection 3 of the Section 26, which clearly states that no one should be evicted or their houses demolished without an order of the court. As the Republic of South Africa is a signatory of the Universal Declaration of Human Rights which emphasises persons having a legitimate right to the standard of housing and the basic needs and primary health care (Article 25), the eThekwini Municipality has violated the latter. Hence, Corburn *et al.* (2020) have cited realities in the informal settlements which might perpetuate the transmission and spread of the coronavirus which is the lack or non-existence of the basic needs, space constraints, violence and over-crowding. Such violations have triggered a host of the non-profit organisations (SERI, Rights2Know Campaign) to legally challenge the eThekwini Municipality on flouting the lockdown regulations and the city, endangering their vulnerable communities in the COVID-19 pandemic. This also forced SERI to refer the municipality as a 'gangster' and 'rogue' organisation (Zukiswa Pikoli, 6 April 2020).

Grobler (22 April 2020) argued that it is illegal and an offence to evict people during the national lockdown which is against the spread of the coronavirus. Meanwhile, Louise du Plessis, the head of the land and housing programme at Lawyers for Human Rights, was quoted from the News24 newspaper (Grobler, 22 April 2020) as saying that:

Destroying homes where people already live is illegal. There is no way people can be evicted if they already live in those structures - not without a court order. For now, the government cannot touch them. They can bring an application after the lockdown and have them evicted then.

The aforementioned was also echoed by the government representative in the

Presidency who said that it is unfortunate and inappropriate to evict people during the Covid-19 lockdown:

The evictions glaringly diminish the intentions of the lockdown and expose already vulnerable people to Covid-19 and other harmful elements such as crime and rainy weather. When the president and the executive announced that there will be no evictions, we understood that those instructions would be respected by all. It is therefore unacceptable that municipalities have undermined the spirit of the lockdown and have shown clear disdain and lack of empathy for the people, especially the poor. We urge the municipalities to desist and refrain from any planned evictions henceforth, and to abide by the regulations.

The eThekwini Municipality is becoming a law unto itself and disobeying the national government's instructions on putting the restrictions on evictions, which suggests that the safety of vulnerable people to the deadly virus comes second to politics.

## Conclusion

The eThekwini Municipality disaster management centre's effectiveness, efficiencies and capabilities as well as its compliance to the prescripts governing disasters are interrogated in this paper, as is their lack of proactive response to the coronavirus. The municipality's conduct in dealing with the most vulnerable people living in the informal settlements is analysed and the potential effects on the spread of the coronavirus. Notably, the EMDMC, which is responsibly to proactively coordinate and respond to any kind of disaster (including the coronavirus), does not comply with the Disaster Management Act of 2002. A host of the structures (plans, frameworks, forums) are non-existing and/or are malfunctioning, which makes vulnerable communities mostly living in the informal settlements even more vulnerable to the COVID-19 virus.

It is noteworthy that the centre is dysfunctional as there is a shortage of resources (financial and human) and a shortage of qualified staff who can proactively achieve the goals of the EMDMC thus mitigating the impacts of the virus. The reactionary approach of the centre is exacerbated by its approach, which is characterised by diminished focus on disaster risk assessment and reduction and the non-involvement of other departments, sectors and stakeholders in taking a holistic response approach to disasters.

The mass evictions and victimisations of the people living in the informal settlements during the strictly regulated lockdown by the eThekwini Municipality agents is the last straw which makes them complicit in the uncontrollable spread of the coronavirus within the eThekwini Municipality residents and beyond. eThekwini Municipality has violated fundamental human rights as enshrined in the supreme constitution of the country: it ensured that the well-being its residents, of people, follow politics.

This paper concludes that in view of the above, EMDMC is incapable in managing the current slow killer disaster and it is suggested that provincial disaster management centre should intervene, re-engineer and overhaul the operations of the centre. The provincial government should administer the operations of the centre and employ persons with relevant competencies to ensure that the city complies with the Disaster Management Act.

Due to the COVID-19 lockdown regulations on movements, the researchers relied on secondary data and it is recommended that future researchers employ other designs and methods in order to test the themes which emerged in the findings of this study.

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## The Impact of COVID-19 'Hard' Lockdown Disaster Management Regulations on Smallscale Farmers: The Case of Central and Southern KZN Small-scale Farmers Employing Climate Resilient Agriculture Production

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#### Abstract

South Africa remains a highly unequal and divided society and the disaster measures of lockdown, designed to contain the spread of COVID-19, are being implemented within a context where people have vastly different abilities to access crucial food resources and health facilities. Small-scale farmers play an important role in providing food to their local communities and families. The fresh produce they provide is crucial to their own and their communities' nutritional health, as well as to the sustainability of their livelihoods. The COVID-19 pandemic has revealed the vulnerability of South Africa's food system through the widespread hunger and food shortages, which have been reported as some of the dire consequences of the lockdown. This article discusses the experiences of small-scale farmers under the COVID-19 lockdown restrictions, in terms of their resilience and food security. Data for the research were drawn from the findings of a small qualitative structured survey that was conducted with small-scale farmers in a climate resilient agriculture (CRA) programme, run by Mahlathini Development Foundation (MDF). The results of the study show that the COVID-19 lockdown regula-

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tions specifically relating to restrictions on the movement of persons and goods, and the prohibition of public transport impacted negatively on small-scale farmers' sense of resilience, livelihoods and agricultural activities. The enforcement of social distancing restrictions by the police impacted negatively on their ability to act as a community and their ability to support the vulnerable. The study concludes that small-scale farmers' agricultural production plays an important role in ensuring local food provision in villages and in maintaining their own food security. There were serious limitations in the drafting and implementation of lockdown regulations which did not consider the specific conditions of the rural poor. These limitations relate to policymakers' drafting of and implementing disaster management regulations in isolation, with 'Command and control' measures most frequently being used instead of consultation with interest groups and putting into place timeous, adequate and appropriate mitigation measures.

**Keywords**: COVID-19, lockdown regulations, small-scale farmers, climate resilient agriculture, conservation agriculture, food insecurity

## Introduction

The COVID-19 pandemic has revealed the vulnerability of South Africa's food system and that South Africa remains a highly unequal and divided society. COVID-19 lockdown regulations and relief measures were implemented by the South African government to mitigate the spread of the virus and the effects of lockdown measures. However, this has impacted unevenly on various groups within South African society. Some groups and some sectors are socio-economically more vulnerable than others. The transmission and infection rates of the pandemic, as well as the impact of lockdown regulations will most likely imprint along the divisions and inequalities that are prevalent in South Africa. One of the inequalities that divide people is food security – an issue that predates COVID.

According to StatsSA (2017) almost 20% of South African households had inadequate or severely inadequate access to food in 2017. Severely inadequate access to food was mostly found in households with more than eight members. The study found that about 1,7 million households experienced hunger in 2017 (ibid). About 85% of households in rural, communal tenure communities in South Africa fall within the poorest category of South Africans (StatsSA 2016). More than half a million (611 000) households, with children aged five years or younger, experienced hunger in 2017. This constitutes 13,1% of households with children aged five years or younger. Northern Cape and KwaZulu-Natal had the highest proportion of such households.

Small-scale farmers play an important role in providing food to their local communities and families. The fresh produce they provide is crucial to their own and their communities' nutritional health as well as to the sustainability of their livelihoods. Small-scale farmers use a diversified farming system, namely, 50-500m<sup>2</sup> intensive vegetable and fruit production, 0,1-2ha field cropping, and livestock management (usually between 10-50 chickens, 5-10 goats and 3-20 cattle) (Smith, Kruger, Knot & Blignaut 2017). It is argued that small-scale farming does not lend itself innately to the commercial scaling that modern economies require, but does lend itself strongly to local food security potential and local value chains that can take advantage of small amounts of produce gathered from many different producers (Kruger, Smith, Ngcobo, Dlamini & Mathebula 2017).

According to the C19 submission, small-scale farmers include:

- Farmers and household producers (mainly women) who produce for their own subsistence.
- Farmers and household producers (mainly women) who sell small surpluses into informal markets (pension pay points or at the gate) often on a cash basis.
- Small-scale farmers (mainly women) who manage mixed farming systems including crops and livestock, farm in low input and often organic or agroecological systems, who do not purchase chemicals and fertilisers from corporate retailers but use local suppliers of manure, seedlings, seeds, effective micro-organisms, biopesticides and veterinary requirements.
- Small-scale farmers who do not farm full-time but use small injections of cash from farming as a critically important component to sustain mixed livelihoods that are often heavily dependent on grants.
- Farmers of non-food products such as rooibos tea, essential oils or herbs such as buchu

(CR19 National Food Group 2020).

The term smallholder, thus encompasses a wide range of situation and productive capacity.

## **COVID-19 Disaster Management Regulations**

The Disaster Management Act, 2002: Amendment of Regulations issued in Terms of Section 27 (2) was promulgated on 25 March 2020. The Amendments to the Act were specifically designed to contain the spread of the COVID-19 virus. The lockdown regulations were designed as a series of five alert levels in a risk-adjusted approach with varying degrees of restrictions on the movement of persons and the transportation and sale of goods and services (RSA 2020). All levels of lockdown are meant to restrict people to their homes and movement allowed only for the purchase of food, for health reasons and to go to work. Strict health protocols at work and social distancing rules are applicable to all lockdown levels. Levels 5 and 4 lockdowns were a hard lockdown; Level 5 was in effect between 26 March 2020 and 31 April 2020 and Level 4 between 1 and 31 May 2020. Level 3 lockdown extended from 1 June to 17 August 2020, while Level 3 started on 18 August 2020. A categorisation of the permitted sale and purchase of essential goods and services during lockdown was published as annexures to the amended Disaster Management legislation (RSA 2020).

The research on small-scale farmers focused on the periods of lockdown levels 5 and 4. Under Level 5, commuter transport services were also prohibited except for those providing services for purposes of rendering or obtaining essential services, providing transport for citizens seeking medical attention and or attending funerals or to receive grant payments (RSA 2020). Capacity of public transport vehicles was restricted to 50%. Further, persons had to comply with being tested for COVID-19 and to being admitted to a health establishment or quarantine or isolation site. Under Level 5, agricultural inputs were not deemed an essential good and informal trading was not permitted. Under Level 4, agriculture was permitted, and this included preparation, cultivation, harvesting and storage essential to preventing the wastage of primary agricultural, fishing and forestry goods. The sale of food products by informal traders was permitted. A curfew was introduced which restricted the movement of people between 8pm and 5am except for essential service workers.

This study explored the impact of levels 5 and 4 lockdown regulations on the lives of groups of small-scale farmers living in a region of Kwazulu Natal who were participating in a climate resilient agricultural production programme in partnership with the NGO, Mahlathini Development Foundation. Impact was examined through the conceptual lens of regulatory policy implementation and food security.

#### **Conceptual Frameworks** *Food Security*

Forty nine percent (49%) of KwaZulu-Natal's roughly 8,9 million people live in rural areas. There are around 609 000 African households involved in agricultural production, primarily in the communal tenure areas of the province (Von Fintel & Pienaar 2016). Although accurate data on household incomes for the rural dwellers are difficult to find, there is agreement that these are extremely low – between R1,200.00 and R2,400.00 per month. Unemployment is high and the poverty rate was estimated at around 78% as far back as 2000 (Pauw 2005). There are also numerous indications that this situation has either remained stagnant or has worsened over time (Murisa 2013).

Small-scale farmers in communal tenure areas typically rely on multiple pathways to survive (Abdu-Raheem & Worth 2011). Survival depends most often on a combination of social grants – which pay for food and farming inputs; small-scale food production – which supplements and diversifies bought food; income support through sale of surplus produce; running of small businesses, and remittances (Aliber & Hart 2009). Most of these smallholders farm to produce extra food (71,5%), while a much smaller proportion (13,8%) farm as a main source of food, or for income (5%) (Stats SA 2020).

For most of these households, this is a balancing act of diminishing returns and very high risk, with increasing prices for food and farming inputs, low productivity, crop and livestock losses due to climate variability, lack of access to markets and lack of extension support, which has underscored the strategy by most of these households to farm for self-provisioning and extra food as their main aim (Rogan 2018). Climate resilient agriculture assists in reducing risk and improving productivity in existing small-scale farming systems (NDRC 2020). Desiree P. Manicom & Erna Kruger

## Implementation of Regulatory Policy

Regulatory policies and legislation seek to shape the behaviour of individuals within a specific context (Schneider & Ingram 1990:513). They usually stipulate the provisions of what is permitted and prohibited with regard to a particular issue or condition (Anderson 1997). The Organization for Economic Cooperation and Development (OECD) argues that if governments want to improve the effectiveness of regulatory policies, they need to have an in-depth understanding of the context in which that policy is operational (OECD 2000). Understanding the context in which people live and preparing for timeous mitigation measures are key components of effective regulation (OECD 2010). They (OECD 2000) argue that an understanding of context entails an understanding of the features of the market place, the types of incentives that intended beneficiaries and organisations are likely to be motivated by to act in accordance with a regulation, and the factors that would act as a barrier to compliance.

Schneider and Ingram (1990) argue that employing capacity tools which provide information, training, education, and resources to allow individuals and groups to make decisions in line with a regulatory policy could also facilitate effective implementation of such policy.

Community members can play an important role in reducing the impacts of disasters as they are often the most vulnerable to disasters and often have important knowledge about the livelihood options available (Maskrey 2012). Studies on alternative disaster mitigation methodology, where NGOs are intervening at a local level, show that local people know their own needs and it is only they who can define the priorities for mitigation within a given context (ibid). Inclusion of interest groups in the drafting and implementation of regulatory measures is a key component to effective implementation of such measures. Rodrigo and Andrés Amo (OECD n.d. 2020) argue that their inclusion could facilitate compliance, consensus and commitment amongst interest groups. The OECD (2020) proposes that where extensive consultation with all potentially affected groups is not possible on urgent measures, policy makers should rely on advisory groups of experts from relevant areas. More specifically, they suggest that if time permits then important decisions should be subject to consultation through snap meetings with representatives of tripartite, local governments or major NGOs (ibid).

The Disaster Management Act, 2002: Amendment of Regulations issued in terms of Section 27(2) is a regulatory legislation which is intended to

contain the spread of the COVID-19 virus by restricting the movement of people and goods. We argue that in the implementation of regulatory legislation the context of the people whose behaviour it seeks to regulate should be taken into consideration. Further, information, training, education, and resources should be provided to the affected people so that they can act within and cope with the regulations. Consultation with community members and the inclusion of interest groups in the design and implementation of regulatory policies can provide knowledge about their needs and appropriate measures that can mitigate against the negative impact of disaster management legislation.

## Methodology

#### Case Study

The Mahlathini Development Foundation (MDF) works in poor rural communities, mainly in the southern, central and Drakensberg regions of KZN, providing agriculture and livelihoods support to around 450 small-scale farmers in communal tenure areas, across 38 villages. The support takes the form of several programmes, one of which is the Climate Resilient Agriculture programme (CRA) (MDF 2020).

Presently the CRA programme is collaboratively implemented in these villages through two programmatic thrusts:

- A Conservation Agriculture (CA) innovation programme, funded by the Maize Trust, focussing on awareness raising and implementation of a CA system appropriate to the small-scale farming system which includes field cropping using minimum tillage, soil cover and crop diversification as well as livestock integration through fodder production and supplementation (Kruger *et al.* 2019) and
- A community-based Climate Change Adaptation (CCA) programme, funded by the Water Research Commission focusing on a decision support process for implementation of a basket of CRA practices in soil and water conservation and intensive homestead food production (Kruger *et al.* 2020).

Through the CRA programme, small-scale farmers are organised into learning groups which provide the organisational setting for information sharing,

knowledge co-creation and building of social agency; focusing also on building of local value chains and small business development. Village-based savings and loan associations (SLVAs) are central to this process. Farmers are expected to be self-motivated in terms of provision of their own labour and inputs, while MDF provides learning and mentoring support, as well as material support for experimentation with new ideas and practices (Kruger *et al.* 2020).

## Data Collection Methods

In order to explore the impact of the COVID-19 national disaster emergency response (an eight-week hard lockdown in South Africa) on the livelihoods and resilience of small-scale farmers in the CRA programmes, interviews were conducted with a case study of small-scale farmers.

Twenty-eight small-scale farmers participated in the study, which sought to explore the social and economic impact of the lockdown on smallscale farmers. The farmers were interviewed either telephonically or face to face by MDF field staff in the following villages: Midlands (Gobizembe, Ozwathini,), Estcourt (Ntabamhlophe), Bergville (Ezibomvini, Eqeleni, Stulwane, Ndunwana). Purposive sampling was used to select participants. The sample comprised 20% of the total number of the 147 MDF beneficiaries in the selected villages. Respondents were chosen because they were members of the MDF-supported learning groups, were engaged in farming and local income generating activities, and, had agreed to be interviewed and share their experiences of the COVID-19 lockdown.

A structured interview guide was used in the interviews, which were conducted between mid-April and mid-May 2020.

## Data Analysis

Four broad themes were explored in the structured interview guide:

- 1. **Sense of resilience**: stress levels, activities undertaken to provide relief, support required, and support provided to and within communities.
- 2. **COVID-19 social distancing and physical isolation**: information and knowledge, access to information about COVID-19, concerns and impacts related to social distancing and physical isolation.

- 3. Livelihoods and the impact of COVID-19 lockdown on employment, finances, access to services and food security.
- 4. **Agricultural production:** food availability and access through local production, marketing and potential for continuation in the short term.

The responses to the open-ended and closed questions are presented in the findings section in this report in the form of tables and direct quotes from comments made by respondents.

Of the 28 respondents interviewed, 25 were women ranging between the ages of 44 and 70. All respondents were unemployed and relied primarily on a range of social grants (child, orphan and disability grants and pensions) for their incomes as well as remittances from family members, small informal businesses and farming. It is clear from the interviews that the women between the ages of 42 and 49 were much more vulnerable than their older counterparts (between 62 and 68 years old). Of these younger women, 40% did not receive any social grant, while the remaining 60% received on average between 1 and 3 child grants. They were much more reliant on their own farming efforts to provide income for themselves. They were also local vendors and working in the national Community Work Programme (CWP) – both of which sources of income were inaccessible during the lockdown period.

## Findings *Sense of Resilience*

#### (i) Stress levels

Respondents rated their levels of stress in terms of fear, uncertainty and pressure on their livelihoods on a scale of 1 to 10, where 1 is no stress at all and 10 is very stressed. The table below shows their responses.

#### Table 1: Rating of stress level by respondents

	Rating of experience of stress on a scale of 1 to 10									
Scale	1	2	3	4	5	6	7	8	9	10
	2			1				4	8	13

Only three respondents experienced low stress levels, while the other 25 att-

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ested to high stress levels and of these, 13 experienced extreme stress. In the follow-up question relating to the cause of their stress, respondents stated that this related mostly to their fear of being infected, of being unable to provide food for their families and being unable to cope financially in the coming months.

#### (ii) Activities during lockdown

When asked about the activities they had undertaken during lockdown to provide relief for themselves, respondents reported that they had engaged in: field cropping (15) – mainly harvesting, sale and storage of maize, beans, cowpeas, pumpkins, sweet potatoes and potatoes; vegetable production (6); livestock management (7); homestead maintenance and cleaning (8); local food supply through farmer centres and vending (2) and sewing clothes and masks (2).

Their responses indicated that small-scale farmers in the MDF CRA programme generally continued with their agricultural production activities as best they could during lockdown. However, a few farmers reported difficulties accessing their fields and livestock due to police enforcement of curfews and restriction of movement in the villages.

#### (iii) Support required under lockdown

Respondents were asked an open-ended question in relation to the support they required during these times. The table below summarises the main support that they required and the number of respondents who mentioned each specific support activity.

Table 2: Support required by small-scale farmers during the COVID-19extended lockdown

Support Requested	No. of
	respondents
Seedlings for winter vegetable production	24
Support for vegetable production: fencing, water, seed,	12
seedlings, pesticides, advice	
Food parcels	8
Support for livestock production: winter cover crops and	5
fodder supplementation	

Assistance with transport to town: for grants, groceries,	4
farming inputs	
Assistance with education of children	3
More storage drums for maize harvests	1
Support for broiler production	1
Sanitisers and masks	1
Cloth and materials for making masks	1

The vast majority of respondents (24) requested assistance with winter vegetable production, especially assistance with procurement of seedlings since they had been unable to access seedlings during lockdown. These respondents mentioned that the demand for fresh produce in the villages had risen sharply since the beginning of lockdown, as had household food requirements. Around half (12) of them were also not well set up for gardening, as they mostly lacked access to water (for both household purposes and irrigation) and fencing. A further five respondents requested support for livestock and broiler production. One respondent requested more storage drums for her maize harvest, stating that she intended to keep her whole harvest this year, rather than selling the maize which she would normally have done. Only a relatively small number of households (8) requested food parcels, with most of these requests coming from Ntabamhlophe and Gobizembe villages.

There were concerns from some respondents (4) around access to transport, which was severely limited due to lockdown regulations on the use and provision of public transport. Almost all respondents were concerned about the closure of schools and their children not being educated and they were worried about the implications of this. However, only three respondents specifically asked for support for educating their children during the school closure period.

The results of the study showed that in terms of small-scale farmers' sense of resilience, they experienced high levels of stress during the lockdown period. However, many continued with their agricultural production activities, even though they struggled to access their fields, farming inputs and livestock, due to police enforcement of curfews and restriction of movement. Most indicated that they required assistance with winter vegetable production, for example, access to seedlings. For about half of the farmers, access to water for household and farming was a problem.

## COVID-19 Social Distancing and Physical Isolation

#### (i) Information and knowledge of COVID-19

Respondents were asked a series of questions related to their understanding of COVID-19. They were asked to rate their levels of agreement with the statements.

COVID-19	Strongly	Disagree	Neutral	Agree	Strongly
information	Disagree				Agree
I am not worried	15	3	1	2	1
about being infected					
I am confident that	5	6	7	3	1
my family members					
and I would recover					
if we were to be					
infected					
I have access to		6	8	8	
accurate facts and					
information on					
when to get tested					
I have access to		4	10	8	
accurate facts and					
information on					
when to self-					
quarantine					

Table 3: Access to information related to COVID-19

Most of the small-scale farmers were very worried about being infected. However, an equal number were confident and not so confident about whether they would recover once infected. Participants were somewhat ambivalent about having access to accurate facts and information on when to get tested. Most shared one respondent's feeling that '(t)*he officials are trying to punish us*'. This ambivalent attitude was also evident in their responses to having accurate information on self-quarantine. The follow-up discussion to this statement revealed that respondents did have information about requirements for self-quarantine, but felt that they would not be able to fulfil those requirements, given their crowded living conditions in small houses.

All respondents reported being aware of COVID-19 and that they had received information regarding sanitisation, social distancing, wearing of masks and COVID-19 testing primarily from the radio and TV. A respondent commented that they had '(n)o access to real facts, just what we see on TV and hear on radio and from our neighbours'. A few respondents (3) reported that they had been visited by community health workers, had been tested and given an emergency number to call. One also said, '(s)omeone has come to conduct a survey; not sure who it was'. Some farmers reported that community health workers had done the rounds and discussed issues with community members (in 2 out of the 8 villages). Despite this, respondents were still confused about how COVID-19 spread and found the prospect of anyone in their household becoming ill very alarming. They also stated that they would be unable to adhere to the physical isolation protocols and feared being tested due to the many stories and rumours that had circulated about being quarantined. As a result, people were not volunteering to be tested and a few even said that they would hide if compulsory testing were to be carried out in their village.

Respondents also reported that they were aware of where to get help if someone became ill, but argued that the clinics and local hospitals were already very busy. They said that it was difficult for them to get their monthly medication and check-ups and people raised concerns about spending many hours in long queues, with the consequent risk of infection.

# (ii) Community responses to COVID-19 (social distancing and physical isolation)

Farmers were asked about social distancing and community level experiences of the lockdown.

COVID-19 community response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My community has banded together during this time	1	13	7	1	

#### Table 4: Community-level responses to COVID-19 and the lockdown

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I want to continue supporting my local businesses			4	17	1
Social distancing	5	13	3	1	
negative impact on					
my community					
Vulnerable	2	11	8	7	
members of my					
community are					
well-supported					
during this time					
I feel safe when I go	17	3		2	
outside/to the shops					
during this time					

Most farmers felt that the community had not banded together during this time of crisis (13) and seven felt neutral about community solidarity. In Bergville, a respondent said '(w)e have continued to be there for each other as usual but there is increased pressure on food availability'.

Eighteen respondents said that they wanted to continue supporting their local businesses. These respondents said, '(w)e are supporting local spaza shops, because it is very difficult to go to town – but they are more expensive'. However, one respondent said, '(l)ocal shops do not follow safety precautions; local businesses have slowed down; initially they were closed, and some have not re-opened'.

Thirteen respondents felt that social distancing had had a negative impact on their community, with five feeling strongly about this statement.

Eleven respondents also felt that vulnerable members of their community were not well supported during this time while eight felt neutral about the statement. A respondent from Ozwathini commented, '(w)e wish to visit old people to help them, but we are scared because we haven't been tested for the virus' and in Ntabamhlophe the following comment was made: 'Vulnerable community members are not supported by anyone. Even the government officials have not helped'. Another respondent said, '(i)n some villages the municipality took people's names for food parcels, but never returned to deliver them'. However, there were seven respondents who felt that

vulnerable people were well supported. These respondents were from Gobizembe and Bergville. In Gobizembe, one elderly woman said, '(t)he DoH has come to deliver pills for those people with chronic conditions and have given them enough supply for a few months. We are so grateful'.

Most respondents (20) did not feel safe about going outside and to shops during this time. Fear of being infected was a reason for respondents not feeling safe about going to town. They reported, '(w)e do not feel safe going to town as there are many people and there is a risk of being infected'. Further, '(w)e do not feel safe going to town as we aren't sure whether we will get the disease or not', and '(w)e can't go to shops due to the lack of transport and because we are scared of getting infected'.

An open-ended question was asked in relation to farmers' top three concerns regarding social distancing. The table below categorises and summarises their top three concerns.

Table 5: Top concerns related to the impacts of social distancing andphysical isolation under emergency COVID-19 lockdown procedures

Concerns related to social distancing and physical	No. of
	(N=22)
Transport: difficult to get transport to town	11
Education: children can't go to school and no provision is made for them	11
Farming: access to farming fields, inputs, marketing	6
Poverty: not enough food for the household	6
Harvested food will run out soon	5
Food: scarcity in shops and locally, long queues	4
Social grants: not sufficient for need	4
Social grants: difficulties in getting grants	3
The economy is being destroyed	3
Water scarcity	3
Staying at home and doing nothing; leads to depression	2
Not being able to see our children	2
No being able to attend church	2
Unable to visit banks to make payments such as loans	1
There is no fool proof way to protect yourself	1

Harvests being stolen in the fields	1
Cannot attend community meetings	1

The most pressing concerns mentioned by the most participants (11) were the lack of transport to get to town and children being unable to go to school, with no provision being made for them. School closures were also a major concern, both due to the lack of education and the loss of meals for school-going children. The lockdown's social distancing regulations affected farming by restricting access to fields and grazing areas, preventing farmers from acquiring inputs and resulted in the loss of marketing outlets (6). Not having enough food for household members was also mentioned as a pressing concern for six households – all these households were located in Ntabamhlophe. Farmers also felt that social grants were too meagre to support their households. Social distancing regulations which prevented them from attending church and community meetings and visiting their children were a minor concern.

Nearly all small-scale farmers were worried about becoming infected with COVID-19 and subsequently about being infected by going into town. However, they were confused about the actual transmission of the virus. Farmers expressed fears about getting tested because of rumours about being quarantined. They felt they would not be able to self-quarantine due to their crowded living conditions. Respondents stated that strict enforcement of social distancing protocols by the police and armed forces had negatively affected a sense of community in the villages – they could not band together or work together during this time. They continued to support local businesses but they experienced difficulties with travelling to town because of the lockdown restrictions on public transport and restrictions on movement. Lockdown social distancing restrictions impacted negatively on their ability to visit and support vulnerable members of their community and they felt that the government had not assisted them enough. Their most pressing concerns during the lockdown were the restriction of transport into town and their children not being able to go to school, resulting in the loss of both meals and education.

## Livelihoods and the Impact of COVID-19 Lockdown

In the rural communal tenure villages, livelihoods (income, food security and farming) are all strongly interlinked. Respondents were posed a series of

statements related to the impact of COVID-19 lockdown regulations on their livelihoods (incomes and expenditure), their access to food and their farming activities.

#### (i) Impact on livelihoods

The table below summarises respondents' levels of agreement or disagreement with statements related to the impact of COVID-19 lockdown on their livelihoods.

Livelihoods impacts	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My job/work/informal trading/farming is not at risk	17	2	1	2	
My spending habits have not changed	9	8	4	1	
I am confident that I can continue providing for my family	6	9	1	6	
I am not worried about the impact of COVID- 19 on the economy	16	3	2		1

Table 6: Impact of COVID-19 and lockdown on livelihoods

Most respondents (19) felt that their employment, informal trading and farming activities were at risk due to the lockdown protocols. Respondents explained this risk in terms of impact on their farming activities: 'We depend on farming for income and don't have enough money to buy food'. The lack of money was a consequence of lockdown restrictions on movement: 'We cannot sell our crops, the only demand that seems to be high is for vegetables'. While others said, '(w)e cannot sell our maize and bean harvest as we usually do, so we have been eating most of our crops' and '(d)emand for maize has decreased as the vendors in town have been closed'. The lockdown restrictions on businesses operating also impacted on their farming activities: 'Some businesses have closed, so access to supplies is difficult'.

Seventeen respondents reported that they had changed their spending

patterns to adjust to increased household demands during this time. They reported, 'I am now spending more money on food as more people are at home and I also have to travel to town twice to get the monthly supplies because of the restrictions. Prices have increased' and '(w)e cannot afford the higher prices as we are reliant on social grants'.

These feelings were reflected in respondents (15) stating that they did not feel confident that they could continue providing for their families if these conditions continued: 'It is worrying because we do not know how long this will last; if it lasts for a long time we will fail to look after ourselves; we are already struggling in terms of food'. Due to farmers being unable to go to their fields and sell their produce and buy inputs the farmers stated, '(w)ithout farming we will not have enough food to provide for our family' and '(t)here is not enough food to feed my family'.

Many respondents (19) were also worried about the effect of COVID-19 on the economy. One farmer said, '(t)he economy is going down and poverty is increasing'.

#### (ii) Access to food

Further questions were asked in relation to farmers' access to food. Respondents reported on access to both food bought from shops and food produced by the households through farming activities.

Access to food	Strongly	Disagree	Neutral	Agree	Strongly
	Disagree				Agree
I am confident	10	3	1	8	
that I can					
continue to					
afford food and					
supplies					
I am confident	9	5	3	3	
that my					
household can					
continue to					
access basic					
utilities and					

Table 7: COVID-19 and lockdown impact on access to food

services (e.g. internet, electricity, transport, water)					
I do not see the need to stock up on bulk-buy supplies	6	5	6	5	
I am confident that my household will not run out of food and supplies	7	7	1	7	

Most respondents were not confident that they could continue to afford food and supplies: 'We have no source of income except for farming, we cannot access grants'; 'I am supported by my children, who are currently at home, so there is insecurity as to whether our quality of life will go down'.

Respondents also felt insecure about continuing to access basic utilities and services. However, some farmers in Ntabamhlophe (3) said, '(i)n Ntabamhlophe we have support through Lindelwa from Lima Rural Development Foundation and MDF in terms of transport and farming activities'.

Very few respondents felt confident that their households would not run out of food and supplies: 'I am not confident that we won't run out of food, since we don't have money and can't provide for our family'; '(w)e are in fear of being unable to support our family; the only option is to sell livestock, but those were for lobola and we should not sell them'; and '(w)e do not have enough food for the family and are struggling'.

Bulk buying was seen as a good coping mechanism during lockdown, but at least half the respondents felt that they could not afford it: 'We see a need for bulk buying during this time, so that we will have enough food, but cannot do so as we rely on the pensions for an income and there is not enough'.

Most farmers felt their livelihoods were at risk due to restrictions on their movement to sell their produce and to access supplies for farming. They were incurring additional costs for food due to having more household

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members, more trips into town to buy food and higher food prices in shops during lockdown. Food security and shortages were a real concern as their farming activities (going to fields, selling produce and buying inputs) were restricted during lockdown. Many were worried about the effects of COVID-19 on the economy. Farmers did not feel confident about their access to food since farming was one of their main income and food sources, and accessing social grants was difficult during the lockdown.

## **Agricultural Activities**

#### (i) Production impacts

The impact of COVID-19 lockdown regulations on the agricultural production of small-scale farmers was explored in terms of their ability to provide food for their households through their agricultural production.

Production	Strongly	Disagree	Neutral	Agree	Strongly
impacts	Disagree				Agree
I am confident I	1	2	3	14	2
can continue					
with my					
agricultural					
production					
activities					
I am confident	1	6	6	8	1
that as a family					
we can produce					
enough food for					
our household					
I am confident	1	11	4	4	
that I can access					
the inputs and					
supplies I need to					
continue farming					
activities					
I have enough		5	8	6	1
support to					

#### Table 8: COVID-19 lockdown impact on agricultural production

continue and			
intensify my			
productive			
activities			

A surprisingly high number of respondents (16) felt confident that they could continue with their agricultural production activities: 'I am confident that if I get some support, I can continue with farming' and at least a third felt confident that they could produce enough food for their households. However, only seven felt that they had enough support to continue and intensify their productive activities. This was mostly related to the respondents' (12) difficulties in accessing inputs and supplies to continue with their farming: 'I cannot continue farming without support, as the inputs, such as seedlings are now not available'. However, there was some optimism: 'If we can get seedlings, we can continue with our farming; the only support we get is from MDF'.

Respondents further mentioned that their ability to access farming inputs such as seed, seedlings, manure, compost, poultry feed, poultry supply inclusion, day old chicks, agrochemicals, packaging, and tools had been severely hampered due to lack of transport, shop closures, limited cash flow. They also mentioned that their usual support from government and institutional extension staff was not available during this period. Some respondents spoke of lockdown regulations preventing them from accessing farming inputs: *'It has been difficult to go and buy requirements such as seedlings as police would not permit us'*. They confirmed that it was only staff from a few NGOs such as MDF and Lima who were still supporting them during the lockdown.

#### (ii) Marketing agricultural produce

Respondents also mentioned that marketing their produce had been severely disrupted. In some communities (Gobizember & Ozwathini), which are close to large urban centres, 'bakkie' trading had been an important outlet; mainly for field crops such as green mealies, *amadumbe* and sweet potatoes. As these are informal trading processes this kind of trading was allowed during lockdown. However, informal traders had struggled to get licences to operate during this period and were harassed at police checkpoints. Farmers therefore resorted to consuming as much of their own harvests as possible – harvests which they would normally have sold locally. They also reported that they experienced substantial losses.

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According to the respondents, they were not able to satisfy the demand for fresh produce in the short term as they are used to a much smaller local market. The respondents did, however, report that they were eager to increase their production quickly to take advantage of this opportunity (MDF, Field Reports, April-May 2020).

Some respondents also requested advice and mentoring from MDF as most had started focussing on winter vegetable production, small livestock (with a focus on layers and rabbits) and fodder supplementation for livestock. In several villages the programme participants had all bought extra storage drums to accommodate their full harvests for home consumption, since they anticipated a continued slow local market for field crops. Requests for assistance with agricultural water supply were numerous.

#### (iii) Agricultural capacity and production

Respondents also outlined the size and production capacity of their present farming enterprises.

In the Midlands and Estcourt, garden sizes are, on average, between  $50m^2$  and  $100m^2$  and fields are between  $400m^2$  and  $2~000m^2$ . Most of these respondents had gardens and all had fields. Only a few owned large livestock like cattle and pigs. In Bergville, the situation is slightly different with garden sizes, on average, between  $50m^2$  and  $200m^2$  and fields generally between 2  $000m^2$  and 8  $000m^2$ . Here more respondents (30%) owned large livestock, with an average of ten cattle per household.

The table below summarises crops grown and months of food provisioning per household, as outlined by the survey respondents.

# Table 9: Months of food provisioning for households from farmingactivities, during and after the COIVD-19 hard lockdown

Produce	Field crops	Vegetables		
Area	Maize	Beans	Sweet potatoes, potatoes, pumpkins	Cabbage, spinach, green pepper, chil- lies, onions, beetroot
Bergville	Average 6 months (2-9	2 months; 10-50kg	3 months	Small quantities to

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	months; 100- 800kg)			supplement bought food
Midlands	Average 2 months (1-3 months)	Average 2 months (1-3 months)	Average 2 months (1-3 months)	Small quantities to supplement bought food
Estcourt	Average 1,5 months (1-3 months)	Average 1,5 months (1-3 months)	Average 1,5 months (1-3 months)	Small quantities to supplement bought food

The Bergville respondents focussed more on field cropping and had a sufficient supply of staples – mainly maize and beans – to see them through a minimum of six months, on average. The Midlands participants had enough food for an average of two months, and Estcourt for one to one and a half months. This low production was also reflected in their requests for food parcels, which were the highest in Estcourt and the lowest in the Bergville villages, where respondents did not focus on food parcels, but requested assistance with agricultural inputs. What has emerged from the research, is that the MDF CRA programme participants in Bergville and the Midlands are more food secure and resilient than their counterparts in Estcourt who had not had the benefit of an extended period of involvement in the MDF facilitated CRA programmes.

A high number of respondents felt confident that they could continue with their agricultural production but only if they received support (access to inputs) for their farming. The lockdown restrictions on movement of persons and sale of certain goods had severely affected their ability to access farming inputs. Their usual support from government extension staff was absent during lockdown, however a few NGOs like MDF and Lima were present. Marketing of agricultural produce was severely disrupted due to lockdown restrictions on movement and restrictions on informal trading. The lockdown restrictions had brought about an increased demand for their produce in their villages and although they were eager to meet this demand, they were restricted from producing and increasing their production to satisfy this need. Despite the restrictions on their production MDF CRA programme participants in Bergville and Midlands were more food secure and resilient, while villages in Estcourt were less so and more reliant on food parcels as they had not been involved for as long in the MDF CRA programmes.

## Discussion

The findings of this case study point to some of the most common limitations that occur when drawing up and implementing disaster regulations in general. In this case, it points to the limitations of the lockdown regulations which were included as amendments to *The Disaster Management Act, 2002* and designed to flatten the curve of the spread of COVID-19.

Interest groups (C19 National Food Group) representing the interests of small-scale farmers were not consulted during the drafting of the lockdown regulations; however, they took the initiative and attempted to engage government through submissions on the limits of the lockdown regulations and mitigation strategies. However, they were not included in the initial drafting or implementation and could only make their submissions once the lockdown measures were already being implemented. They presented a contextual analysis of the social and economic context of small-scale farmers and proposed alternative mitigating measures for these farmers.

Regulation measures affect all citizens in society but their impacts are experienced differently because of the systemic inequalities in South Africa. Consultation with the public would minimise costs and impacts and improve regulation.

The failure to understand the context in which small-scale farmers live and the lack of consultation with small-scale farmers and their interest groups in drafting and implementing COVID-19 lockdown measures during hard lockdown, is evidenced in this study by the negative impacts that the regulatory measures had on these farmers' sense of resilience, sense of community, their livelihoods and agricultural activities. It points to the limits of the South African government's initial 'command and control' mechanisms to implement hard lockdown. Some of the consequences of employing a nonconsultative, top-down approach to drafting and implementing regulatory measures are discussed by looking at how the specific regulations impacted on small-scale farmers lives, below.

## Conclusion

The COVID-19 lockdown regulations presented many challenges to smallscale farmers' food security, livelihoods and agricultural activities. Specifically, this related to loss of access to local markets and supplies of agricultural inputs. The challenges experienced relate to the promulgation of the amendments to the regulations of *The Disaster Management Act, 2002* which did not sufficiently take into account the social and economic context in which small-scale farmers live and their vulnerability. This continued to reflect how the government's post-apartheid policies and programmes favour a food economy that is dominated by corporate agricultural producers, to the disadvantage of small-scale agricultural producers and suppliers. The implementtation of the regulations failed to acknowledge the importance of small-scale farmers' role in the provision of food in their local communities and in ensuring their own food security.

In a submission to government during the hard lockdown the C19 National Food Group (2020) argued that support for small-scale farmers was crucial during lockdown – for their survival as local food suppliers and as farmers. They proposed that the longer-term impacts of COVID-19 would require a changed form of economic organisation, one that emphasises and supports 'more localised food economies that are responsive to local food needs, short supply chains to reduce travel, and local open air markets that can flexibly accommodate embedded social distancing measures'.

They also argued that:

(t)he provision of fresh produce to vulnerable communities is critical both from a nutritional diversity and health perspective, but also to sustain household and smallholder producer livelihoods through this crisis and in the period of economic reconstruction beyond. Smallholder producers can play a critical role in the necessary restructuring of food systems that will follow this immediate crisis (C19 National Food Group 2020).

The results of this study found that the small-scale farmers in this study who are part of the climate resilient agriculture learning groups supported by MDF, were optimistic about their ability to produce enough food for themselves and for sale of surplus in their communities as a self-reliance strategy that will protect their livelihoods.

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## Policy Responses to the COVID-19 Crisis: Dependence on Local Governments for Long-Term Stability

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#### Abstract

The current crisis (COVID-19) is the recent pandemic to hit all countries in the world. The crisis this time is certainly different, as it is an event suddenly emerging from the health sector, and spreading throughout the entire world, irrespective of geography and social structure. It is threatening all of mankind. Households who lose their income directly or indirectly because of containment measures will need government support. This requires the formulation of policies to address such a crisis and pandemic. In many parts of the world, leaders are forced to take extreme measures like declaration of a national emergency, leading to lockdown of all activities except essential services, apart from social distancing. If policy space is not created at the earliest opportunity, responding to the crisis may be difficult. A crisis like this one is affecting rural and urban areas and can simultaneously take over large metropolitans and small urban centres. It can cause devastation in neighbourhoods as well as in all districts, and can spread over the most diverse geographies. The participation of local governments in combating the crisis seems natural and uncontrolversial as a sphere closer to communities. This paper investigates the role of local governance in crisis-stricken areas, through a qualitative approach by analysing and synthesising literature in terms of a desktop study methodology. Local governments are the best positioned to address crises because of their proximity, legitimacy, and durable presence in their communities.

**Keywords**: Crisis; pandemic; disaster; local government; public policy; communities; stability.

## **1** Introduction

Local governments face a variety of crises, such as natural disasters and environmental threats, financial meltdowns, epidemics and explosions, and technology failures. Crises are not routine events such as fires or traffic accidents. Crises are incredible events that often take politicians, leaders, and citizens by complete surprise. A crisis, like COVID-19, occurs when a community of people, an organisation, a city/town, or a nation, perceives an urgent threat to core values or life-sustaining functions that must be urgently dealt with under conditions of deep uncertainty.

These dramatic events create tough challenges for public authorities and institutions. Critical decisions must be made and implemented under considerable pressure, with tight deadlines and in the absence of essential information about causes and consequences. Even if the conditions for effective action are severely hampered, citizens expect governmental leaders and public authorities to safeguard them from the threat at hand. The impact of COVID-19 pandemic has influenced the capacity of governments to cope with and counteract its consequences.

This paper investigates the role of local governments in combating crises, and the public policy responses in times of crises and pandemic. The paper points to the rapid rise in poverty challenges, especially in developing countries without comprehensive social protection and policies in the wake of any global crisis. Due to COVID-19, many people may fall into, or be trapped in, extreme poverty because of a global crisis, while the number of people living in hunger in the world might rise.

## 2 Research Methodology and Approach

This article expands on previous research by focusing on all spheres of government, especially local governments and their communities, on what they can do to fight the crises and pandemic. This is done through an investigation of the main characteristics of role of local governments in combating crises, and the public policy responses in times of crises and pandemic. Thus, the article employs the descriptive research approach and data was collected by way of a desktop analysis. The descriptive research approach is a basic research method that examines the situation as it exists in its current state. The descriptive approach involves the identification of attributes of a particular

phenomenon based on an observational basis, or the exploration of correlation between two or more phenomena (Williams 2007:67). The descriptive research employs the use of correlational, development design, observational studies, and survey research. These research methods may also be used in both experimental and causal comparative research. According to Monette, Sullivan, DeJong and Hilton (2011:35), descriptive research is describing the phenomenon being studied. Descriptive research is used to discover and gain adequate understanding about the present state of a particular situation or event. The paper adopted a qualitative approach by comparing, contrasting, critically analysing and synthesising relevant documentary and literature sources in terms of a desktop study methodology.

#### **3** Public Policy and Policy Making

Public policy-making in South Africa is regarded as an ongoing and interactive process. Booysen in Venter and Landsberg (2006:175) states that it can be assessed in terms of a contextualised, cumulative and integrated stream of actions that combine to deliver policies, directives for their implementation, and continuous midstream adaptations of the policy in order to achieve the policy objectives. Colebatch and Hoppe (2018), quoted by McConnell and Hart (2019: 646), suggest that policy can be the structured interactions of governance networks, as well as the process of problematising issues. What is common in the public policy debate is about what constitutes 'policy', and a bias towards the study of policy *activity*, and a considerable neglect of policy *inactivity*.

Policy-makers of the most ambitious sort aspire to 'make policy' in that general rule-setting way, envisioning administrators applying those general rules to particular cases in a minimally discretionary fashion (Goodin, Rein & Moran 2018:15). Policy is formulated in response to problems and challenges. A policy developed to respond to a crisis need to have three objectives; it must guarantee the functioning of essential sectors, provide enough resources for people hit by the crisis, and prevent excessive economic disruption. Innovation policies need to be adapted to conditions both in terms of how such policies are crafted to work for the medium- and long-term initiatives. Local governments need to play their part in managing a crisis. However, it is a relatively new and quite complex action which has led to questions being asked, such as: are local governments endowed with the
power, resources and capacity to develop and put in place anti-crisis plans and programmes? From a classical economic policy perspective, the existence of a particular public policy requires four basic elements to come together to solve or manage a crisis (Avila & Monzón 2018:9).

This paper investigates the role of local governments in combating crises, and the public policy responses in times of crises and pandemic. The idea is to develop an understanding of the similar forces driving policy change, where the political interventions plays a crucial role. Building on the work discussed above, Hogan and Feeney (2012:4) hypothesize that policy change occurs in three stages: initiation of the policy debate due to a crisis, idea to change, and the initiation of the policy implementation.

In essence, the intellectual focus of public policy has always been on the design, implementation and evaluation of policies as purposeful government interventions in social processes that need to be carefully calibrated before being put into practice or changed in the light of experience (Peters 2019:45). Accordingly, the study of public policy over the past halfcentury and more has seen thousands of studies describing, explaining and evaluating policy interventions across a multitude of policy areas (McConnell & Hart 2019:646).

Policy-making followed already institutionalised patterns in the respective countries resulting in different strategies to cope with the crisis in different countries (Kiess, Norman, Temple & Uba 2015:8). Institutions are the framework of possibilities in which actors pursue their interests and in the case of economic crisis institutions shape solutions to the crisis. More narrowly defined, policy makers act within policy paradigms which structure their crisis responses:

Policy paradigms are the world views of bureaucrats, politicians, and other key political actors about the nature of policy problems and the range of potential and appropriate solutions. These paradigms constitute roadmaps that provide actors with cognitive tools and directions about how to interpret how key macro-institutions (like the economy) function. These cognitive understandings, in turn, shape the range of policy alternatives that come into focus (Immergut & Anderson 2008:358).

The institutionalist school would expect that even at the times of crisis, the

policy makers follow their learned paradigms. The argument by Kiess *et al.* (2015:8) is that path departure is very unlikely and the initial crisis response is in the line with this argument:

The various responses to the crisis across the range of industrialized countries make the point that there has been no new paradigm for governance emerging as a result of the crisis. Having a new paradigm requires new ideas and those appear to have been in rather short supply.

Crises or sudden shocks are often cited as explanations for policy change, as their existence highlights a failing within existing policies due to their implication in, or inability to correct an emergency situation. In order for policy-makers to challenge existing arrangements, a crisis and policy failure must be identified and widely perceived. Policy exerts must diagnose, and impose on others, their notion of a crisis before collective action to resolve the resultant uncertainty can be taken. Further, Hogan and Feeney (2012:5) state that agents shape 'the terms of political debate: they frame issues, define problems and influence agendas'.

Policies formulated need to focus on crises, pandemics and disasters occurring in local government.

# 3.1 Crisis, Pandemic and Disasters

Countries throughout the world have been severely hit by COVID-19 crisis, putting them at the epicentre of crises, pandemics and disasters. In spite of the general negative impact, when comparing cities, the recorded differences are significant. According to Cohen (2011:26), understanding such differences can provide us with important keys in discerning why some countries are more developed, productive, innovative, and more capable of pulling through crises than others.

Boin, Hart and McConnell (2009) quoted by Steinebach and Knill (2018:1567) identify three constitutive elements of a crisis: the perception of threat, urgency, and uncertainty. Crises presume that a community perceives a threat to its core values or life-sustaining functions, such as welfare, health, safety or security. Urgency means that a lack of time is a defining element of crises. There is a common feeling that the threat is real and must be dealt with

as soon as possible. Finally, threat and urgency are accompanied by a considerable uncertainty over the nature of the threat and its potential consequences.

While global crises such as pandemics, financial recessions, forced migration, and security threats vary in scope and length according to economic, political, and other cycles, what is common is how states and nations react to such crises. According to the International Labour Organization (2011:4), the global crises have underlined the vulnerabilities of the millions of workers who lost their job and, with it, access to any source of income or health coverage. In the modern era, the inadequacy of policy responses to address any crisis exposes a paradigm resistant to change but also mark a historical contingency of similar gravity. Further, in the modern era, the global crises: climate change, ecological degradation, food and water insecurity, emergent pandemics, and demographic shifts. In recent years, many governments around the world have developed a new generation of social economy policies to address the impacts of crises (Avila & Monzón 2018:48).

The issue faced by policy practitioners (public servants involved in the policy making process at any stage) is that Enlightenment rationality, the epistemic underlying the modernist problem-solving approach, treats every problem as tame (Hartley, Kuecker & Woo 2019:2). While that approach worked in an era lacking any concept of a 'global crisis', it is not well-suited for the modern era, yet old ways of understanding and addressing problems are surprisingly slow to pass. Hartley, Kuecker and Woo (2019:2) further argue that policy practitioners must understand that the current way of addressing any crisis is outdated and that a transition to a predicament thinking-based policy paradigm is needed.

Public policies formulated need to address any type of social, economic and global crisis, as highlighted in the next section.

### 4 Social, Economic and Global Crises

The global economic downturn has had wide-ranging negative social outcomes for individuals, families, communities and societies. Poverty and unemployment have been linked to crime, gender-based violence, substance abuse and mental illness, including depression and suicide. During times of financial and economic crisis, households often adopt coping strategies, such as making changes in household expenditure patterns; however, these can negatively influence education, health and nutrition outcomes, which may lead to lifelong deficits for the children affected and thus perpetuate intergenerational poverty (Department of Economic and Social Affairs [DESA] 2011:4-5).

### 4.1 Need for Social Protection

The devastating impact of COVID-19 on so many people underscores the dynamic and multidimensional nature of poverty and the critical importance of social protection for reducing vulnerability. Countries that have social protection systems can better mitigate the negative impacts of shocks and prevent people from falling deeper into poverty. Social protection measures can also help regenerate economic activities and livelihoods (DESA 2011:9). Social protection can be enhanced by formulating social and public policies that talk to crises.

Social policy is an inclusive discipline, which means it needs to provide solutions to address needs of social life. Social problems change, based on economic and environmental factors. These changes also differ based on social structure and state policies. In a broad sense, the concept of social policy means comprehensive practices which address not only the problems and needs of working class, but also those of the other segments of society (Steinebach & Knill 2018:1568). With a definition from this perspective, Aravacik (2018:3) states that it is possible to say social policy discipline addresses the problems of urbanisation, environment, health, and education, and those from all sectors of society such as workers, the disabled, the elders, children, and immigrants. In a broad sense, social policy emerged together with the concept of welfare state after World War II. Therefore, social policy includes health services, social security, city, environment, and struggling against unemployment and poverty that affect social welfare. The final target of all these practices is to ensure social peace, social justice, and equality between different groups (Kiess et al. 2015:10-11).

In the long term, social protection can help individuals and families build human and social resources, among other assets, and improve their livelihood prospects, thereby reducing poverty and unleashing the productive potential of the workforce. Therefore, social protection should not be viewed as a temporary measure to cushion the impact of a crisis, but rather as an ongoing investment to promote sustained, inclusive and equitable economic growth. If social expenditures are allowed to decline in the wake of the crisis, such a situation is likely to exacerbate and prolong the adverse impacts of the crisis, for example, on levels of malnutrition, school dropout rates and long-term unemployment (DESA 2011:9).

Universal access to basic social protection and social services is necessary to break the cycle of poverty and reduce inequality of access to resources. A human rights-based development strategy must advance the full realisation of social and economic rights, and should also, for example, advance and protect gains in social development during times of crisis (DESA 2011: 9-10).

# 4.2 Economic Crisis

Economic crises have served as a reminder that it is essential for people to be healthy, educated, adequately housed and well fed to be more productive and better able to contribute to society. In other words, social policy in general, as well as measures to end poverty in all its dimensions, should be an integral part of macroeconomic policy to promote development. Local governments can also play a role within their mandates to solve economic crises. Approaches to poverty reduction should, therefore, be developmental and holistic, integrating economic and social policies to achieve people-centred development outcomes (DESA 2011:10-11; Kiess *et al.* 2015:15-16).

In the context of the crisis, a job-rich recovery requires incorporation of social objectives into economic recovery strategies and policies. In fact, macroeconomic policy measures to promote sustained recovery should support policies for employment growth and poverty eradication. Social objectives should be accorded priority in recovery strategies and development policies (DESA 2011: 11). An economic crisis presents an opportunity to raise investment in human capital. Such a crisis requires policy reforms which will improve the incentives for innovation, as they remove distortions in the market (OECD 2009:14).

The global economic downturn has had wide-ranging negative social outcomes for individuals, families, communities and societies, and its impact on social progress in areas such as education and health will only become fully evident over time. During times of financial and economic crisis, households often adopt coping strategies, such as making changes in household expenditure patterns. However, these can negatively influence education, health and nutrition outcomes, which may lead to lifelong deficits for the children affected and thus perpetuate what DESA (2011: iii) calls the intergenerational transmission of poverty. The global crisis of 2009 gave an opportunity to rethink the pattern of global growth that would lead to employment recovery, which is productive (International Labour Organization 2011:3).

Financial crises, such as that of 2008-2009, cause GDP to decline, trade to shrink, unemployment to rise, and social problems to increase. Social security serves many purposes for individuals, businesses, and the state. It helps individuals to smooth consumption over the life cycle and during macroeconomic downturns. It facilitates job mobility and job matching. It supports human capital formation for long-term growth and, by acting as an automatic stabiliser, it facilitates economic stability. If well-designed, social security spending does not only address immediate needs but can also translate into better crisis preparedness and better public policy in the future (Prasad & Gerecke 2010). Looking historically, crises have played defining roles in developing and strengthening public policy. During times of crisis, it also becomes the responsibility of local governments to assist national governments with managing and solving economic crises.

# 4.3 Risks in the Design and Implementation of Social Economy Policies

If social economy policies are intended to maximise the potential contribution of the social economy in solving substantive issues facing societies, to generate innovation and to offer a response to the huge challenges in countries worldwide, government must avoid conceiving these policies from partial, instrumental and top-down perspectives (Avila & Monzón 2018:48). The risk stems from undervaluing the potential of civil society itself in leading social and economic development projects, supported and catalysed by public institutions. Organised civil society is ultimately the bearer of social needs, the problems to which a response is to be given and the innovations that reveal its aspirations. Avila and Monzón (2018:49) argue that it is the social engine of the social economy that the social economy policies (SEPs) must support. An excessive one-sided top-down approach, with insufficient involvement of organised civil society in the design and implementation of SEPs, is a major conceptual mistake, which also affects the continuity of these policies.

# 5 Role of National Government in a Crisis

The role of the national government in emergency management is similar in many ways to that of local government. National government must have an effective organisation and develop and maintain necessary plans, facilities, and equipment. This is because most policies are formulated at a national sphere. On a day-to-day basis, the implementation of policies becomes the responsibility of other spheres. The state is the key for collecting information and assessing the problem, and then deciding the course of action to take. National government provides direct guidance and assistance to its local jurisdictions in programme development and channels guidance and assistance down to the local level. In an emergency or crisis, it ensures a coordinated response through the combined efforts of local government has a strong mandate to prepare for and respond to disasters. In South Africa, this mandate by national government is derived from the Constitution.

It is essential that governments take into account the likely social implications of their public policies. The Report on the World Social Situation by the Department of Economic and Social Affairs (DESA 2011: iv) has shown, time and again, that public policies considered in isolation from their social outcomes can have dire consequences for poverty, employment, nutrition, health and education, which, in turn, adversely affect long-term sustainable development and long-term economic growth. A disconnect between public policies and their social consequences can create a vicious circle of slow growth and poor social progress. Universal social protection systems and active employment generation programmes should become permanent measures, not merely temporary components of national crisis response measures. Governments need to act quickly and massively to address the consequences of any crisis (International Labour Organization 2011:13).

Proper government reaction to socio-economic crisis has long been a central element of public policy debate and is experiencing a revival after the great financial crisis of 2008. Previous studies argue on theoretical and empirical grounds that crises may lead to more interventionist policies, but also cause deregulation and liberalisation (Bjornskov & Rode 2018:816).

# 6 Role of Local Government

The participation of local governments in combating the crisis seems natural

and uncontroversial. However, it is sometimes a complex and challenging action which has led to questions being asked, such as: are local governments endowed with the power, resources and capacity to develop and put in place anti-crisis plans and programmes? Can their actions really be effective? Can they make a difference and counteract the effects of any crisis? Is it not misguided to think that local governments can 'solve' the current situation when it is known that powerful forces are to be found in other places and that other more powerful economic and political actors are the ones that have the last say in this process? (Cohen 2011:2).

Chapter 7 of the Constitution of the Republic of South Africa of 1996 sets out a framework for local government. It requires municipalities to be established for the whole territory of South Africa, and provides for three categories of municipalities, whereby some areas are governed by a single 'Category A' municipal authority and others are governed by a two-level system with a larger 'Category C' municipality containing multiple 'Category B' municipalities. The municipalities are granted the power to administer certain matters listed in Schedules 4 and 5, and the executive and legislative authority is vested in the municipal council (RSA 1996).

Cohen (2011:2) concurs with the idea that local governments should and can get involved actively and responsibly in combating the crisis but, at the same time, policy analysts understand that this intervention has its limits, and these should be identified. It is a sphere of action that requires local government to have real and effective powers and capacities. In the end, the instruments that are likely to be applied to avert crisis should be the right ones and should be designed to achieve precise and specific objectives.

Communities have to be careful to avoid thinking that the existence of 'formal' comprehensive plans with a long-term approach will guarantee that policies will be more successful than in municipalities that do not have such plans. Actually, many local governments that have been especially active and have been efficient in fighting the crisis have strategies that are right on the mark for such an undertaking, even if they do not have formal plans drafted to fight the crisis (Cohen 2011:22; Kuban 1996:242).

In South Africa, every municipality must have a disaster management plan as part of its Integrated Development Plans, according to the Municipal Systems Act No 32 of 2000 (RSA 2000). In each municipality, the Community Services department is responsible for disaster management. Local government has the primary responsibility for emergency or crisis

response, but there are times that a crisis overwhelms the local municipalities' capacity for effective response. The national government office of emergency management operations function includes activities that are essential to a coordinated response in support of a local jurisdiction.

# 7 Public Policy Change at the Times of Crisis

Whether a government is *actually* (and literally) 'doing nothing', can be a point of argument. In the face of a humanitarian emergency in most countries, media and political opponents may accuse the government of 'doing nothing' to help resolve the crisis, yet government may say it is 'doing everything' it realistically can. Hartley, Kuecker and Woo (2019:15) argue that if the public policy discipline ignores the biggest challenge like a crisis or pandemic, the complexity of global systemic crises like climate change or economic downturn and the failure of existing policy paradigms to provide more than incremental and middling responses, it does so at disservice at risk to policy practice and humanity itself.

How, therefore, can societies identify instances of policy inaction in a politically as well as analytically meaningful manner? It becomes clear that policymakers, governments, organisations and networks are inclined to select which issues are of potential relevance to them, and marginalise or exclude those on which they do not wish to devote their attention or resources. If policy makers inevitably *do not do* things they theoretically could do in a particular instance or on an ongoing basis, the argument becomes how communities single out cases of inaction (McConnell & Hart 2019:648).

During a crisis, government may decide to be involved (action) or not involved (inaction). McConnell and Hart (2019: 648) define policy inaction, therefore, as an instance and/or pattern of non-intervention by individual policymakers, public organisations, governments or policy networks in relation to an issue within and potentially within their jurisdiction and where other plausible potential policy interventions did not take place.

A crisis also provides an opportunity to re-examine approaches to public policies. The fact that populations in rich and poor countries alike have been negatively affected by the global food, financial and economic crises underscores the case for a universal approach to public policy that does not focus only on people already in poverty. Universal social provisioning should be the goal of social policy making and will also ensure broader and more sustained support than narrowly targeted policy measures which risk significant notwithstanding unintended exclusion of many of the deserving (DESA 2011:11).

The crisis presents an opportunity for developing countries to introduce or improve their weak or non-existent social security and expand on their limited capacity for information-gathering and programme evaluation. Crises also allow countries to reduce or remove ineffective policies in favour of equitable ones that promote long-term growth and better risk management. In the past, many countries have capitalised on this opportunity and successfully exited from their crises, while also improving their policy frameworks in the long term (Prasad & Gerecke 2010).

### 8 Policy Development to Respond to a Crisis

A policy developed to respond to a crisis need to have three objectives: *firstly*, it must guarantee the functioning of essential sectors; secondly, provide enough resources for people hit by the crisis, and finally, prevent excessive economic disruption (Hartley et al. 2019:2).

Crises demand fast and effective whole of government responses, and it is important to establish political will and authority early to drive policy development and response. Clear understanding of the role and responsibility of all of those involved in the response is also critical. A focus on rigorous policy development and implementation is important in driving the dynamic from crisis to recovery. At the same time, strategic use of partnerships outside government can also be valuable. It is important that crisis management protocols and practices keep pace with changes in the nature of potential threats, environment, technology and political imperatives. Effective and integrated public policy development and management is critical during crises. Hogan and Feeney (2012:4) state that while politicians are present in the core decision-making network, it is policy entrepreneurs who dominate this process.

McConnell and Hart (2019:653), citing Janis and Mann (1977), identified several patterns of coping with the pressures of responsibility under which policymakers labour that may conduce them towards inaction:

• Unconflicted adherence to the status quo, by selective attention to information about past, present or future conditions and selective interpretation and forgetting of information that conflicts with their

gentle interpretation of the status quo;

- Shifting responsibility ('buck passing') for taking a decision or acting on a signal to other people, departments or organisations;
- Bolstering decisions already taken in the past by rationalising away the need to reconsider them;
- Procrastination i.e. continued indecision while searching for more information, engaging in further deliberation or determining to defer the making of a decision.

These coping mechanisms make for observable patterns of behaviour that indicate individual policy makers' propensities for non-acting or for choosing not to change pre-existing policies. A key conclusion on policy development is that countries need to be able to pursue counter-cyclical policies in a consistent manner. Such policy space should be enabled by changing the fundamental orientation and nature of policy prescriptions that international organisations impose on countries as conditions for assistance (DESA 2011:3). Policy development has to be guided by leadership provided and how a crisis is managed.

# 8.1 Leadership and Public Policy Environment Crises Management

As leadership is always necessary for successful public policies, in times of crisis, leadership becomes a matter of crucial importance. In a crisis, successful public policy is directly linked to the importance that presidential authority gives the conflict, its own interest in finding a solution and to the content that the authority wants to give such initiatives (Baraona 2011:133). Crisis management (prevention, preparedness, response, and reconstruction) is a tough task for political and bureaucratic leaders. The very occurrence of a crisis is then thought to expose the status quo as problematic, making it easier to gain momentum for alternative policies and institutions. Boin and Hart (2003:544) argue that the opportunities for reform in the wake of crisis leadership are at odds with the requirements of effective reform. When crisis leadership results in reduced stress and a return to normality, people herald their 'true leaders'.

According to Hartley et al. (2019:7), ensuring systemic leadership capabilities is dependent on the promotion of inter-governmental, inter-

organisational, and inter-sectoral collaboration. The benefit of this approach is on collective capacity and gains from cooperative synergies. Such collaboration also builds redundancy and resilience into crisis preparedness systems, and can encourage progress toward harmonisation of managerial practices across the broader policy ecosphere. Finally, systemic political variables are crucial for building and protecting policy capacity to address global crises and their local manifestations. Based on the assumption that robust preparedness involves open communication, along with a critical and introspective approach to analysing policy options and implementing solutions, governments should ensure a political environment that promotes free exchange of ideas and democratic responsiveness in policymaking (Hartley *et al.* 2019:7).

Boin and Hart (2003:551) speak of leaders as people in senior positions in governments and public organisations, whether they are political appointees or career bureaucrats. They contend that there are three lessons that may assist crisis leaders to avoid reform-induced crisis:

- Leaders need to formulate a crisis management philosophy, which can help to negotiate the inherent dilemma of reparation and reform;
- Leaders should not push reform without considering opposite arguments. If they use the crisis to ignore critics, they will mobilise their own opposition at a time when their performance is already under scrutiny, and
- Crisis-induced reform creates exceptional challenges for the long term.

# 9 The Participation of Local Governments in Combating A Crisis

This section highlights the way local governments have integrated a wide variety of policies such as those that relate to public, social and economic policies. Local governments in South Africa implements various policies initiated by the national government and have to direct their resources to them for implementation. Public policies applied in response to the crisis in urban settings undoubtedly are quite significant in determining the situation os a given city. However, their effect is difficult to evaluate for three reasons: first, very little time has passed since the onset of the crisis; second, there is a broad array of measures that different levels of government have applied, complicating the possibility of a specific rigorous analysis; and third, thousands of local governments exist around the world and we have information from only a few (Cohen 2011:18).

Some local governments have assigned their resources to help rescue businesses, especially metropolitans with large budgets in South Africa. Others have emphasised measures of a social nature, such as benefits for the unemployed and for the poorest part of the population, while other local governments have developed more comprehensive plans that combine actions in several areas. Moreover, several local governments have integrated their crisis-fighting programmes and actions into their strategic plans that they may have had prior to disasters.

Several cities have developed plans or programs intended specifically to face the crisis. According to Cohen (2011:22), evaluations have to be conducted in an attempt to determine if formal anti-crisis plans exist, that is, approaches integrated into a document containing all elements of a programme with a comprehensive vision covering different aspects for the short, medium and long-term views. Crisis periods (or disasters) are abnormal and unique events that occur with some degree of surprise and demand unusual, extensive and taxing response efforts. Kuban (1996:239) states that crises require local governments to make rapid, timely, effective and appropriate decisions on a scale rarely experienced during day-to-day operations. Poor, untimely or inappropriate decisions could result in increased fatalities, injuries and property losses.

Local governments may not be able to change the course of large events. They do not control the large macroeconomic variables (monetary, credit, tax, expenditure, international trade policies), and frequently do not even have enough tax resources or the legal power to decide how to spend them. In terms of the Constitution of 1996, these are performed at a national level (RSA 1996). On the other hand, they do have many advantages, such as a collection of local revenue and powers to make bylaws. These can be used to address challenges of pandemics through political and institutional agreements, and social relations. The main advantage is that they are in touch with the people. This is what allows them to do many things, for instance, to lessen the effects of the crisis and to lay the basis of their future development (Cohen 2011:26).

A lesson provided to communities by cities that have put in motion highly advanced programmes is that the solution to current problems must be for sustainability. This can be achieved by creating new jobs, building modern, sustainable, and technologically advanced infrastructure, and by promoting innovation, human capital formation, and improving urban management. Local governments have these factors within their grasp, especially those that have human and material resources and who have accrued administrative experience in local economic development management and strong political leadership.

The causes of the crisis of the welfare state in developed countries are globalisation, which is an external factor, and internal variables which are related to the social structures of states. Aravacik (2018:11) states that with the shrinkage in the welfare state, the provision of welfare services has also changed. The service provision which had been performed by the state has been given through local administrations at local level, and it has been left to the non-profit organisation, which means it has been 'privatized'.

### 9.1 Urban Innovation

Local governments have taken measures in the arena of urban innovation to fight the crisis. Some municipalities, hard hit by the crises, have adopted short-term measures such as placing the out of work in new jobs, creating new jobs, and providing financial aid to the unemployed and to poor families. At the same time, local governments have created a series of strategic initiatives designed to achieve recovery in the long term, with a focus on innovation, including new infrastructure to replace old and inefficient infrastructure in order to be ready for the future urban economy. Others have launched initiatives to create Innovation Funds, a programme that targets new ways to fight poverty (Cohen 2011:23).

Within the global context, French and European local authorities have often served to give a voice to their afflicted counterparts. Cités Unies France (CUF) work on the issue of 'crises and rehabilitation' stems from the request by French local authorities eager to help their colleagues in situations of emergency or post-emergency. Their question was the following: how can governments assist local authorities coming out of a critical crisis situation to continue to perform their duties and provide indispensable local public services? (Cités Unies France 2016). Past experience and acknowledgment of the limits to existing systems have led researchers to define a new approach to such post-crisis periods, which follow upon situations of emergency and which unfortunately can last for years. What has been proposed France is what could be called a 'local generalist approach'. This is financial and technical assistance to local authorities to enable them to manage all the problems that fragile populations have to face.

The approach in France has been progressively structured around several realisations:

- increasing decentralisation the world over leading both to strong territorial identification and new local political elites with immense responsibility towards their constituents but not always the means to fulfil their duties;
- an increase in the number of weak or failed states unable to fulfil their state duties and to manage crisis situations;
- ever more recognition of the role of local authorities in the development of their country;
- the close links between emergencies, reconstruction and development;
- the rise of multilateral humanitarian assistance with large budgets but little knowledge of local particularities (Cités Unies France 2016).

Given this state of affairs, we have concluded that local authorities and local solidarity networks, are the best positioned to address these difficulties for three reasons: their proximity, legitimacy, and durable presence in their communities (Cités Unies France 2016). The next section deals with policy recommendations for responding to a crisis.

# 10 Policy Recommendations for Responding to Crises and Pandemic

Given the examinations of policy capacity in other countries, and in South Africa, which have gone through crises and pandemics, the question becomes which public policy behaviour (process) or condition (capacity) generates progress, adaptation, and flexibility in responding to crises and pandemic problems. Hartley et al. (2019:7-10) advocate for the following as recommendations in responding to crises and pandemics.

# Analytical Capacities

As part of analytical capacities, effective communication is a key pillar of crisis

governance. As policies are put together on-the-go to deal with uncertainty and ambiguity, governments have to scramble to contain the crisis while communicating with the public in real-time. Communicating under conditions of uncertainty is characterised by constant tensions and dilemmas. Being transparent and accurate in relaying information; preparing the public for what is coming next; and expressing a degree of empathy in communicating policies can go a long way in ensuring effective crisis communications (El-Taliawi & Van der Wal 2020).

### **Political Capacities**

In times of crisis such as the current COVID-19 pandemic and its economic and social repercussions, public governance matters more than ever. Governance arrangements have played a critical role in countries' immediate responses, and will continue to be crucial both to the recovery and to building a 'new normal' once the crisis has passed (OECD 2020). Political capacities provide the foundation on which mutual state-society trust and social capital are built. Connections to grassroots and social service organisations are important for crisis management, since these organisations frequently play a key role in collective action, and frontline responses.

More important than the development of a rigorous and operational assessment methodology for these policies, is the establishment of synthetic indicators, as well as general and specific criteria. Similar to the current challenge of measuring the social and economic impact of the social economy and social enterprises, is the challenge of assessing social economy policies (Avila & Monzón 2018:48).

At the organisational level, public agencies need to ensure independence and transparency to avoid capture by power brokers, political factions, and elite interests. As with managerial capacities, this can be enforced through the establishment of independent watchdog units and other monitoring and accountability mechanisms. These arrangements provide policy practitioners with real-time access to feedback on a variety of issues from waste management to emergency response. At the systemic level, public consultation and engagement efforts can contribute to greater social trust and a collective approach to problem definition that incorporates residents' views and opinions (Hartley *et al.* 2019:10).

# **11 Recommendations**

It must be pointed out that many local governments have not developed a crisisspecific policy. In responding to a crisis, national government, which contributes a great portion to municipal income, needs to increase the amount of fiscal resources put aside for local governments. Yet, this approach is not a long-term solution. If national governments decide to cut their budgets heavily, an action that has already seen in some countries, then the local governments will experience a significant decline in resources (Cohen 2011:20).

The reforms in the examined social, economic and broad public policies demonstrate that governments need to use, or should be able to use, the crisis as a window of opportunity for more radical public policy change. In most countries, Kiess *et al.* (2015:23) recommend that the crisis should push politicians towards well institutionalised policy measures and familiar narratives of the role of the state. On the other hand, even if local governments were to continue receiving resources from the national government, they will not necessarily be able to spend them freely. This is because transfers are sometimes 'earmarked' in many centralised tax regimes, meaning that funding has to be spent on line items predetermined by the national government (Cohen 2011:21).

Hartley *et al.* (2019:11-12) propose the following recommendations for how policy practitioners can operate in a liminal and transitioning policy environment to respond to crises and pandemic:

- Create organisational structures that favour horizontal leadership and equalise power relations;
- Enable open-source approaches that serve the public commons;
- Incentivise innovation, creativity, sideways thinking, and risk-taking;
- Embrace all forms of diversity;

Based on the desktop analysis, it is recommended that national government and municipalities should take steps to mitigate the damage caused by the COVID-19 crisis. These include restructuring their balance sheets, entering into regional recovery efforts, carefully examining operating costs, adopting job-shares, monetising fixed assets, pruning overheads and working closely with community organisations. Governments need to act and they need to act fast to assure that the government is adequately financed to withstand the collapse in tax revenues and the need for increased health and social expenditures.

What local governments, and their communities do to fight a crisis is what is truly important. There are successful and encouraging examples in different regions around the world and in South Africa where local governments have put their best strengths and most compelling creative solutions forward to help themselves survive. Nevertheless, there are cases found in some local governments that just crossed their arms and waited for the crisis to blow over and the problems to magically disappear.

### 12 Conclusion

The immediate and long-term social impacts of any crisis and strongly underscores the need for inclusive social policies. As challenging as it may be, a crisis offers an opportunity for achieving social progress by making public policies for social protection a reality. This can be done by revisiting the social aspects of globalisation and ensuring more inclusive and sustained growth, very much in line with sustainable development's commitment to achieving economic development, social progress and environmental sustainability. A crisis or pandemic offers an opportunity to rethink the role of public policy and social investment in transforming policy responses to the crisis into opportunities to strengthen social development and to achieve more sustained, inclusive and equitable development. It presents an opportunity to reshape the global economic, social and development agenda. There is renewed realisation that social policy considerations, especially productive employment, should be given greater importance within macroeconomic policy.

Public policy in the twenty-first century needs to take some intellectual risks by extending internal conversations about crises problems to debates about systemic instability.

This article has helped to understand that in order to effectively respond to a crisis, policy making is as important as its implementation.

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# Local Government's Economic Response to COVID-19: The Case of eThekwini City Council in Durban, South Africa

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### Abstract

COVID-19 is an unprecedented influenza type infection that is caused by the corona virus. The disastrous consequence of the infection is that it can be transmitted very rapidly resulting in a major global pandemic. In the absence of a vaccine to prevent and consequently treat COVID-19, national governments, the World Health Organisation (WHO) and relevant global development partners are working feverishly to develop counter actions to respond to the crisis. National and subnational governments are at different stages of the outbreaks, responding accordingly relative to their resources and capacity. Local governments globally have a critical role to play in responding to the crisis as they are at the coalface dealing with local communities. This article reviewed the role of local governments in responding to the pandemic, using the eThekwini City Council as a case study. eThekwini City Council is located in the Province of Kwazulu-Natal with a budget in excess of over R 50 billion rand, a staff complement of over 24 000 employees and a population that exceeds 3.7 million people is one of eight metropolitan municipalities in South Africa. The research methodology adopted for the article included: (1) the findings of an online business survey conducted by eThekwini Municipality and the municipal response in developing an economic recovery plan, based on the findings from the survey; and (2) a documentary analysis of publications of the South African Government; World Bank and international development organisations; WHO and eThekwini Municipality Council.

Within this context, the critical role of local government in economic support and recovery from the economic crisis brought about by this virus was examined. According to studies reviewed, COVID-19 was largely concentrated in cities, and hence the role of municipal actors in managing the health and economic impacts of the virus, are important and relevant to the current context. The research examined the role of city governments in supporting businesses and facilitating economic recovery in the broader context of the COVID-19 pandemic. The research demonstrated that most interventions related to COVID-19 have been driven primarily from National Governments, focusing on first, an extra-ordinary health response and secondly, a financial stimulus to facilitate economic recovery. The eThekwini Plan with an 18-month timeframe, complements and supports the measures introduced by National Government for facilitating economic recovery and relief provision. The eThekwini City Council case study is hence worth noting and adds to this rapidly developing field and knowledge base on local economic development during the COVID-19 calamity.

**Keywords**: COVID–19; case – study; economic response; eThekwini City Council and local government.

### Introduction

The world is faced with an unprecedented challenge in the form of the COVID-19 pandemic. Since its first discovery in China in December 2019 the virus has spread, to almost every country. During this time, it has infected at least 30 million people killing 950 000 (as at 18 September 2020). South Africa has not been spared with its first case reported on 05 March 2020 which rapidly rose to 655 572 cases and 15 772 deaths as of 18 September 2020) (www.Worldometers.info/coronavirus/; accessed on 18 September 2020). The President declared a National State of Disaster on 15 March 2020 and prohibited gatherings of more than 100 persons. A 21-day lockdown was introduced by the government on 27 March which was later extended for an additional 2 weeks to 30 April 2020. However, from 01 May 2020 the country moved to level 4 of the lockdown which allowed some activities to resume while still restricting travel and non-essential activities. On 01 June 2020 the country moved to level 3 of the lockdown which allowed greater movement and opening up of the economy (Republic of South Africa 2020a Government Gazette No. 43096 of 15 March 2020; Republic of South Africa 2020d Government Gazette No. 43258 of 29 April 2020; Republic of South Africa 2020e Government Gazette No. 43291 of 07 May 2020 and Republic of South Africa 2020b Department of Co-operative Governance, Government Notice 318 of 18 March 2020)

The Risk Adjusted Strategy adopted by the South African Government proposed a phased lockdown and re-opening of the economy to limit the spread of COVID-19 and 'flatten the curve'. The swift action of government in locking down the economy and banning travel has no doubt played a major role in decelerating the spread of the virus and bought the country some time to prepare a large-scale health response (*Science Magazine* 2020).

The eThekwini Municipal area is centred on the City of Durban located on the eastern seaboard of the country with a population of 3.7 million people (Stats SA 2016). eThekwini's economy has not been spared the wrath of COVID-19 with an estimated 327 000 jobs being lost, a sharp contraction in Gross Domestic Product (GDP) and widespread strife (The Durban EDGE 2020a). The National Government has announced two, of a total of three phases of socio-economic support measures to fight the virus, care for the afflicted and support for an ailing economy. The second phase announced on 21<sup>st</sup> April 2020 totals R500 billion or 10% of GDP (National Treasury 2020a).

### **Literature Review**

### 3.1 Overview

Baldwin and Weder di Munro (2020) accurately summarises the global situation relative to the COVID–19 pandemic:

The COVID-19 crisis has become more predictable in a sense. What was widely viewed as a 'Chinese problem', and then an 'Italian problem' has become an 'everybody problem'. With few exceptions, governments initially downplayed the disease until sustained community transmission takes hold. Then they imposed severe social distancing policies, work and school closures and the like. This inevitably leads to almost immediate economic hardship, which then leads governments to propose increasingly bold anti-recession measures. This was the pattern in Europe and looks set to be the pattern in the US and many other nations. All this is due to the highly contagious nature of the virus, and the inexorable implications of its explosive spread during the 'acceleration phase' of the epidemic (2020: 1).

Their advice for policy makers is to 'act fast and do whatever it takes' (Baldwin & Weder di Munro 2020: 14) to compress the slump, while avoiding damage viewed as long term to global economies. They note that this advice is premised on the assumption that the medical reality is fleeting, and is likely to gradually disappear as a vaccine is developed and treatments which are curative. Hence, they point out that the pandemic will end. However, the damage economically could be obstinate and in the absence of measures which are preventative, jobs may disappear after the recession, and a large number of businesses might end up bankrupt, and the balance sheets both of financial institutions and government could be severely impacted on. They argue that a possible solution is to decrease the build-up of 'economic scar tissue' by controlling the amount of preventable corporate and private bankruptcies, and to ensure that the populace have adequate funds to continue spending even if they are not employed. Odendahl and Springford (2020) map out the two economic stages of the Coronavirus and the economic responses that are required from governments and the European Central Bank at each of these stages. They argue that policymakers are required to offset the tremendous costs of containing the virus, while putting in place fiscal measures to keep debt sustainable. They argue that while this is happening, governments should be planning to stimulate the economy to bring about a V-shaped economic recovery.

The Organisation for Economic Cooperation and Development (OECD 2020), notes that surveys conducted showed that the lockdowns have had a large impact on Small, Medium and Micro Enterprises (SMMEs) across the globe. However, they point out that SMMEs in Germany were relatively less impacted due to the local nature of their supply chains. The report notes that many SMMEs are concentrated in the tourism, travel, fashion, and food sectors, all of which have been acutely impacted by COVID-19. The article summarises the key impacts on SMMEs as being, supply side constraints due to the impact on labour and supply chain disruptions; a drastic fall in demand; financial markets losing confidence resulting in less lending, and SMMEs being less resilient due to lower cash reserves or investments. The study notes that actions undertaken by governments have ranged from fiscal measures by central banks; eliminating procurement and payment delays and forward-

looking support to move businesses online. Financial measures have included temporary tax relief, temporary disaster relief loans; direct financial support through low interest or interest free loans (OECD 2020).

Baldwin and Weder di Munro (2020) group the policy responses into six thematic areas of policy response consisting of fiscal; monetary; financial regulation; social insurance; industry policies and trade policies. In all these areas, the role of local government is seen as supportive.

The economic impact of COVID-19 on municipalities and local governments is relatively less documented in terms of published articles and books. Hence, much of the literature that is drawn on for the purposes of this article is based on presentations, reports, and unpublished works of various organisations such as the World Bank. The World Bank has been proactive in setting up webinars under the Competitive Cities Programme to share experiences among city practitioners around the globe. In South Africa, the National Treasury through its City Support Programme has convened virtual forums to share experiences among the cities in the country while improving the levels of co-ordination and co-operation between national departments and cities.

Sivaev (2020), as part of the World Bank's Competitive Cities Programme (See World Bank 2015 for more detailed information), examines the economic responses in 37 cities around the world and shares some of the common themes emerging in terms of good practices:

- The effect is varied in different cities based on impact connectedness, density, and other factors.
- Cities are the worst affected with 95% of the world's coronavirus cases in municipal jurisdictions in approximately 1,500 cities in excess of 210 countries. He notes that density makes cities more susceptible though variation between cities of the same density which implies that city management can have a large impact.
- Local government in most countries play a critical role in sustaining services, and managing emergency response, while defining and enforcing containment measures.
- First sectors to experience economic shock are non-tradable services. Local governments play a critical role to support these businesses (largely made up of SMEs and informal firms), even by ensuring that national governments help reach them.

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• Because impact is so place specific, rebuilding will require place specific approaches, that city leaders should orchestrate.

Sivaev (2020) notes that emergency response of cities so far can be summarized into six areas, namely social distancing and confinement workplace practices and commuting patterns; communication awareness raising and digital tools; support to business and economic recovery; local service delivery, targeted measures for vulnerable groups. He further notes that cities are not equal in their response within and across countries. Their response is shaped by authority delegated to them, their organizational and fiscal capacity, and their size (Sivaev 2020). He points out that cities that built coalitions and had a good grasp of the local economy before the crisis, such as Durban, appeared to be better positioned to handle the economic crisis.

Gentilini, Almenfi and Orton (2020) highlight the importance and need for social protection measures and job responses at the local level while noting that a return to pre-pandemic approaches and methods of stimulating the economy are no longer appropriate. They note that not only did the pandemic cause economic activity to plummet, it also exposed the fault lines that the economy was built, resulting in critical shifts and collapse. A key lesson for eThekwini Municipality Council from this is that shared growth cannot be achieved by a business-as-usual approach and strategic shifts are necessary.

### 3.2 Global Economic Context

The International Monetary Fund (2020) has recently revised the global growth for 2020 to -3% which is the lowest since the Great Depression. The health calamity has triggered off an economic-financial crisis, compounded by a climate crisis. The international markets lost about \$8 trillion (South Africa and Argentina performed the worst during March). The leading economies of China and the US has recorded reduced export earnings, industrial production, retail sales, fixed investment, and services. The lockdown and social distancing, which began to affect these economies first has led to a decline in global production and employment. Despite the introduction of large stimulus packages in the US and Europe, the world economy is looming towards a recession and if not curtailed within 2020, a depression. This scenario is being played out elsewhere as the virus spreads (Moneyweb 2020).

As of 18 September 2020, there is no vaccine for the virus and some

survivors seem to have an acquired immunity. The overall strategy is to slow down the rate of the contagion to relieve the hospital system and reduce the death rate. The termination of economic activities in its scale and abruptness has only been seen previously during world wars. During the first six months of 2020, there was an international scramble for three resources – masks, ventilators, and sanitizers. The medical community has indicated that a vaccine may only be ready and distributed in early to mid-2021 (World Economic Forum 2020)

Initially the perception was that COVID-19 will disappear like the Severe Acute Respiratory Syndrome (SARS) and Middle Eastern Respiratory Syndrome (MERS) outbreaks. However, it did not, and the long-term impact has touched on all aspects of one's daily existence, and is likely to cause unprecedented socio-economic upheaval and has exacerbated the conditions for those already trapped in poverty, unemployment and inequality. Globally, this pandemic has highlighted the social inequalities and exposed the structural deficiencies in society. The lockdown has laid bare South Africa's stark historical inequalities. This virus is a raw reminder of inequality and how, when crisis strikes the poor, it does so with a different strain of severity (Engineering News 2020).

The Virus has also had a major impact on the global trade in goods and services which have plummeted in the first and second quarters of 2020 as recorded by the World Trade Organisation (WTO). The Goods Trade Barometer generates real-time data on the trail of international merchandise trade relative to recent developments. The reading in June 2020 captures the early stages of the COVID-19 epidemic and is the lowest score on record with no indication of the decline in trade as yet bottoming out. This figure is in line with the WTO's trade forecast communique on 8 April 2020, which pointed out that global merchandise trade could decrease between 13% and 32% in 2020, depending on the pandemic lifespan and policy response effectiveness (World Trade Organisation 2020).

All the barometers' constituent indices are at present well below trend (79.7). The weakest of all was the automotive products index, due to falling motor vehicle manufacturing and sales in the leading economies. The severe reduction in the progressive export orders index (83.3) puts forward that weaknesses in trade will continue in the short term. Reduction in the container shipping (88.5) and air freight (88.0) indices point to poor demand for goods merchandised as well as supply-side limitations arising from attempts to

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overcome the COVID-19 pandemic. Signs of stability are only being demonstrated in the indices for agricultural raw materials (95.7) and electrical components (94.0), despite both remaining lower than the current trend. There has been a reduction in trade in 2019 prior to the pandemic, weighed down by ongoing tensions in trade and economic growth which is weakening. The trade statistics of WTO demonstrate that the bulk of global merchandise trade contracted by 0.1% in 2019, signifying the first yearly decline since 2009, through the international financial crunch (World Trade Organisation 2020).

### 3.3 South African Economic Context

The South African economy is characterised by a rapid growth in its national debt burden, due in part to the State-owned utility Eskom. Eskom's debt has rendered it unviable in its current form without government subsidies. Eskom's debt has not come as a result of adding generation capacity and the utility has repeatedly found itself unable to meet national demand for electricity. This has been largely responsible for the economic recession that the country found itself in at the end of 2019. The country was then faced with the reality that its huge debt burden has not translated into significant infrastructure gain nor resulted in economic growth. This led to the sovereign rating downgrade to sub-investment grade by Moody's (the last rating agency that still rated the country at investment grade). While the electricity constraints are significant and long-term in nature, government's legislative amendments which allow for municipalities to generate their own electricity, is a significant opportunity for eThekwini City Council (Moody's Investor Services 2020).

According to the National Treasury (2020b), COVID-19 brought an added challenge to an economy that was already struggling with recession and deep structural challenges. The National Treasury anticipates the economy to decline by between 6% and 7% for 2020. The lockdown is anticipated to have decimated economic activity in quarter two of 2020 rendering GDP growth as an irrelevant statistic in that quarter. This will see tax collection plummeting in 2020 and national debt levels accelerating in the short-term. While these challenges have placed the country on a downward spiral, an opportunity exists to use this period of crisis to make structural changes in the economy that could rescue the country and return it to a growth path. However, this will not be an easy road and may well require more sacrifice than the country is willing to

make. In the short term, it is anticipated that the economy will return to prelockdown levels of economic activity in 2022.

At a national government level, intense scenario planning has recorded the commercial impact of the different levels of lockdown, as well as the ensuing routes for the fiscal shortfall, for state borrowing and for a financial reaction. At this stage, the overwhelming scenario is for a profound depression in 2020, followed by an upturn in growth economically. The National Treasury is in conversation with multilateral structures and their stakeholders, both local and domestic economists, and the South African Reserve Bank to understand how the global economy will adjust. Domestic and global high-frequency data are also being monitored to get an understanding of the ongoing evolution of the economy during this global pandemic. Various relief packages have been introduced to assist businesses, communities, and individuals during this time (National Treasury 2020b).

National Treasury has also affirmed that the additional parts of the deal includes the drawing down of current surpluses such as the Unemployment Insurance Fund (UIF) or enhancing the conditional liability of government securities. A key risk that the economy and fiscus will face post the COVID-19 crisis is whether economic growth over the long term returns to the averages of between 1% - 2% prior to the pandemic. Economic growth at a faster tempo is required to address the deep structural challenges of inequality, unemployment, and poverty.

A major economic support and social relief programme of R500 billion to alleviate the impacts of COVID-19 country – wide was pronounced by the President. This package constitutes a portion of the second level of South Africa's 3-phase fiscal response to ensure the stability of the economy, respond to the decline in demand/supply and safeguard jobs. The social relief and economic support package for the second phase will cater for an increased health budget to respond to the Coronavirus, the relief of hunger and social distress, support to companies and workers and the phased re-opening of the economy. The procuring of the R500 billion has required the reprioritization of approximately R130 billion in the existing budget, the balance will be borrowed from BRICS and the World Bank. The rest will be raised from local sources such as the Unemployment Insurance Fund and from global partners and international finance institutions. To date, the government has approached the World Bank, International Monetary Fund, BRICS, New Development Bank, and the African Development Bank (National Treasury 2020b) for funding.

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The National Economic Recovery Plan is the third phase to startup economic recovery in the country as it arises from the contagion. This will focus on; economic sectors, investment, employment, and infrastructure development; governance, state capacity and industrial development; social protection, community, and human development; international cooperation, trade and security and justice, crime prevention and security. Phase two of the economic relief package consisted of R500 billion support which includes the following:

- R20 billion to finance the COVID-19 health response, i.e., protective equipment for health workers, community screening, increased testing capacity, additional beds in field hospitals, ventilators, medicine, and staffing;
- R20 billion to municipalities for emergency water supply, increased sanitization of public transport/facilities and food/shelter for the homeless;
- R50 billion in social relief for vulnerable families, temporary sixmonth COVID-19 grant, and special COVID-19 social relief distress grant;
- R100 billion to protect/create jobs;
- R40 billion income support/payments for workers not receiving wages.
- R2 billion to assist small, medium and micro enterprises, spaza shop owners and other small businesses;
- R200 billion loan guarantee scheme in partnership with major banks, the National Treasury and the SA Reserve Bank to cover operational costs (salaries/rent/payment of suppliers) of companies; and
- Reserve Bank has unlocked approximately R80 billion in the real economy by reducing the repo rate by 200 basis points and embarking on supplementary measures to provide greater liquidity to the financial system.

There has been significant focus on the economic performance of the country as a whole which led to the creation of the generic economic relief measures outlined above. However, more detailed analysis of economic performance at the city or metro scale provides greater insight into the challenges being experienced at the local level.

### 3.4 Durban's Economic Performance

With the overall 2019 economic growth for the city coming in at -0.1% (Quantec 2020), Durban left 2019 in recession with the prospect of enhanced economic performance in 2020. The City performed worse than the other large metros of Johannesburg, Cape Town, Tshwane and Ekurhuleni due to the poor performance of key sectors such as tourism, logistics and manufacturing. The congestion at the Durban Port which was widely reported in the local media in quarter 3 and 4 of 2019 provided a prelude to the poor performance of the logistics sector.

According to Quantec (2020) Durban's economy has also performed poorly over the last 12 years with fewer people employed in the city at the end of 2019, than in 2008. While 1 210 764 were in employment at the end of 2019, it is estimated that this figure fell by 327 000 in quarter two of 2020, resulting in Durban's largest job loss ever recorded. The number of people employed as a percentage of the total working age population having reached a peak of about 52% in 2008 before gradually declining to 45% at the end of 2019. This means that more people are unemployed than employed. While the employment numbers will gradually improve as more of the economy is reopened, it is expected to take about 18 months before reaching pre-lockdown levels (Durban Edge 2020).

The pandemic reduced the transport of goods, especially in the ports which impacted negatively on both the manufacturing and services sectors (social distancing is impacting on three quarters of those in the services sector, except those deemed essential). This combined with a ratings downgrade has resulted in capital flight and sharp depreciation as investors pull moneys out of emerging markets. The travel and tourism industry are being severely impacted due to restrictions in travel, but also a reluctance to travel once the travel bans are lifted. The accommodation sector as well as restaurants and recreational services are among the worst affected industries. Estimating GDP during the lockdown is not considered a meaningful measure as 70-80% of the economy was in lockdown during levels 5 and 4. Hence a model was developed by eThekwini Municipality's economic intelligence programme called the Durban Edge, to estimate how the local economy will return and re-open during the different levels of lockdown particularly from level 5 through to level 3 (Durban Edge 2020b).

During level 4 of the lockdown, it is estimated that the city was

operating at 34,2% of its 2018 capacity. It is also estimated that 32,2% of businesses were operational, although with a reduced workforce, and/ or reduced working hours. This considers businesses working from home; global and national lags in economic activity due to economic downturn and restrictions such as limits on employee numbers, operational capacity, etc. The top four sectors of activity during this level of the lockdown were financial and business services (13%), manufacturing (8,4%), transport storage and communication. (3,5%) and wholesale and retail trade (3,1%). It is further estimated that at level 3 of the lockdown, the city's economy operates at 42,2% of its capacity. It is also estimated that 36,8% of businesses were operational, with a reduced workforce, and/ or reduced working hours. The top four sectors of activity at level 3 consist of financial and business services (12,5%), manufacturing (9%), retail/wholesale trade (3,7%) communication and transport storage (3.4%) (The Durban EDGE 2020b).

The Durban EDGE (2020b) forecast is based on a sample of 12 400 businesses in Durban; the Department of Health's Schedule of Services (Republic of SA 2020b), a match of permitted services at each level (Levels 3 and 4) to businesses in the database to illustrate increase in businesses operating, a corresponding estimate of Gross Value Added (GVA) contribution for permitted services at each level. This framework was applied to the rates database to gain insight on the number and make up of rate paying businesses operating under each level, and their economic performance. The report indicates that there is limited underlying data to forecast economic performance due to the dynamic nature of the economy and real time and forecasted data is limited. The ABSA Purchasing Manager's Index data on new sales orders in April 2020 was also factored into the Durban EDGE model. There is further limited/fragmented data on the informal economy (including private households, e-mailing services and street traders). The report estimates the informal economy makes up 18% of local enterprises (The Durban EDGE 2020b).

According to eThekwini Municipality (2020a) the economic fallout of COVID-19 has plunged the collection rate of municipalities into a downward momentum that will take years to repair. eThekwini Municipality reported that its collection rate of revenue fell from 94% in February 2020 to 56% in April 2020, resulting in an under-collection of R1,5 billion and putting the Municipality under financial stress. The Municipality estimates that it will lose approximately R8 billion in revenue as a result of COVID-19 in 2020. The

City's Economic Recovery Plan (eThekwini Municipality 2020b) asserts that while eThekwini moves to limit the financial fallout of the pandemic, it must simultaneously move rapidly to repair the economic damage, protect jobs and care for the vulnerable. In this regard, the City took the lead in the country by not only putting in place health and social interventions, but to set out a path to economic recovery. The City's own research indicates that it will take no less than 18 months to get back to pre-lockdown levels of economic activity. At the same time, the reality is that the pre-lockdown levels of economic activity were fundamentally flawed in that the city's economy was already in recession while levels of inequality were deeply embedded in the structure of the economy.

### 4 Research Methodology

This article presents the findings of an online business survey conducted by eThekwini Municipality as well as the municipal response in developing an economic recovery plan which is based on the findings from the survey.

In response to the effects of the national and city level COVID-19 lockdown and mitigation measures on Durban's economy, the Municipality conducted an online survey through its Economic Development Unit. The survey had two aims. Firstly, to understand the impact that the lockdown was having on businesses and secondly what measures the Municipality could put in place to assist in an economic recovery. The survey was hence a means to provide the Municipality with direct insight into the challenges that firms were having and information on job loss.

The survey was conducted with businesses to gauge the needs of a cross-section of the Durban business community as discussed in 4.1 below. The target population consisted of representatives of firms that were in an executive management position which enabled them to have oversight of all areas of the firm's operations. The survey was sent to this target group and was open for them to complete over a two-week period. The sampling and data cleaning process ensured that there was no more than a single questionnaire completed per company. The survey was open for responses from the 31 March 2020 to the 14 April 2020 and was sent out via an email link to a database of about 3 000 businesses, representing a cross-section of businesses in Durban. The survey garnered responses from 99 businesses representing 3.3% of the total database.

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# 4.1 Profile of Respondents

Businesses were categorised in terms of size based on the number of people employed. Micro businesses employed less than 5 people; very small businesses employed 6 to 20 people; small businesses employed 21 to 50 people; medium sized businesses had 51 to 200 employees while large businesses employed more than 200 people. Most respondents were small and micro businesses, with 41 respondents being micro businesses, 34 very small businesses and 11 being small businesses. A further 7 respondents were large businesses while 6 respondents were medium sized businesses. A total of 88 respondents were formal businesses while 11 were informal businesses. Most respondents were from trade and professional business services, including clothing retailers, and events firms. Most large companies were manufacturers, estate agents and communications firms.

Industry Classification	Number of Respondents
Trade	20
Professional services	19
Manufacturing	14
Community services	12
Communications	9
Real Estate	6
Catering and accommodation	5
Transport and storage	5
Construction	5
Tourism services	2
Agriculture	1
Electricity	1

### Table 1: Number of Respondents by Industry Classification

# 4.2 Research Findings

The responses to questions were captured by the research team and cleaned prior to it being analysed. The presentation of findings and analysis was then collated and is presented below. In response to the question which asked respondents to identify what the Municipality could do to address their challenges; the majority of respondents made the following suggestions:

- the need for business continuity by the City (particularly the rates, and building plan approval functions);
- the need for one source of reliable information;
- the sentiment that smaller businesses such as informal and non-tax compliant businesses have been overlooked by most interventions; and
- the need for a facilitator to assist with accessing national and private sector funds and expedite their assistance where possible.

In response to the question that asked 'What best describes how the Corona Virus epidemic (pre and during shutdown) has affected your revenue?' 93 respondents reported that revenue had decreased, 6 respondents reported that revenue had increased. Notably, even medical services firms reported a drop-in revenue while firms which did not see a change in revenue were mainly comprised of research firms who could largely work from home and had long standing contracts.

In response to the question 'How has the Corona Virus National Shutdown affected your business operations?' 69 respondents reported a complete shutdown while 11 reported a significant impact as employees needed to work on site. 6 respondents reported a moderate impact as some employees needed to work on-site. A further 6 respondents reported minimum impact as most employees can work from home while 4 respondents reported other.

The rand value of losses was proportional to the size of the firm, with the average large firm (more than 200 employees) having lost R13,2 million rand in revenue, and the average micro sized firm (including informal sector businesses) having lost an average of R113,000 in revenue over the past month. Medium sized firms reported an average loss of R4,1 million; small firms R700 000 and very small firms R400 000.

### 4.2.1 Interventions Raised by Respondents

The following top interventions were provided by businesses in response to the question 'Please briefly describe realistic interventions which may assist your business to recover from the COVID 19 epidemic?' Interventions raised by
businesses were wide ranging, but those listed below were the most commonly raised, and collectively add up to 75% of responses.

### **Facilitation Role Missing**

One in four respondents (25%) stated that they required assistance with accessing national government, and private sector funds. Some indicated that they had already applied and needed their applications expedited, or that they had tried to apply but did not qualify. Reasons included being informal, or non-VAT compliant, not holding existing debt with the institution offering debt relief, being 'non-black', or not being South African. Amongst those that cited not qualifying as an issue, the most frequently mentioned fund was the UIF TERS (Temporary Employment Relief Fund). Some respondents said that their employees were informal or employed on a 'needs basis' (temporary or seasonal employment). One business noted that tax compliance penalises small businesses, as '...both UIF call centres and SARS offices are closed so it will take a long time to sort out compliance', meaning that even if they wanted to comply, they may not be able to do so on time.

Others referred to national government initiatives assisting businesses to produce goods in demand during the pandemic but said that they needed assistance accessing markets to buy the goods. One respondent lamented '...I could supply masks and uniforms to hospitals and other people but I'm only getting hoax emails and it's scary'. Another respondent requested that big businesses who supply such goods should be required to liaise with small business.

### **Cash Injection Needed**

Over a fifth (22%) of respondents said that they urgently required a cash injection for increased debts for overhead costs, and for debtor accounts. Some businesses indicated being aware of national government and private sector initiatives which would provide the cash injection, but also indicated that they did not qualify; due to being non-VAT compliant firms, non-South African business owners, or non-bank clients. Nonetheless, urgent cash injection was the second most commonly requested intervention.

### eThekwini Municipality Business Continuity

The third most popular issue raised (14%) was the need for business continuity; mainly by the Municipality. Businesses noted that as far as possible, those

departments which most directly facilitate economic activity should work remotely or digitally; even if done on a skeleton staff. The business unit most frequently mentioned is the Rates Department (by estate agents), which would 'allow for a flow of business transactions' despite the lockdown. Estate agents also requested that functions of the Deeds Office in Pietermaritzburg continue to operate, although this is not in the direct control of the Municipality. Respondents in the construction industry raised the need for the Municipality to expedite plan approvals on housing, and infrastructure projects, during the lockdown if possible.

Some businesses felt that after the lockdown, the Municipality requires a new approach to procurement, where processes are made faster, more digitised, and public, without officials 'extorting bribes', and with a wider range of service providers being used. Some construction businesses highlighted a need to fast track the execution of housing infrastructure projects. One respondent highlighted the need for the City to be intentional about procuring locally manufactured products; as opposed to contracting from local companies who import the bulk of their products.

#### **Rates and Rent Relief**

Some businesses (8%) indicated that a rent and rates holiday from the Municipality would be necessary for their businesses to survive. One respondent noted that the rates holiday should be translated into a discount in rent required by landlords. One business also requested a plan to get landlords to accept part rental at least for March and April until they 'get back onto their feet'.

#### **Consolidated Information Needed**

Some respondents (7%) indicated that they needed more information on initiatives available, some noting that they are aware of business opportunities made available by the pandemic, but they do not know where to find the information. Some businesses listed a need for tax breaks, help with salary payments, soft loans, and other aspects of business; all of which is already available. These respondents most frequently cited the need for assistance with paying salaries; with no reference made to the UIF TERS fund. This indicates that they were not aware of the fund at the time of responding and highlights the need for a coordinated effort to disseminate consolidated information.

There also appears to be a concern around accessing information timeously, with one respondent pointing out that '... the Sukuma relief fund

was great however when we tried to register, they said they had stopped taking applications'.

A small number of respondents (3%) indicated that there was nothing more that could be done as their businesses had already closed. Other issues less frequently raised include a need for assistance with transportation of essential workers, assistance with digitisation of businesses to ensure resilience during shocks and termination of 'harassment' by metro police.

### Food Parcels Needed

Finally, the cross between social and economic needs is exacerbated by the pandemic. There is a need for food parcels, mainly for the informal sector which largely does not have enough safety mechanisms such as savings and (legal) credit. One (street trader) respondent lamented needing both assistance to start afresh and buy stock, as well as food parcels. The same respondent noted '...because of this lockdown I used all the money for stock...the little that I was trying to save is also used because I don't have a job. I only depend on selling clothes on the street'. Solutions should therefore not only be focussed on business, but on the socio-economic health of (especially informal) business owners. There are approximately 43 000 permit holding street traders and informal businesses are permit holding. This indicates the scale of the socio-economic need.

# 5 eThekwini Municipality's Economic Response to Covid-19

The City's economic response was based on a combination of the results of the survey, an analysis of economic performance of the national and local economies, the national relief measures as well as initial learnings from other cities. The City's plan seeks to support enterprises, safeguard jobs while caring for livelihoods. The Economic Recovery Plan (ERP) is based on the following eight key pillars (eThekwini Municipality 2020b).

# 5.1 Monitoring and Responding to the Health of the Municipality and the Economy

Collection rates for municipal revenue fell from 94% in February 2020 to 56% in April 2020. This amounted to an under collection of about R1,5 billion in

April 2020 while projections show that May and June 2020 will be equally adverse (eThekwini Municipality 2020). The ERP estimates that it will take at least 18 months before economic activity returns to pre-lockdown levels. Based on economic modelling, it is estimated that at level 4 of the lockdown the City is estimated to be operating at 34,2% of its 2018 capacity. It is also estimated that 32,2% of businesses are operational, although with a reduced workforce, and/ or reduced working hours (The Durban EDGE 2020b). The plan assumes that the risk adjusted strategy will remain in effect until May 2021, possibly at level 1 with some social distancing measures still in place. It is evident that the Municipality's finances will come under severe and sustained pressure over the next 12 to 18 months. It is important that the Municipality remains financially sustainable. Due to the uncertain nature of the current period, the ERP states that the Municipality will not be able to offer blanket approaches to writing off debt. However, at the same time it acknowledges that businesses (as customers) are collapsing resulting in job losses and a resultant decline in its customer base. The ERP hence indicates that the Municipality needs to monitor and predict economic activity while maintaining a fine and delicate balance between its own ongoing financial sustainability and survival of its customer base, while recognising that both are inter-related.

### 5.2 Facilitating the City's Share of National Support and Industrial Opportunities

Feedback from surveys have shown that the relief measures outlined by National Treasury (2020b), in terms of phase one have not been easy to access and very slow in implementation. As part of the early interventions that the Municipality put in place, it identified the informal sector as being not adequately covered by the support measures. In addition, businesses have reported an inability to access support due to inter alia, being non-VAT/tax compliant, unregistered, or non-South African owned. Phase two of the national support is focussed on stabilising the economy and included an extraordinary health budget, support to municipalities in delivering basic services and a debt guarantee facility of R200bn, implemented through the banks (National Treasury 2020b). The ERP also acknowledges that past national government support programmes have recorded an underrepresentation of beneficiaries from KwaZulu-Natal and eThekwini. The ERP

hence pinpoints that the Municipality will actively assist businesses access the national support programmes through a hotline, online support, and the opening of customer care centres during level 5 of the lockdown. The ERP sets a target of attracting R30 billion of support to businesses in Durban.

# 5.3 Re-starting the Tourism Industry

The ERP indicates that a large proportion of the local labour force is unskilled or low-skilled, while about 80% of employment created over the last 5 years has been created in skilled or semi-skilled job categories. The Plan identifies eThekwini's tourism sector as playing an important role in creating jobs in the lower skilled labour categories and includes temporary employment. However, according to the Moody's (2020b) Covid-19 Industry Heat Map, the tourism and events industry is in the red category i.e. one with high risk of unsustainability during the pandemic. The travel and tourism industry have arguably been the worst hit by the travel bans and lockdown regulations. The airline industry was brought to a standstill and hotels and accommodation establishments have been vacant since the start of the lockdown, except for rare exceptions where foreign visitors have been housed until they could be repatriated. eThekwini Municipality (2020b) estimates that the local tourism industry lost R600 million in direct spending over the Easter vacation period and stands to lose more than R4 billion by the end of the winter season with 8200 jobs being lost. The ERP identifies tourism as being particularly important for Durban which is the country's number one domestic tourist destination. While the local tourism industry begins to open, there is likely to remain restrictions on international travel, with skepticism related to international travel persisting well into 2022. The ERP provides relief to Bed and Breakfast and guesthouses through a re-designation to residential property rates, while providing rental relief for municipal owned properties that are leased out. The ERP also spells out a re-introduction campaign that starts with soft destination marketing during the lockdown, which is to be followed by a more aggressive domestic market campaign as the restrictions ease, as well as COVID-19 tourism packages.

# 5.4 Supporting the Rural, Township and Informal Economy

The ERP has pointed out that the informal sector as well as small businesses

in the townships and rural areas are the most vulnerable and least likely to receive support from the existing COVID-19 relief programmes. These businesses consist mostly of traders in the retail sector such as street traders, spaza shops, personal services, and restaurants. It also includes home businesses, micro-manufacturing, and the production of construction material, although these are far fewer in number. Large parts of the informal sector operate on a survival basis with little scope for growth. The existing programmes and basic facilities provided by the Municipality allow for the survival of informal businesses, while supporting those enterprises that show potential for growth. Due to apartheid policies, businesses within the informal sector, within townships and rural areas were disadvantaged and had little scope for growth. The ERP therefore recognises that the survival and growth of enterprises in townships and the informal economy are fundamental to addressing poverty and reducing inequality, while creating sustainable jobs and a functional cash economy. With this in mind, the ERP provides a 6-month rental holiday for informal traders while putting a freeze on rental increases in the next year.

### 5.5 Creating an Extraordinary Environment for Construction and Infrastructure Investment

The introduction of the risk-adjusted strategy of government at level 5 resulted in the complete shutdown of construction activity and development in general. eThekwini Municipality (2020b) identified that this caused widespread job losses in the construction industry and a halting of many investments. The Durban EDGE (2020) estimated that approximately R10 billion worth of foreign direct investment (FDI) that was to be invested in Durban was put on hold due to the drop-in demand as a result of COVID-19 and the sovereign rating downgrade. With the resumption of construction activity at level 3 and 4 of the lockdown, and in anticipation of a further opening up of the economy in the coming months, the ERP states that construction activity can absorb the many unemployed and large number of semi-skilled and unskilled labour. The ERP hence seeks to create an extraordinary environment that boosts construction activity to create a stimulus that pushes the economy back onto a growth curve. The ERP does this by providing a one-year waiver of all plan submission fees and moving rapidly to online systems for plan submission. In addition, it identifies private and public sector projects worth about R10 billion for fast tracking into construction.

# 5.6 Operationalizing the Socio-Economic Relief Fund

The survey indicated that while national government has announced phases one and two of its economic recovery package, the reality on the ground is that it has not reached many businesses both in the informal and formal economies. In a bid to provide support to failing businesses, stem job losses and fund projects aimed at assisting businesses to access opportunities, the Economic Development and Planning Cluster of the Municipality identified R40 million from within its budget for re-prioritisation into a Socio-economic Relief Fund established by the Municipality. The governance structure of the fund includes oversight from respected members of the local business community along with senior officials from the Municipality. The fund is not intended to duplicate national support measures, but in addition to it. The ERP indicates that funds committed by the Municipality into this fund will be used to attract further funding from the private sector through a fund-raising campaign led by the Mayor.

### 5.7 Ensuring Radical Economic Transformation in City Procurement and Expediting Payments to Small Businesses

The ERP indicates that the fundamental structure of the South African economy was shaped by apartheid which limited and excluded ownership in the economy by Black African people. The post-apartheid era has made significant gains resulting in the growth of a Black middle class. However, deep-seated divisions remain, which is evident in the income profile at the country and city level. The vast majority of poor in the eThekwini area are largely Black Africans. To address the stark inequalities, deliberate and sustained intervention is required at a large scale. Government in general and the Municipality in particular has at its disposal the procurement it undertakes which is sizable and diverse enough to effect change. The ERP directs increased COVID-19 procurement that all SMMEs are paid within seven days without any penalty fees.

# 5.8 Building Social Coalitions and a Buy-Local Invest-Local Campaign

The ERP indicates that partnerships and social coalitions are important in a society that wants to address deep-seated issues such as inequality, poverty, and unemployment. Power relations are such that no single actor within a city can effect change in a comprehensive way. While society has given government the mandate to lead, in order to bring about systemic change, there are many actors and stakeholders that need to work together towards a common objective. Shape Durban is identified in the plan as the most broadly participative process undertaken by the City, not only due to the wide variety of participants, but because of the high levels of participation found in its 'cocreation' methodology. During the COVID-19 pandemic, the Municipality has spoken with a common voice with its partners in the Province, Durban Chamber of Commerce, and Industry, and KZN Growth Coalition. This broad partnership, which also finds expression in the oversight structure of the Socioeconomic Recovery Fund will form one of the pillars upon which economic recovery will be based. The plan identified the establishment of the Durban Economic Council as being a critical cross-sectoral inclusive partnership, that will inevitably provide economic direction to the City, presently and in the future.

### 9 Conclusion

The rapid spread of COVID-19 has been concentrated in the cities around the globe. These cities have borne the brunt of the devastation caused by COVID-19 and the economic fallout due to the social distancing, lockdowns, and measures to curb the spread of this novel virus. In this phase of rapid change, cities have been responding to the economic crisis in various ways. This has resulted in learnings from cities across the globe, which city professionals have shared through learning networks such as the World Bank's Competitive Cities Programme. Among these learnings have been the case of Durban. EThekwini Municipality, being the local government responsible for this city, has moved relatively quickly in not only putting in place health and social plans in collaboration with National and Provincial Government, but also developed and articulated its economic response to the economic crisis while the country was still at level 5 of the lockdown. The broad coalitions with business that

were already before COVID-19, played an important role in ensuring that there was a common response that was agreed to by these stakeholders. The plan which has an 18-month timeframe, complements, and supports the measures introduced by National Government aimed at providing relief and economic recovery.

While eThekwini has been dealing with a deep and prolonged economic recession, social, health, financial and unemployment crises and residents that are under severe strain, this article demonstrates how a city that is under severe pressure is showing determination to stage an economic recovery. The Durban case study is hence worth noting and adds to this rapidly developing field and knowledge base on local economic development during the COVID-19 calamity.

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Local Government's Economic Response to COVID-19

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# Service Delivery from a South African Police Service Perspective

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#### Abstract

In terms of section 205 (1); (2) and (3) of the Constitution of the Republic of South Africa, 1996, the South African Police Service is mandated to prevent, combat and investigate crime, maintain public order, protect and secure the inhabitants of the Republic and their property, and uphold and enforce the law. The Service Delivery Improvement Programme (SDIP) (in SAPS) endeavours to enhance service delivery to the communities (South African Police Service (SAPS 2006b:6-19). The programme provides police station commanders with practical tools to enhance service delivery and law enforcement while seeking to inculcate a culture of participative management and increased community involvement. This is embodied in the SAPS (SAPS 2006a) Service Delivery Improvement Programme (SDIP). The purpose of this article is to reflect on the findings of a recently completed PhD study, which aimed to investigate the expectations and perceptions of members of the public towards the South African Police Service (SAPS); as well as service delivery in the Community Service Centre (CSC) in the Kimberley Cluster, and to consider the implications of COVID-19. The focus of the study was based on the measurement of service quality dimension and service delivery to generate quality models for SAPS CSC. The primary objective was to develop an understanding of the client's expectations and perceptions of the services delivered by the SAPS CSC. The SERVQUAL Model was utilised to establish the clients' perceptions against their expectations of service quality at the SAPS CSC. The study was conducted in the SAPS environment, to contribute to customer citizenship behaviour, specifically the sub-dimensions of consumer advocacy and helping behaviour. The quantitative methodology was adopted to investigate the effect of customer satisfaction of service quality in the SAPS. A structured questionnaire was distributed to gather data. One (100) hundred respondents were surveyed. The data was analysed using Descriptive and Inferential statistics. The five service quality dimensions of the Servqual Model was utilised to measure the client's expectations and perceptions. The results revealed that in all five service quality dimensions: (tangibility, reliability, responsiveness, assurance and empathy); there was a negative quality gap. The significant differences between perception and expectations of the clients in all five service quality dimensions was noted. Improvement is needed across all five service quality dimensions to enhance service delivery. Furthermore, the results revealed that the client's perception of service quality at the SAPS CSC is up to standard. It is recommended that SAPS assess and monitor employees regularly, including the clients experiences and provide feedback.

**Keywords:** South African Police Service (SAPS), Service delivery, Customer satisfaction, Service quality, Clients, Servqual, Community Policing, Trust

### Introduction

The South African Police Service (SAPS) leadership is facing challenges to enhance service delivery in the organisation. Various legislative and policy directives exist, but the implementation thereof has been a challenge. The SAPS' service delivery has been inadequate, and the media has reported on this regularly (*The Daily Sun* 2017). Furthermore, taxpayers, who are the financiers of government, increasingly want to find out more about the costeffectiveness of their tax money and whether police services are being delivered efficiently. Reasons for the apparent inadequate service delivery ranges from police members apathetic attitudes to a lack of training and skills (Burger 2013).

The legislative and policy framework promoting improved service de-

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livery in the South African Police Service has received limited attention. Leadership in the public service is not only about occupying important offices or ranks, but should also include the ability to be visionary, leadership skills, motivation of staff, and continuously striving to improve service delivery. Moreover, efforts directed at converting the SAPS to a post-bureaucratic organisation and introducing managerialism has not taken root thoroughly (Van der Merwe, Van Graan & Ukpere 2013:630). Police stations are critical units in the police administration system. For many citizens, their first encounter with a police official is at a police station, to report a crime or seek assistance. The public's expectations of the police can only be met if they are satisfied with the professionalism and promptness of the services rendered by the officers at police stations. Therefore, it is important that SAPS personnel ren-der services of a high standard, with efficiency, professionalism, integrity and empathy. The term "enable" refers not only to the provision of equipment, which is important, but also to the provision of skills and training, which are equally important for ensuring that the needs of community members are prioritised.

Globally, all police agencies have a common purpose: deliver an effective service to the communities in which they are situated (Sonderling 2003:1). The SAPS too, in essence, stands for service delivery. This is underlined by the National Strategy (SAPS 2002a:6), which accentuates the significance to provide a quality service to its clients; the South African public. This conforms with its own mission as well as the government's strategy, which is clear when it comes to the purpose of service delivery. It further embodies the Service Delivery Improvement Programme (SDIP) of the SAPS (SAPS 2006a). The primary goal is to provide a service to the public (SAPS.a: 2006:78). The SAPS is considered an important government department due to the nature of the services it renders. Furthermore, it has its own policies, procedures, processes and systems, and for these to be implemented correctly within the organisation, personnel must have a clear understanding, knowledge and guidance about what is expected (South African Police Service (SAPS) 2006c:7-8). Concerns and contributions to service delivery must promote the interest of the communities they serve and quality service delivery is important for any service provider. Levels of trust is also important, especially in terms of law enforcement. When trust in communication channels and public participation strategies is limited, co-production of services is impeded, and the ability to increase such trust is, in turn, is affected negatively (Jakoet-Salie 2018).

# **Research Problem**

Complaints is a measure that can be used to measure the quality of service rendered by the South African Police Service. The aim is to amend service delivery based on the community's complaints. The Independent Police Investigative annual report for 2006/07 revealed that the South African Police Service received 5412 complaints against its members (Independent Police Investigative 2006/2007).

Northern Cape contributed 462 in this figure, which constitutes 9%. The complaints generated by the Northern Cape was relatively high in comparison to provinces such as Eastern Cape, Mpumalanga and Limpopo which only contributed 7% and 8% respectively (SAPS 2014/19, Strategic Plan).

Of significance is that the Northern Cape is the least populated province in the country. It comprises of 1 million citizens compared to the above mentioned provinces which vary from 4 million to 7 million respectively (South African Police Service 2008). A preliminary investigation revealed that based on information presented in the preceding paragraphs, SAPS management and commanders are concerned with the quality of service delivery. Furthermore, there has been considerable speculation on the reasons for this apparent poor service. Most senior officers assume that the lack of discipline and the demilitarisation of the SAPS is responsible for the poor delivery of services. They believe that although police officers are competent, a professional service is not provided because it demands more effort and input. However, the level of this perceived poor service, the understanding of the concept of service and the reason for such (provided by SAPS) is a serious concern for the community.

# Literature Review Theoretical Literature

#### Services

Services have certain unique characteristics, which distinguish them from goods. A consumer cannot hold a service and look at it before purchasing. Therefore, service organisations often use messages and images in their

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promotional structure to help make the benefits of the service experience more tangible. Service customers often seek reviews and clues to help them judge the quality of a service before they buy. As a result, services underscore the physical evidence of quality (Perreault, Cannon & McCarthy 2008; Lamb, Walstab, Teese, Vickers & Rumberger 2004; Lewis & Boom 1983). There are four service characteristics in service marketing, namely: intangibility; heterogeneous; inseparability from consumers; and perishability. These are expounded upon in the sections below.

### Intangibility

Fitzsimmons and Fitzsimmons (2008:389) assert that services are not physical, they are intangible. When you provide a customer with a service, the customer cannot keep it. A service is experienced, used, or consumed. The services are performances or actions rather than objects; they cannot be seen, felt, tasted or touched in the same manner that you can sense tangible goods (Kotler 2000:429). Service cannot be patented easily, and new service concepts can, therefore, easily be copied by competitors.

Chowdhury and Prakash (2001:496) state that 'an intangible service may require the customer to be mentally or physically present to receive the service'.

Services cannot be seen, touched, tasted, felt or smelled in the same way as physical goods can be sensed. They cannot be inventoried or stored for long periods of time and they are difficult to duplicate. There are usually little or no tangible evidence once the service has been performed. Services are also more difficult to measure than physical products (Grönroos 1988; Kotler 2000; Lamb, Walstab, Teese, Vickers & Rumberger 2004; Lewis & Boom 1983; Palmer 2008).

### Heterogeneity

Dhurup, Singh and Surujlal (2006:40) assert that quality of service performance is inconsistent and unpredictable. The employees delivering the service frequently are the same in the customer's eyes, and people may differ in their performance from day to day or even from hour-to-hour. Ensuring consistent service quality is challenging, because these are heterogeneous across time, organisations and people. Service is sometimes produced in person where the customer is located, and has committed to buy. It is difficult to

achieve economies of scale with personal service. One of the reasons for this is that service suppliers need similar equipment and staff at places where the service is actually provided and where it is difficult to achieve (Fitzsimmon & Fitzsimmon 2006:325).

Services tend to be less standardised and uniform than goods. Quality control and consistency are difficult to achieve because services are labour intensive and production and consumption are inseparable (Lamb, Walstab, Teese, Vickers & Rumberger 2004; Lewis & Boom 1983). Lewis (2007) posits that variability in services often exists because of non-standardisation of delivery. Standardisation and the training of service personnel may help to increase the quality control and consistency of the service delivery process because the staff will understand the customer's requirements and react appropriately (Ghobadian, Speller & Jones 1994).

### Inseparability

Perreault, Connon and McCarthy (2009:234) postulate that service quality is often not consistent because it is difficult to separate the service experience from the provider. Customer satisfaction and customer referrals of respective friends is often influenced by interactions with the organisation employees. With regard to tangible goods, they are first produced, sold and then consumed. On the other hand, services are sold and then produced and consumed simultaneously. Sometimes, the customer is present when the service is being produced and may even take part in the production process. Hence, the production of the service is dependent upon the individual employee in charge of it, the individual customer receiving it and the time taken to perform the service (Wilson, Zeithaml, Bitner & Gremler 2008).

### Service Tangibles

Certain service tangibles vary in terms of existence, design, relevance and service types. Services cannot be produced in a centralised location and consumed in decentralised locations. Hence, the service interaction between staff and customers is an integral part of the service delivery process (Palmer 2008). Kotler (2000) and Foster (2010) agree with this view and add that services are produced and consumed simultaneously. This means that the customer is present during the production of service which makes it impossible for the service provider to hide any quality shortfall (Lau, Akbar & Gun Fie 1998).

### Perishability

Zeithaml, Bitner and Gremler (2006:321), maintain that services cannot be saved, stored, resold or returned. Furthermore, perishability in contrast to goods can be stored in inventory or resold another day, or even returned if the consumer is not happy. The fact that services cannot typically be returned or resold also implies a need for strong recovery strategy when things do go wrong (Wilson *et al.* 2008:19). Service involves action or performances (Lovelock & Wirtz 2007:16). Because the services offered cannot be stored, warehoused or inventoried, supply and demand need to be managed by service organisations (Kotler 2000; Lamb *et al.* 2004; Lewis 2007).

# Nature of Service Quality

Johns and Tyas (1996) argue that service quality is growing in importance in the marketing literature. The early attempts to specify and measure hospitality quality were only concerned with tangibles such as food and physical facilities. However, during the past decades, the intangible services are recognised as being increasingly important in the advanced competitive marketmogeneity and perishability), the quality of services is more difficult for consumers to evaluate than that of physical products (Kennedy 2003). The Service Delivery Improvement Programme (SDIP) of the SAPS defines service delivery as a programme designed to improve the quality of services rendered to the community. To improve the functioning of the CSC, the programme comprises of integrated plans at national, provincial, area and station level which align the priorities of the respective levels, setting out tasks, responsibilities, service standards, resources and time-frames (South African Police Service Act no 68 of 1995). Expectations have a direct effect on perceived quality. The perceived level is then compared to expectations, resulting in a gap or refudiation that may be either positive or negative.

According to Armstrong and Kotler (2010), a service's quality is difficult to judge because services are intangible, inseparable, perishable and heterogeneous. Service organisations thus use cues and images in their physical designs and promotions to make the benefits of a service more perceptible to clients (Perreault, Connon & McCarthy 2009). In addition to these tangible efforts, culture is critical to good service. A service culture is one where an appreciation for good service exists. Providing goods services is expected, natural and one of the most important staffing activities as a service provider (Zeithaml, Bitner & Gremler 2008).

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Customer satisfaction is determined by comparing the perceive service received against the service they expected or wished for, prior to receiving the service (Rust, Zahorik & Keiningham 1995; Lotz 2009; Harris 2003). If the quality of service received is below the expected level, the customer will be dissatisfied. If the service is at the expected level, the quality is considered just 'satisfactory'. Where the perceived level exceeds the expected level of service, customers will be very satisfied, or 'delighted' (Kurtz & Clow 2007). The only meaningful measure of customer service is the customer's perception of the quality of service offered – other measures are irrelevant to the client (Quintana 2006).

The aim of every service sector is consciously to minimise the discrepancy between service delivery and customer satisfaction. The ability of an organisation to determine the customer needs and to effectively meet the needs has a great impact on service quality. Storbacka, Storbacka, Strandvik, and Grönroos (1993) highlighted that service and relationship quality are antecedents to customer retention, and in a direct relationship with profit, since the cost of attracting new customers is higher than to retain existing ones.

### The Dimensions of Service Quality

Quality is usually assessed as the difference between expected and perceived service levels across five dimensions (Fitzsimmons & Fitzsimmons 2006), as follows.

#### Tangibles

Tangibility refers to the appearance of physical facilities, equipment, personnel and communication material (Wilson, Zeithaml, Bitner & Gremler 2008; Bateson & Hoffman 2011). Tangibles are visible evidence of the quality of the service customers receive that customers and are used to judge the service provider. For example, the condition of the physical premises (police stations) is used as a surrogate measure for the care and attention that they expect to receive from the service provider (Fitzsimmons & Fitzsimmons 2006).

#### Reliability

Performing the promised service accurately and dependably means the provider can be relied upon (Wilson *et al.* 2008; Lovelock & Wirtz 2011). If service is provided as expected, it will enhance the customer's perception of

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quality (Brink & Berndt 2010). Reliability is the most critical component of a service, with the customer expecting the service to be accomplished timeously, consistently and error-free each time they interact with the service provider (Schneider & White 2004).

#### Responsiveness

Responsiveness involves the service provider's willingness to serve the customers swiftly (Bateson & Hoffman 2011). It accentuates promptness in handling customers' requests, complaints, and problems with attentiveness and speed. Customers become frustrated and angry if they perceive that they are being ignored. Making a customer wait for no good reason influences the perception of poor quality service (Perreault *et al.* 2009).

#### Assurance

Grönroos (2000) postulates that customers need to feel safe when making a transaction. The assurance dimension includes factors such as having the customers' best interest at heart, staff competence, politeness and respect, and effective communication. Arasli, Mehtap-Smadi and Katircioglu (2005:46) define assurance as the 'employees' knowledge, courtesy and ability to inspire trust and confidence in the customer'.

#### Empathy

Empathy involves caring and paying individual attention to customers. The essence of empathy is conveying, through personalized service, that customers are unique and special and that their needs are understood (Wilson *et al.* 2008). Empathy means understanding the clients' problems, doing things in their best interests and providing them with individual and personal attention; it implies approachability and sensitivity (Grönroos 2000). The significance of employees in service quality and service dimensions can be either positively or negatively influenced by staff actions. Hence, the role of staff in the service delivery process is critical (Lovelock & Wright 2007):

- The appearance of employees, including how neatly they dress, is indicative of the tangible dimension of service quality.
- The reliability dimension of service quality is almost entirely controlled by employees and their actions.

- Customers assess reliability by the actions of frontline employees, and their personal willingness to help customers.
- Assurance is created by employees communicating their personal credibility, thereby instilling trust in the customers.
- Empathy is provided by treating customers as individuals (Lovelock & Wright 2007).

### Measuring Service

Quality equality problem is indicated when a negative gap exists between the service level expected by a customer and the service level that customer perceived that they received. Such a negative gap could lead to negative wordof-mouth about the service being spread (Grönroos 2000). To close such a gap between performance and expectations, it is necessary to be able to measure service performance against expectations. According to Metters, King-Metters, Pullman and Walton (2006), the best way of understanding the nature and extent of this gap is by using the SERVQUAL instrument with the form's customers. The SERVQUAL approach has attracted attention in the public sector services (Donnelly, Kerr, Rimmer & Shiu 2006). The SERVOUAL scale has been rigorously developed (LLosa & Orginsher 2007) and has been used to measure service quality and the service quality gap by many researchers internationally (Fitzsimmons & Fitzsimmons 2006). SERVQUAL asks respondents to rate their expectations and perceptions of a specific service (on a scale of from strongly disagree to strongly agree), for each of 22 pairs (expectations and perceptions) of statements about the five dimensions of service performance (Bruhn & Georgi 2006). For example, the statements relate to the service provider's appearance and dress (tangibles), promises and dependability (reliability), willingness and promptness (responsiveness), knowledge and trustworthiness (assurance), and personal attention and caring (empathy) (Lee & Ulgado 1997; Donnelly, Kerr, Rimmer & Shiu 2006; Sarrico, Miguel, Ferreira & Silva 2009).

# Importance of Employees in Service Quality

Since all of the service dimensions can either be positively or negatively influenced by staff actions, the role of staff in the service delivery process is

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### Measuring Service Quality

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### Empirical Literature

Whereas some researchers established a link between satisfaction and customer retention, others did not. For example, Fornell (1992) holds that high customer satisfaction will result in increased loyalty for the firm and that customers will be less prone to overtures from competition. Similarly, Jones and Sasser (1995) found that an increase in customer satisfaction produces a stronger effect on retention among customers who are at the high end of the satisfaction scale. But the difficulty has always been how to define the scale of satisfaction. However, Coyne (1989) concluded that the relationship between customer retention and customer satisfaction is weak when customer satisfaction is low, moderate when customer satisfaction is intermediate and strong when customer satisfaction is high. Thus, since different factors seem to affect the propensity to be loyal under the conditions of low and high satisfaction, it may be assumed that the form of the relationship between customer satisfaction and loyalty is different at different levels of satisfaction. Furthermore, the relationship between satisfaction and retention is neither simple nor linear which satisfied customers may defect (Jones & Sasser 1995). As a result, there are no simple solutions for turning retention into profits. If it were easy, however, everyone would already be doing it (Keiningham et al. 2007; Vázquez-Casielles 2010). Despite the lack of consensus, they agreed that some relationship exists between customer satisfaction and its retention.

Simon, Seigyoung and Karen (2005) established that as customerorganisation relationships deepen; consumers increase their expertise in the firm's product line and industry and develop increased switching costs. Technical service quality is hypothesised to be a more important determinant of customer loyalty than functional service quality as expertise increases. Both technical and functional service quality is hypothesised to have a reduced relationship with customer loyalty as perceived switching costs increase. Three-way interactions between the main effects of service quality, customer expertise, and perceived switching costs yield additional insight into the change in relative importance of technical and functional service quality in customers' decision to be loyal. They concluded that some relationship exists between service quality and customer loyalty. Furthermore, Wan-Jin (2009) in examining the relationship between web-based service quality and customer loyalty revealed that service quality has a direct and positive effect on customer loyalty. The same relationship is demonstrated by Al-Rousan and Badaruddin

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(2010) in examining the relationship between service quality and customer loyalty in the Jordanian tourism industry. Bolton (1998) also noted that personal characteristics such as customers' gender (Cooil *et al.* 2007; Mittal & Kamakura 2001) and age (Baumann, Burton & Alliott 2005), which was revealed to affect customers' defection decisions considerably in various industries including financial and communication services as well as the auto industry. Lim and Kumar (2008) studied the effect of gender influence and customer retention and concluded that women are influenced by service quality more strongly than men. Men tend to focus on perceived economic value in retention decisions. Purchases by women is more influenced by interpersonal components of the service interactions than men.

#### **Research Methodology**

This study focused on describing the existing situation in three CSCs at one point in time, using a structured-questionnaire as the primary data collection instrument to gather information. The quantitative research method was adopted. The population comprised of persons 18 years and older, who had visited a SAPS CSC in the Kimberley cluster. The largest police station community service centres (Kimberley, Roodepan and Modderivier) were selected as data collection locations because they receive the greatest volume of complaints and are high crime stations.

The survey method was used to collect data (Hair, Bush & Ortinau 2000) from the following SAPS CSCs:

- Kimberley station CSC -45
- Roodepan station CSC -35.
- Modderivier station CSC -20;

Section B included reasons for visiting the community service centre. In Section C, Community's expectation customer satisfaction of service delivery was measured by adapting a questionnaire format initiated by Parasuraman *et al.* (1988). This questionnaire has been psychometrically tested. The mentioned questionnaire is designed in accordance with the SERVQUAL Dimensions: Tangibility, Reliability, Responsiveness, Empathy and Assurance. Items on this section were measured on a Five-Point Scales; as shown below:

- 1 = Strongly Disagree, (SDA)
- 2 = Disagree, (DA)
- 3= Uncertain, (UD)
- 4 =Agree, (A)
- 5 = Strongly Agree, (SA)

Section D measured the perceptions of customers of the target group by adopting the Five-point Likert Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly agree.

# **Results and Discussion**

The biographical profile of the sample is presented in below.

# Gender Distribution of Respondents

Male respondents represented the majority of this group (54%). The female respondents held the minority (46%). The difference (7%) indicates a relative even gender distribution. The gender variable was relevant to acquire a better understanding of the uniqueness of each individual. Statistically, it is important to note the different perceptions of the different genders within the organisation and community. No differentiation is made between transgender because every person is seen as an individual.

# Age Distribution of Respondents

The highest number of respondents was in the age category: 35 and 39 (31%), followed by age group 30 and 34 (23%), and the age category of 45 and 50 (12%) and (7%) 51 and older.

# Marital Distribution of Respondents

The majority of the respondents (49%) were single, while 28% were married. A minor segment of the respondents was divorced (8%).

### Extent of Satisfaction of Service Delivery by the SAPS

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Dimensions	Number of items	Reliability
Tangibles	4	Good
Reliability	5	Good
Responsiveness	4	Good
Assurance	4	Good
Empathy	5	Good
Overall	22	Good

Average communalities score of the dimensions.

Source: Parasuraman (1988b)

The overall Cronbach alpha of the score revealed that the research instrument was statistically reliable with a high degree of consistency to score each dimension of the expectations and perceptions in the various categories.

Frequency table for customers' expectations of SAPS service delivery

Dimension	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
No	1	2	3	4	5		
<b>Dimension 1:</b>	Dimension 1: Tangibility						
C1	45	48	1	1	2		
C2	43	50	1	2	1		
C3	44	47	2	2	2		
C4	47	44	1	2	3		
Dimension 2:	Reliability						
C5	60	34	1	1	1		
C6	49	45	0	1	2		
C7	66	28	0	1	2		
C8	59	35	1	1	1		
C9	35	58	0	2	2		
Dimension 3: Responsiveness							
C10	62	30	2	1	2		
C11	62	33	0	1	1		
C12	63	29	0	2	2		
C13	36	57	0	2	2		

Dimension 4: Assurance							
C14	62	32	1	1	1		
C15	60	34	1	1	1		
C16	58	35	0	2	2		
C17	55	39	1	1	1		
Dimension 5:	Dimension 5: Empathy						
C18	61	33	0	2	1		
C19	63	29	1	2	2		
C20	65	29	1	1	1		
C21	59	33	2	2	1		
C22	49	45	1	1	1		

Frequency table for customers' perceptions of SAPS service delivery

Dimension	Strongly	Agree	Uncertain	Disagree	Strongly	
	agree		Uncertain		disagree	
No	1	2	3	4	5	
Dimension 1: Tangibility						
D1	61	30	2	2	2	
D2	58	30	2	3	4	
D3	68	24	2	1	2	
D4	76	16	1	1	3	
Dimension 2: Re	liability					
D5	73	20	1	2	1	
D6	89	3	2	2	19	
D7	76	14	1	2	1	
D8	87	8	0	1	1	
D9	87	8	0	1	1	
Dimension 3: Responsiveness						
D10	87	6	1	1	2	
D11	57	36	1	1	2	
D12	61	33	1	1	61	
D13	58	35	2	1	1	
Dimension 4: Assurance						
D14	89	3	1	2	2	
D15	93	1	1	1	1	

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D16	91	1	0	1	4
D17	78	13	2	2	2
Dimension 5: Empathy					
D18	75	14	4	3	1
D19	86	1	4	4	2
D20	89	2	1	2	3
D21	85	5	3	2	2
D22	80	12	2	1	1

### Results

Demographic factors were considered when viewing customer service quality. Lim *et al.* (2008) identified the significance of demographic characteristics to measure service quality. The researchers noted that demographic characteristics, *inter alia*, gender, age group and marital status can be considered to measure service quality (Kumar & Lim 2008). Aspects such as reliability are acknowledged important factors in customer evaluation of service quality - customer loyalty (Hensher *et al.* 2003; Tyrinopoulos & Aifadopoulou 2008).

The findings revealed that all the service quality dimensions have a significant relationship with customer loyalty. Zeithaml *et al.* (1996), observed a significant relationship between service quality and loyalty. Cronin and Taylor (1992) highlighted divergent results and did not find a direct relationship between quality and loyalty. However, they concluded that service quality had less of an impact on purchase intentions than consumer satisfaction and quality is an antecedent of the latter. For Cronin *et al.* (2000), this apparent contradiction is an indication that quality provides only a partial view of customer loyalty and that "models of consumers evaluations of services that consider individual variables or direct effects are likely to result in incomplete assessments of the basis of these decisions". The outcome supports the study by Oyeniyi and Abiodun (2008) who investigated the relationship between customer service quality and customer retention of mobile users in Nigeria. A moderately positive correlation (0.506) between the variables (r = 0.506, n = 132, p <0.01) was revealed.

In summary, the study determined the effect of customer satisfaction of service quality provided by the SAPS to the community, and found that customer satisfaction of service quality delivered by SAPS was measured perceptually. The outcome revealed further the extent of customer satisfaction of the services of SAPS, the customers were 'satisfied' (Mean: 4.00-4.99) (reliability good). All the dimensions of the customers service included: tangibility, responsiveness, assurance, empathy, reliability. However, while empathy and reliability had a significant positive effect on customer satisfaction, none had a negative impact on customer satisfaction. The study in its findings proposed a conceptual model to explain the relationship between customer satisfaction and services delivered by the SAPS. The rationale for a model was based upon the argument by Zeithaml, Parasuraman, and Berry (1990:7), that a conceptual model in service quality enables management to identify quality problems and thus help in planning for the launch of quality improvement programmes thereby improving the efficiency, profitability and overall performance. The model adopted in this study is the original gap model by Parasuraman, Zeithaml and Berry in 1985, and refined in 1988 and 1991).

**Gap 1 (positioning gap)** – not knowing what customers are expecting from the service, usually due to insufficient marketing research or poor internal communication; failure to utilise feedback, or sometimes it's due to an organization's structure with too many levels of management.

**Gap 2** (specification gap) – is concerned with the difference between what management believes the consumer wants and what the consumers expect the centre to provide. It is caused by the unwillingness or inability on the part of the organization to change the way a service is delivered in order to meet or exceed the customers' expectations.

**Gap 3** (**delivery gap**) – is concerned with inability of staff to perform a service at the level expected by customer and as specified by the organization. This gap is related to the human elements involved in service delivery – the Staff. It can be caused by disgruntled or poorly motivated workers, where there is lack of proper supervision, or even the lack of skilled workers who are critical to the overall service quality experience.

**Gap 4 (communication gap)** – exists when the promises communicated by the provider do not match delivery usually caused by overzealous marketing that creates unrealistic expectation that cannot be met or exceeded. Subsequently the promises do not match delivery.

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**Gap 5** (perception gap) – is the difference between the consumers' internal perceptions and expectations of the services. It is noted that Gaps 1 to 4 (lie within the control of the organization) can be analysed by providers to determine the cause(s) and change(s) to be implemented to reduce or eliminate Gap 5.

Words of mouth Personal Past communication needs experiences Expected service Customer Gap Perceived service CUSTOMER MARKETER Service delivery External communications (pre and post Gap 1 Gap 4 to customers contact) Gap 3 Translation of perceptions into service quality specifications Gap 2 Management perceptions of customers expectations

**Figure 1: Service Quality Model** 

To operationalise service quality using this model, a 24-item scale comprising of the five dimensions: reliability, responsiveness, tangibles, empathy and assurance was used to identify where gaps in the service existed and to what extent. The framework pre-supposes that service quality is the customer's thinking that they are getting better service than expected. It's worth noting that both sides of the gap are in the customers mind (manifesting the service quality attributes). But as it is with any research tool, researchers have expressed concerns and criticism of the original instrument including: the five dimensions being unstable across recreational services (Shonk 2006), domains of service quality may be factorially complex in some and very simple and unidimensional in others (Babakus & Boller 1992:253), failure to draw on other disciplines such as psychology, social sciences and economics (O'Neil & Palmer 2004:433). These remarks notwithstanding, the researcher agrees with Parasuraman (1991) that this is a good diagnostic tool hence suggests that for this particular study, the instrument was customized for the fitness sector including additional relevant questions as proposed by (Brown, Garland, Jeffrey, Jameson & Leroi 1993:285).

Based on the findings of the study, the following conclusions can be drawn:

- The customers were satisfied with the quality of service delivered by the SAPS.
- Of the service quality dimension, reliability, empathy, tangibility, responsiveness and assurance had a significant positive effect on customers. None had a negative effect on customers and rated 4 and above.

### Recommendations

Based on findings of the study, the following recommendations were proposed.

• The SAPS should have measures of performance based on rigorous clients' satisfaction outcomes. The measures should be monitored regularly by an independent auditor such as a market research company which should be recruited to monitor clients' and SAPS staff. This would close the gap between actual performance and expectations.

- Quality service must start with education: the SAPS must invest in training the employees at all levels to improve skills in order to facilitate changes in behaviour and attitude. A client service course must be conducted among SAPS members, particularly those who work at the Community Service Centre. Moreover, attendance must be compulsory.
- SAPS must develop a new unit "client care units". The unit head office should be based at the provincial office. Each police station will have two client care members to ensure that all complaints are managed properly, and identify the person responsible for the submission of a report at the end of each month to the provincial offices. This could assist the organisation to establish the number of complaints they receive annually; how many were resolved; and how many remain outstanding and need to be attended to. Two members must personally visit or call all unhappy clients and attend to their complaints.

# Conclusion

The ultimate determinant of SAPS performance is perhaps general public opinion. Irrespective of how good the department might appear in terms of statistics, it fails in democratic terms if the community is not satisfied. Any perception from the broader community of the SAPS' inability to provide efficient services to citizens should be addressed by management. In this regard, the lockdown measures imposed on South Africans and enforced by the SAPS and the military due to COVID-19, will influence public opinion on the role of law enforcement agencies in the country. Public perception cannot be easily reversed by means of the normal organisational change methods or good public relations exercises. Rather, they require radical change intervention. Part of the leadership challenge in any police department is to implement strategies to improve the public's perceptions on performance. The apparent increasing levels of violent crime such as murder, robbery, rape and other forms of aggravated murder and robbery have become a recurring theme in contemporary South Africa. The SAPS needs leaders that can devise strategies, identify weaknesses, and fix problems where policy fails, as well as demonstrate courage, foresight, decisive leadership, and clarity of vision to enhance services to the South African citizenry.

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# **COVID-19, Health Systems Corruption, Economic Priorities and Poverty: The Case of South Africa**

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#### Abstract

The South African government has been hailed internationally for its strategies and tactics in facing the challenges of COVID-19, at least during the initial stages of the pandemic. However, as time has passed, several questions have been raised on a wide range of issues due to key realities of social and economic policies, the responsibilities, capabilities and relationships of state layers and institutions, and the measures undertaken. It became evident after the first week following the lockdown in South Africa, that the deep consequences of chronic corruption at all levels and sectors, especially water and public health, had serious negative repercussions for the poorest of the poor and the marginalised communities. The actual repercussions have not been calculated yet, as priorities have changed significantly. Questions regarding the availability of 10% of the country's GDP (R500 billion), their beneficiaries, and the R130 billion made available through budget reprioritisation have not been answered, with the exception of the hundreds of millions attached to the remuneration of the 200 Cuban medical doctors, while the continuous reports on open and hidden corruption perpetrated by amongst others politicians, administrators, drug dealers, underground illegal operators including fake cigarette producers, and police personnel, continue unabated. Recent research has shown that the shortages of food amongst the poor begun a week before the lockdown and worsened during it. It took almost six weeks

from the start of the lockdown on the 26<sup>th</sup> of March to the topping up of the child support grant by R300 on 6 May, to stop hunger amongst South Africa's poor communities. The article aspires to research, analyse and dissect the direct and indirect effects of corruption and its consequences and repercussions on the impact of COVID-19 to the most vulnerable communities in the country. It deals with corruption, its types, monitoring and assessment, effectiveness and efficiency of the security and enforcement agencies and their operations, as well as their repercussions for the poorest of the poor. Eight telephonic interviews with state officials throughout the country were conducted, four civil society groups directly involved in community and benevolent work participated through an open-ended questionnaire which was administered, using the judgemental sampling frame. All existing national and provincial government documents relating to the period as well as media articles have been searched, classified, and analysed through the separation and categorisation of themes (content analysis). The common patterns, themes, categories, and trends were dissected. The article covered a forgotten aspect of the period as its impact is not only sociological/criminological/historical but also contributes to understanding the existing gaps in government's social policy for the poor. The research aspires to make an original contribution to the 'hidden history' in the COVID-19 conundrum.

**Keywords**: COVID-19, Corruption, thematic analysis, government sectors, social policy

# **1** Introduction

When a reality like coronavirus hits humanity and life throughout the world, it re-discovers the value of its mere existence. The vast majority of people suffer and politicians show their real face, in most cases occasionally, and their success or failure follows them till their last breath. In South Africa as everywhere else, as time goes by, myriads of questions arise as the Covid-19 death toll increases.

From the Spanish flu to Ebola, the success or failure of response depends on the cooperation, coordination and synergy between state and society. When or if the state has the political will, financial capability, solid governance, continental and international cooperation, and the support of the majority of the population, the possibilities for success increase. When corrupttion occurs, the whole society suffers, especially the poor, the marginalised and the vulnerable, and when a pandemic does hit, the existence of a solid and functional health infrastructure and service offers hope. Corruption has negative effects on all aspects and sectors of society, including health.

The article based on the qualitative interpretative paradigm, is an empirical effort aspiring to investigate and analyse the existing evidence connecting the present COVID-19 realities, and the direct and indirect relations between corruption, the existing health system and the poor and the marginalised in South African society.

# The Context

On the 30<sup>th</sup> of January 2020, the World Health Organisation (WHO) declared Coronavirus a 'public health emergency' and on the 11<sup>th</sup> of March a 'global pandemic'. The fast spreading of the virus throughout the world was thoroughly publicised, and soon Africa and South Africa followed.

In South Africa, the country's Institute for Communicable Diseases (ICD) announced the first coronavirus patient on 5<sup>th</sup> March 2020. The government, based on Section 27(2) of the Disaster Management Act of 2002, declared a State of National Disaster which was followed by a 21-day national lockdown that commenced on the 26<sup>th</sup> March 2020. A new body named 'The National Coronavirus Command Council' was established in order to strategically deal with responses and immediate responses and mitigation to the virus. The initial plan against the virus was based on a strategy consisting of a risk adjustment strategy of 5 levels. Level 5 was eased on 1<sup>st</sup> May 2020 to level 4 and on 1<sup>st</sup> June, to level 3. On 2<sup>nd</sup> June, levels 4 and 3 were declared invalid and unconstitutional by the country's High Court, a verdict that has been appealed.

# 2 Design and Research Methodology

To research and analyse the effects of corruption and its consequences and repercussions on the impact of COVID-19 to the most vulnerable communities in the country, the article is based on the utilisation of the qualitative paradigm founded on a reflective, content analysis approach. The article and its research method have their roots in the researchers' experience and writings associated

with both the health sector and the poor and vulnerable throughout the years. A qualitative reflective approach and analysis focusses on the pandemic and corruption content and their effects on the poor and the marginalised. Eight telephonic interviews with state officials throughout the country and four civil society groups directly involved in community and benevolent work took place through an open-ended questionnaire. The judgemental sampling frame was utilised.

All existing national and provincial government documents relating to the period as well as media articles were searched, classified, and analysed through the separation and categorisation of themes (content analysis). All qualitative data was carefully gleaned through these two methods, and were scrutinised thoroughly. The conventional content analysis was followed in this article as the coding categories were derived from the text data. Anonymity and confidentiality were guaranteed to all interviewees.

# **3** Corruption in the Health Sector Internationally and South Africa: A Brief Look

Health care corruption internationally, and in South Africa has devastating effects on mortality, especially infant mortality, and life expectation in general. It takes a very wide variety of practices fluctuating from the 'simple ones' such as bribes, theft, absenteeism, to the more complicated such as supply chain and procurement 'third party collusion', misinformation, false purchases, illegal medicine distribution and faulty prescription (Vian 2008:87-88; Barr *et al.* 2009:226–227).

Several widely accepted research reports (World Health Organization 2000; World Health Organisation 2012:7 - 8; Greer *et al.* 2016:16 - 17) have identified the lack of serious planning, designing and implementation on the part of health leaderships especially in the public sector, as the key to the lack of effectiveness, efficiency, and good governance at all levels of the sector. This is because of the ever-changing environment and conditions that 'ultimately' could lead to corruption because of complexities evident throughout the world, especially in the developing countries. Such realities imply that governments need to build and develop capacities that will be instrumental in transforming operations, structures, systems, and processes in the healthcare terrain that is capable to produce public value for everyone, especially the vulnerable (Greer *et al.* 2016:17).

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It can be understood that such imperatives are even more necessary in the era of Coronavirus. This because as previous experiences have shown, such outbreaks lead to a serious expansion of corrupt practices, especially in terms of resource pressures, including fundamentals such as shortages in crucial human resources and specialised workforce (nurses and medical specialists), as well as poor access and shortages in protective clothing and medicines.

The International Federation of Red Cross and Red Crescent Societies (IFRC), which was in the forefront of the fight against the Ebola epidemic, exposed the millions of USA dollars lost in corruption during the 2012-2014 period (IFRC 2014). During the time of Ebola, corruption was evident in the mismanagement of foreign funds: staff salaries were misrepresented, food and pharmaceutical supplies were duplicated continuously and public servants were perpetually bribed, mainly for allowing people to escape from the quarantined zones (U4 BRIEF 2015).

The massive corruption in pharmaceuticals related to the swine flu outbreak and the *Tamiflu* affair showed the unlimited perversion of corrupt syndicates that convinced the whole world to survive the virus by spending over 18 billion USA dollars to stockpile this medication, which after serious scientific research that lasted years, was shown to be no more effective than *paracetamol* in treating swine flu due to safety and efficacy concerns (Cochrane 2014).

Such pandemics lead to massification problems for hospitals and clinics, meaning that both human, medical, nursing and infrastructure resources, including bedding, were limited. Medical and nursing staff face hourly struggles in the efforts to cope with pandemics such as COVID-19. Research in the Middle East and Africa has shown that such realities inevitably lead to bribes, especially in state establishments (Personal Interview 1, Professor of Medicine, Durban). This means that under the threat of a pandemic as serious as Coronavirus, health professionals at all levels are obliged to set their priorities on those who need it and those who accept bribes need to be punished as an example, given the expected frequency of such gestures from those willing to bribe in order to receive care.

It is widely accepted amongst senior and honest medical practitioners that in such circumstances, the most vulnerable are those who cannot bribe because although they deserve to be on the top of the list, they are positioned at the bottom by unscrupulous 'professionals'. This means that the important issue in all hospitals is that all waiting lists need to be *transparent and open* 

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#### for inspection anytime (Personal Interview 2, NGO CFO, Durban).

A series of analyses of the existing levels of corrupt public health governance systems in South Africa pinpointed a wide variety of actions, relationships, structures, functions, and systems that suffer from the lack of policy, rules and regulations'; coordination in terms of organisational dictates: organisational deficiencies in key systems such as finance, risk management, internal audit, supply chain and procurement; loose and inadequate human resource systems; weak staff capacity leading to perpetration of corrupt practices; conflict of interest; nepotism and perpetual infighting between administrators and politicians. These are all factors leading to corrupt collusion practices with 'middlemen and women' (Pillay & Mantzaris 2017: 58). Within the same context, in the attempt to present the first comprehensive Evidencebased Corruption Index in the public sector terrain in Africa, Mantzaris (2018) utilised the UNDP Oslo Governance Centre to construct an exact comprehensive categorisation of levels and specific acts of corruption. The approach was founded on an exhaustive scrutiny and categorisation of corrupt acts recorded and Section 9 institutions and government sources, content analysis of newspaper reports and personal interviews with politicians and senior administrators, as well as consultants who have direct and continuous involvement in such issues.

The corrupt cases recorded in the chosen provincial Health Department were theft, including medicine cell phones, cars, kitchen equipment and departmental property (289 or 31.1%); absenteeism (196 or 21.1%); fraud, including making use of government stamps to validate fraudulent birth certificates, misrepresenting educational qualifications etc. (100 or 10.8%); absence without leave (56 or 6%); insubordination (44 or 4.7%); negligence (44 or 4.7%); supply chain and procurement fraud (42 or 4.5%); falsification of records for cash (bribery) (36 or 3.9%); desertion of post (26 or 2.8 %) and misappropriation of departmental property 21 (2.3%) (Mantzaris 2018:276).

# Coronavirus, the Poor and the Vulnerable

South Africa's population according to the latest statistics was 58.780.000 in mid-2019, dominated by the 18–34 youth group at 17. 840.000. The youth unemployment stood at 39, 5% at the time, while 28.8% had completed tertiary education. The latest statistics associated with the 2015 Living Conditions

Survey Report has indicated that 33, 4% are considered poor on a multidimensional poverty scale. According to the latest poverty statistics, there were 35, 1 million adults (aged 18 years and older) in South Africa living in poverty in 2015. The number of females living below the poverty line according to the upper-bound poverty line was 49,9% as against 33,0% for males.

At the upper-bound poverty line, 53,7% of non-poor children lived in neighbourhoods with safe play areas compared to 25.7% for poor children (Statistics South Africa 2019a). The Household Affordability Index produced by the Pietermaritzburg Economic Justice & Dignity Group (2019) uncovered the truth of poor families struggle to make ends meet, who suffer from lack of proper nutrition that negatively affects children who face serious problems such as perpetual stunting. The index calculated the cost of foods in a poor household food basket at R3 009.65, while the median wage for black South African households was R3 000. The fact that transport and electricity costs increased substantially meant that poor households ended up spending at least 25% less on groceries.

Electricity increased by 13.07% and petrol by 8%, meaning that transport expenses for the poor, the workers and the lower middle classes saw the taxi fares becoming more expensive. This meant that these social categories of people were left with R1 249.48 to secure all other essential household expenses as the cost of a basic family of four basket of nutritional food was R2 318.97 (Pietermaritzburg Economic Justice & Dignity Group 2019).

The latest Statistics South Africa's General Household Survey released in 2019 showed that social grants were the second-most important source of income for households in the country after salaries. The findings indicated that 45.2% of households depend on the grants, while 64.8% of households receive salaries, remittances, pensions, and businesses. This means that more than one in five South Africans (more than 17 million) rely on state social welfare grants. It was expected that such social protection spending on social protection would increase from R193 billion this financial year to R224 billion in 2021(Statistics South Africa 2019b).

The situation of these social groups, predominantly black, has at least during the beginning of the pandemic not really changed substantially. This because families who, for example, receive a R420 child support grant, are 25% below the food poverty line of R561 per capita per month. Empirical research has shown that basic nutrition for a 10-13-year-old child costs R 568.41 per month (Pietermaritzburg Economic Justice & Dignity Group 2019).

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# 4 The Realities: Corruption, Health Systems, and the Poor

Despite the hopeful start in the fight against COVID-19 in the first period of the lockdown, reaching a total number at 48,285 cases and 998 deaths, an increase of 46 per day by the 7 June created a new feeling of scepticism, pessimism, and despondency from the higher state echelons to the locked up closed spaza shop in Section L, Umlazi.

## TABLE 1

Province	Case Numbers	Deaths
Western Cape	31,824	774
Eastern Cape	5,974	101
Gauteng	5,946	47
KwaZulu-Natal	3,108	61
Free State	361	9
Limpopo	227	3
North West	523	1
Mpumalanga	189	1
Northern Cape	114	1
Unknown	19	0

#### Number of COVID -19 cases and deaths per province as of 7 June 2020

#### **Source: The Authors**

In fact, the data presented in Table 1 has shown that such a very noticeable growth in cases day by day indicated that the road ahead would be a massive new wave of coronavirus cases sooner or later. The existing national situation in terms of case numbers shows that the Western Cape is the province that has the highest number of recorded COVID-19 cases and deaths in the country, followed by the Eastern Cape with 5,974 cases and 101 deaths. Gauteng is third with 5,946 cases and 47 deaths. Senior medical academics and practitioners warned openly and publicly that although the Western Cape is at the time topping the death list, it was expected that both the Eastern Cape and Gauteng would be facing major waves of infections in the next few weeks (*City Press* 2020).

In his Presidential official letter, the President of South Africa, pinpointed his serious worries on the fast rise of the infections even though there was prior knowledge regarding the increase because of the existence of the projections via the various existing models. However, despite these facts, he felt strongly that the country could draw 'some comfort' from the understanding that the national lockdown had achieved the main objective which was the 'delaying (of) the spread of the virus', thus providing the state with enough time to prepare the country's health interventions and facilities for the forthcoming spike in infections that was expected (Presidency of South Africa 2020).

A 'social category' based analysis and scrutiny of realities outlined in detail to the researcher from a progressive non- governmental organisation in Cape Town pinpoints several realities. The classified 'hotspot areas' whose populations are expecting government to assist them financially at containing the spread of the virus, are to be found in areas such as the Johannesburg inner city, Soweto, Randburg and various districts around Ekurhuleni, all inhibited by poor, marginalised and predominantly black people. Similarly, in the Western Cape, the hotspot areas are situated in Tygerberg, Khayelitsha, Klipfontein, Cape Town South, and Mitchells Plain, also predominantly poor areas.

(Personal Interview 4, Senior Researcher, Labour and Geography, Western Cape).



Table 2: Number of Covid-19 Cases in the Western Cape

Also on 6 June 2020, This is what the Gauteng statistic District Breakdown situation was.

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# Table 3

District	Total District	Total Recoveries	Sub-District	Total Sub-District	Recoveries Sub-Distric
City of Johannasburg			City of Johannesburg A: Diepsloot, Kya Sands,	284	218
	2 732	2 732 1 391	Dainfern, Midrand, Lanseria, Fourways, Ivory Park City of Johannesburg 8: Randburg, Rosebank, Emmarentia, Greenside, Melville, Mayfair, Northcliff, Parktown, Parktown North	403	191
			City of Johannesburg C: Roodepoort, Constantia Kloof, Northoate, Florida, Bram Fishersville	266	122
			City of Johannesburg D: Doornkop, Soweto, Dobsonville, Protea Gien	452	180
			City of Johannesburg E: Alexandra, Wynberg, Sandton, Orange Grove, Houghton	472	303
			City of Johannesburg F: Inner City, Johannesburg South	542	194
			City of Johannesburg G: Orange Farm, Weilers Farm,	176	99
			Unallocated	137	84
City of Tshwane		709 354	City of Tshwane 1: Ga-Rankuwa, Mabopane Winterveldt, Soshanguve, Rosslyn, Karenpark, Wonderboom, Akasia, Nina Park, Orchads, Amandasig, Thereza Park, Pretoria	95	58
			Rorm City of Tshwane 2: Hammanskraal, Temba, Suurman, Dilopye, Stinkwater, Ramotse, New Eesterus, Kameeldrit, Pyramid/Rooiwal, Doornpoort, Kekana	41	15
			City of Tshwane 3: Atteridgeville, Laudium, Pretoria CBD, Harquide, Danudia, Suitoville, Laudium, Pretoria CBD,	238	105
	709		City of Tshwane 4: Lyttelton, Eldoraigne, Waterkloof, Olievenhoutbosch, Rooihuiskraal, Lyttelton, Silverton, Centurion, Brooklyn, Hatfield	153	70
			City of Tshwane 5: East Lynne, Rayton, Cullinan, Dewagensdrift, Refilwe, Silverton, Onverwacht	22	11
			City of Tshwane 6: Eesterus, Lethabong, Mamelodi, Silverlakes, Garsfontein, Lynnwood, Queenswood, Wilgers, Watloo, Equestria, Mooikloor, Brummeria	118	76
			City of Tshwane 7: Ekangala, Sokhulumi, Dark City, Zithobeni, Bronkhorstspruit, Kanana, Rethabiseng	19	12
and the second se			Unallocated	23	7
			Ekurhuleni East 1: Etwatwa, Daveyton, Brakpan, Tsakane	84	56
			Ekurhuleni East 2: Springs, Kwa-Thema, Duduza, Nigel	72	37
City of Ekurhuleni 1 140		1 140 582	Ekurhuleni North1: Birchleigh, Birchleigh North, Bonaero Park, Crystal Park, Erin, Ethafeni, Kempton Park, Olifantsfontein, Tembisa, Winnie Mandela	311	179
	1 140		Ekurhuleni North 2: Bedfordview, Boksburg, Chief Albert Luthuli, Dan Kubheka, Edenvale, Endayeni, Esangweni, Itireleng, Kemston, Lethabong, Ramaphosa, Reiger Park, Van Dyk Park	320	167
			Ekurhuleni South 1: Alberton, Brackenhurst, Eden Park, Primrose, Germiston, Leondale, Dawn Park, Tswelopele, Vosloorus, Villa Liza	213	103
			Ekurhuleni South 2: Thokoza, Greenfields, Katlehong, Moleleki, Zonkizizwe, Palm Ridge, Moleleki, Tsietsi Sunrise View, Tamaho, Khumalo, Motsamal	88	32
			Unallocated	52	8
Sedibeng 1			Lesedi	14	5
	127 37	37	Emfuleni	18	28
			Unallocated	13	
			Mogale City	144	44
	E10	510 64	Rand West City	57	15
West Rand 5	510		Merafong City	255	5
Unallocated	408		Unallocated	54	
Total	5 626	2428			
Deaths	47	100000			

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District	Total District	Total Recoveries	Sub-District	Total Sub-District	Recoverie Sub-Distri
City of Johannesburg	2 732	732 1 391	City of Johannesburg A: Diepsloot, Kya Sands, Dainfern, Midrand, Lanseria, Fourways, Ivory Park	284	218
			City of Johannesburg B: Randburg, Rosebank, Emmarentia, Greenside, Melville, Mayfair, Northcliff, Parktown, Parktown North	403	191
			City of Johannesburg C: Roodepoort, Constantia Kloof, Northgate, Florida, Bram Fishersville	266	122
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			Unallocated	137	84
			City of Tshwane 1: Ga-Rankuwa, Mabopane Winterveldt, Soshanguve, Rosslyn, Karenpark, Wonderboom, Akasia,	95	58
			Nina Park, Orchads, Amandasig, Thereza Park, Pretoria North		
			Dilopye, Stinkwater, Ramotse, New Eesterus, Kameeldrit, Pyramid/Rooiwal, Doornpoort, Kekana Gardens, KekansStad, Marokolong, Randstown, Kanana	41	15
			City of Tshwane 3: Atteridgeville, Laudium, Pretoria CBD, Hercules, Danville, Saulsville, Lotus, Pretoria West	238	105
City of Tshwane	709	354	City of Tshwane 4: Lyttelton, Eldoraigne, Waterkloof, Olievenhoutbosch, Rooihuiskraal, Lyttelton, Silverton, Centurion, Brooklyn, Hatfield	153	70
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			Ekurhuleni East 1: Etwatwa, Daveyton, Brakpan, Tsakane	84	56
			Ekurhuleni East 2: Springs, Kwa-Thema, Duduza, Nigel	72	37
City of Ekurhuleni 1 140		140 582	Ekurhuleni North1: Birchleigh, Birchleigh North, Bonaero Park, Crystal Park, Erin, Ethafeni, Kempton Park, Olifantsfontein, Tembisa, Winnie Mandela	311	179
	1 140		Ekurhuleni North 2: Bedfordview, Boksburg, Chief Albert Luthuli, Dan Kubheka, Edenvale, Endayeni, Esangweni, Itireleng, Kemston, Lethabong, Ramaphosa, Reiger Park, Van Dyk Park	320	167
			Ekurhuleni South 1: Alberton, Brackenhurst, Eden Park, Primrose, Germiston, Leondale, Dawn Park, Tswelopele, Vosloorus, Villa Liza	213	103
			Ekurhuleni South 2: Thokoza, Greenfields, Katlehong, Moleleki, Zonkizizwe, Palm Ridge, Moleleki, Tsietsi Sunrise View, Tamaho, Khumalo, Motsamai	88	32
			Unallocated	52	8
			Lesedi	14	5
Sedibeng	127	37	Emfuleni	82	28
			Unallocated	13	4
			Mogale City	144	44
	E10	64	Rand West City	57	15
West Rand 51	510	510 64	Merafong City	255	5
Unallocated	408	-	Unallocated	54	
Total	5 626	2428			
Deaths	47				
Deaths	47				

<u>Gauteng Health</u> @GautengHealth #COVID—19 #GautengCOVID19 https://twitter.com/GautengHealth/status/1269559311988150274

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The Western Cape Department of Health received a clean audit for the 2018/2019 financial year in consolidated audit results released by the country's Auditor General. It was achieved for the first time in the history of the sector and the report attributed it to implementation of action plan, established procedures and policies and effective leadership culture (AGSA 2019).

Such an achievement, however, does not change a few realities, as the Western Cape for over a decade attracts substantial number of internal and foreign migrants, the vast majority of whom are poor and unemployed, seeking a better future for their families. Migration in all its aspects is a key demographic process as it changes several social realities at all levels of life, such as age distribution, employment and the labour market, leisure, and crime tendencies. Statistics South Africa estimated that for the period 2016–2021, the Western Cape experienced an influx of 311 004 immigrants, the second highest after Gauteng that attracted 1 048 440 (Statistics South Africa 2018a). Of the Western Cape immigrants, 140 000 were from the Eastern Cape, the vast majority looking for employment and a better life. The Eastern Cape has remained for many reasons a predominantly rural district, with limited job opportunities (Personal Interview 3, Economist and Consultant, Eastern Cape). Both external and internal migration in South Africa, especially the latter, are not recent phenomena, especially after 1994, as internal migration in the country has become an act and movement of sheer necessity, a search for a job. better educational opportunities at all levels, and better health (Personal Interview 4, Senior Researcher, Labour and Geography, Western Cape).

In this context, the emigration of Eastern Cape residents to Western Cape is one of the reasons that has made the latter the receiver of most immigrants in South Africa, according to the latest statistics (Statistics South Africa 2018 b; The South African 2018). Another reason for mass migration from the Eastern Cape is the belief or general perception that the province and its political and administrative leadership have a strong tendency to corruption. Given the scientific predictions by top medical scientists indicating that even though at present the Western Cape tops the death list, it was expected that both the Eastern Cape and Gauteng would be facing major waves of infections soon. It was felt that an exploration of the Eastern Cape's Health Department's historical and present background and the corruption effects on the poor and the vulnerable, would make the connection a thoughtful experience.

During the first 15 years of the new millennium, the Eastern Cape Department of Health was a terrain of multiple corruption, clientism, nepotism, fraud at all operational levels and sections. In preliminary forensic investigations that lasted a few years and undertaken by the Eastern Cape Provincial Health Department, the SIU (Special Investigating Unit), (SIU), Asset Forfeiture Unit and the SA Revenue Service, evidence emerged that 8 034 employees of the Provincial Department of Health were directors of active companies for years. It was reported that 929 of them were listed as suppliers for the Health Department. In addition, 235 of those 8 034 members had received payments of R42.8 million from the department that included R7.3 million for the provision of medical support staff, R3.8 million for an emergency services staff member, and R 3.5 million and R4 million for engineering support staff. At another level, it was suspected that 544 departmental workers were ghost employees after it was established that they had produced invalid identity numbers, while it was also discovered that there were 35 spouses of departmental employees involved through their links with 35 companies, which throughout that period had received payments of R11 million. (Van Rooven 2013). On this case alone, the amount mentioned in the preliminary report was R1.4 million. However, corroborated interviews with two civil servants in the province indicated that on the 4<sup>th</sup> of February 2013, *The Times* newspaper reported that a leaked document in its Editor's possession indicated that as many as 23 221 of the health department's 56 000 employees were directly involved in providing direct services to the Department as well as goods (Personal Interviews 5 and 6, Middle Managers, Eastern Cape). In the same Report, the Department of Health denied these specific allegations, confessing that only about 9 000 employees were listed on their supplier database, a fifth of all employees (Personal Interviews 5 and 6; Van Rooyen 2013).

In one of what has been described by a number of those present pre-Christmas 'anti-corruption meetings' organised by the then leadership of the Health Department in December 2012, and attended by over 150 senior officials in capital Bhisho, a forensic investigation undertaken by Price Waterhouse Coopers pointed to a senior accountant that had been awarded 13 contracts to companies owned by her sister-in-law, sisters, a niece and her husband, worth R4 million, while she kept all these transactions meticulously in her professional diary. These contracts were guaranteed especially during the period between 2008 and 2009, as the senior accountant colluded with at least 5 managers in the financial and internal audit departments. Such issues of hard-core corruption and fraud led to over 1000 staff dismissals or cases where people were 'encouraged to resign' in the three years between 2010 and 2013, including the Superintendent General of the Department, who was the senior manager leading the anti-corruption fight (Personal Interview 7, Retired Senior Manager, Eastern Cape).

The Times Live February article produced an official document which showed that a former Chief Financial Officer siphoned off almost R7-million in payments to close relatives after a senior manager of the Department took it upon himself to follow paper trails and official documents while scrutinising existing and past relationships amongst employees and service providers. It was discovered that 1939 suppliers of medical equipment and service providers possessed more than one bank account, a fact that enabled them to receive duplicate payments for the same product or service a fact that ultimately led to a R300-million theft. Over the years, stamped and approved blank invoices from departmental officials allowed companies including bogus ones, to fill in amounts for payments which they thought could be acceptable and paid up. Over the years, the CFO's husband's payments included R1.3 million for stationary and paid more than R3-million to her daughter's catering company, in 230 payments, most of them between 2007 and 2010. She was fired for gross misconduct in 2011 after a disciplinary hearing. She lost a Labour Court case, an arbitration hearing that her ruled the dismissal was fair (Child 2013; Personal Interviews 5 and 6).

For several years, it was a well-kept secret in the whole province that the Eastern Cape Health Department was diverting money away from hospitals including Cecilia Makiwane Hospital, a case that was investigated by the Hawks. The Hawks were seeking evidence of fraudulent pay-outs of more than R110-million by the department, which were re-directed to the pockets of senior ANC officials in the province. This even though a whistle blower provided evidence that the Department paid the Coega Development Corporation (CDC) R111-million in management fees. This payment was done without invoices or service-level agreement. Several ANC legislature members and senior party politicians convinced the Department to pay Coega, a stateowned entity, this massive amount (Personal Interview 8, Senior Journalist and NGO Board Member, Western and Eastern Cape).

The funds were diverted from the 38 urgent hospital projects for the 2018-2019 financial year. This was done even though the payment was irregular and a portion of a R150 million arbitration award, following a battle between the Eastern Cape Department of Health and the entity. The massive payment was challenged in an internal arbitration that found the payment

legitimate because there was no real objection to the issue on the part of the Department of Health regarding the method or value that determined the amounts in dispute. Despite been approached to deal with the issue both the Hawks and the SIU did not respond (Jika 2019; Personal Interview 9, Senior Civil Servant, Gauteng; Interview No 4).

Interestingly, the senior manager responsible for technical and infrastructure management, who exposed the details of the above, had his services terminated three months before the tribunal, after he had prepared the documents exposing the issues and deals between Coega and the Department of Health. In his internal inquiry, he was charged with misconduct for contravening provisions and a few other relevant prescripts in the senior management handbook (RSA 2020; Personal Interviews 5 and 7). Because of these realities, the research of a renowned investigator of public service in the province showed conclusively that in 2012, 17 hospitals and 168 clinics lacked piped water; 68% of hospitals lacked essential medical equipment; 16% of the facilities had no telephones and were accessible by road only under good weather conditions; 42 health facilities operated only via generators as they had no proper electricity, and their staff vacancy rates stood at 46% (mostly clinical posts), meaning that in order to be filled, an additional R9 billion was needed (Bateman 2012).

Additional specialised empirical research in the province during the same period pinpointed the proliferation of duplicate payments to single companies. A forensic investigation indicated that duplicate payments amounting to R34, 109,375.56 were found. In addition, tender fraud became a norm and the most expensive act of corruption and fraud. It took place in a wide variety of ways, such as the case of tenders by 'multiple' supplier companies owned by the same individual(s) or the officials authoring the tender specifications also benefitting from the tender award. On many occasions, both fraudulent practices occurred in one tender. At another level of corruption, a 'skills audit' discovered that 10,221 employees of the department's 47,000 were receiving government grants illegally (Personal Interview 11, Forensic Accountant, NGO, Western Cape). All these corrupt acts led to the reality of 'one doctor for 120,000 people' as in the case of Madwaleni Hospital, a previously well-run 180-bed hospital in the rural Eastern Cape, with much highly acknowledged success until 2009. By 2012, the area's population of 120 000 was serviced by one medical practitioner. The hospital's organogram showed that there should be 14. The funds had run out. These 13 posts could not be filled as the national Department had placed a moratorium on appointing new critical staff in the Eastern Cape public health system (Kardas-Nelson 2012).

The historical periodization of several corrupt acts in the Department has led to the present situation where there is common belief that the provincial government is hiding important information from the people. It is common knowledge that there were no coronavirus cases in the province in the first four weeks of the lockdown, but while the beginning of Level 4 phase began, the virus had spread in both urban and rural communities. Following a visit by the Minister of Health to the province and the arrival of senior officials and 10 epidemiologists, a quarantine facility was set up in a guesthouse in Cala, a deep rural area. The facility was shut down in two days following community protests and the patients were moved to a hospital, while the government announced that the names and addresses of 120 quarantine guest houses would not be revealed in order to protect the virus victims (Majavu 2020).

While these events were unfolding, it was revealed that continued corruption including the revelation that the private guesthouses used to accommodate Health Department employees for over a year, were owned by politically connected business people; this forced the new Premier to announce a forensic investigation. The Transport Department was also under the spotlight for illegal procurement of sanitisers, having paid R47 million for footbridges that have not been built yet (Personal Interview 12, NGO and CBO researcher, Eastern Cape). The provincial government and the Department of Health have also faced serious problems because of their relations with community care workers and primary healthcare nurses who trace and treat patients who have Covid-19, as several still operate on one-year fixed term contracts without benefits since 1992, earning a R3500 stipend per month. All primary healthcare nurses were demoted to a lower stipend scale in 2012, following their transfer from the municipalities to the Health Department.

There have been perpetual strikes by doctors, nurses and health workers at provincial hospitals in Libode (St Barnabas) and Cacadu (Glen Grey), because of shortage of PPE (personal protective equipment), including masks, gowns, gloves and hair nets, while it has been reported that in the Livingstone Hospital in Port Elizabeth, staff had to re-use PPEs as all washing machines were not operational. While these realities continued to emerge, the procurement process for the purchase of such equipment unfolded slowly, paying attention to detail while a temporary hospital was opened in Port Elizabeth and two quarantine sites were established in the Port Elizabeth and East London stadiums. The question is how these realities can really affect the poor and vulnerable who, despite the increases received by the government in its effort to adhere to the Constitutional rights associated with the provision of access to sufficient food, healthcare services and relief from economic hardship, still suffer.

The situation in relation to fundamental healthcare services for the poor in the Eastern Cape and its relation to corruption has been touched upon. The financial incentives and economic measures put in place by the government need to be examined in the context of the existing financial realities during the period under investigation and the repercussions for the poor and vulnerable communities. The first issue at hand is the harsh reality facing millions of people who have lost jobs, and have not been able to earn an everyday living in the informal sector. As shown earlier, more than half of the country's population lives below the poverty line of R1267 per month, as identified by Statistics South Africa. They were allocated a tenth of the R500 million 'economic relief package'.

A combined University of Johannesburg and Human Sciences Research Council coronavirus impact survey indicated that hunger had become a seriously pressing issue during the lockdown period, as 28% of survey participants indicated they had gone to bed hungry since March the 26<sup>th</sup>, while 18% indicated that someone else in household had the same experience (UJ 2020). Serious questions arose because of the delay of more than five weeks from the 26<sup>th</sup> of March regarding the child support grant increase, as the delay significantly affected the most vulnerable social groups amongst the poor. The promised extra R500 from June to October is an increase for the caregiver and the child, meaning more hunger for millions of children as the closing of schools denotes that there will be no learners' feeding schemes. The caregivers' lack of eligibility for the coronavirus grant and food parcels leads to more hunger for children and families.

The unemployment grant of R20-billion over six months is basically intended for individuals without access to social grants or UIF payments. Given the fact that the prospective receivers are obligated to produce proof of residence, banking details, and identity documents, it becomes obvious that the millions in the urban informal settlements and the rural areas, have almost no chance of qualifying. The 'universal grant' of R350 is lower than the children's grant. Research by the Pietermaritzburg Economic Justice and Dignity Group collected information on food prices in Pietermaritzburg supermarkets which target the low-income market on the 23 April and compared these prices to those which were collected from the same establishments on the  $2^{nd}$  of May (4 days before the lockdown begun). It was found that the cost of the household food basket had increased by R65,67 (1.9%) to R3,473.75 over the first three weeks of the lockdown. However, when comparing to prices before the lockdown started (2 March - 23 April), the cost of the household food basket increased by R252.75 (7.8%) from R3,221 to R3,473.75. (Pietermaritzburg Economic Justice and Dignity Group 2020). As one of the interviewees mentioned:

For us there have been questions that have not been answered yet and they will be never answered because they are either serious or they cannot be answered: Who were the beneficiaries of the R500 billion and the R130 billion from the budget reprioritisation what was the exact cost of the 200 Cuban medical doctors in the end of their mission? What really happened to the perpetual immunity of these politicians and administrators who loot the food parcels throughout the country? All these things were in the newspapers. What about the eThekwini blankets tender? When the SIU announced publicly that they will fight crime and corruption, no one saw them nowhere; they forgot about the drug dealers, the fake cigarette gangsters, the police people stealing. Yes, it was good they increased the money for those who get the social grants, but do they know that food prices have gone up by 40 per cent? Look at the petrol price, look at the municipal rates increases for those who pay them ... then eThekwini spends millions to security companies to chase away Abahlali. The poor are poorer and they starve from a week before the 26<sup>th</sup> till now. If it was not for the NGOs, the CBOs and those who care, more would have died from starvation. Corruption, greed, poverty, coronavirus, immunity for the crooks, the thieves, the conmen (Personal Interview 10, NGO Board Member, Analyst, KwaZulu-Natal).

# 5 Conclusion

There is no doubt that the coronavirus pandemic is a major challenge as the whole world is still in anticipation of the height of the outbreak. There have been international examples showing that it takes such a major and frightening

challenge for a country, a region or even a Continent, to upgrade and develop new visions and realities for peoples' health. This is in fact what took place after the experience of the Ebola outbreaks in West Africa, when the attempts in improving health care infrastructure, systems, and processes, produced results. The reality is founded in the effort to plan, design, and implement initiatives that when achieved, are governed by intensive scrutiny, and further mobilisation of resources that are dedicated towards strengthening and cementing solid health system. This means that outbreaks need to be not only a memory of struggle and death, but also an opportunity to create a space for more research, communication, debate, open, frank and truthful discussions on a matter of life and death. In that spirit, the most important success factor is convincing the state and its institutions to act honestly, transparently and with accountability as the foundations of efficiency and effectiveness.

These are fundamental priorities because corruption is the weakest link in the effort to strengthen the hourly functionality of health systems, which unfortunately become weaker during a pandemic despite the heroic performance of the vast majority of medical, nursing and helping staff at all levels. These are facts that need deep thinking and action because during an outbreak, in most cases the corrupt individuals, groups, and syndicates in all walks of life become so operational that they exacerbate fear, uncertainty, disruption, distractions and even death.

Corruption hampers the governments' response to such a major crisis. The corrupt degrade the quality of service provision sapping healthcare systems. Care providers are turned into day sufferers because of the lack of EPPs and the ever-increasing number of sick patients who are sent back because of the lack of beds, pharmaceuticals, and water. Corruption erodes public trust in government; it is instrumental, during the pandemic, in closing provincial hospitals, undermines social cohesion, and in making supermarket oligopolies richer.

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# Understanding the Effects of COVID-19 on Universities in South Africa: An Evidence-Based Approach

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#### Abstract

The current COVID-19 pandemic which has affected all sectors of society, has not spared South Africa. The initial lockdown initiative by the government to flatten the curve and reduce the spread of the virus was well received, but as time passed, and the effects of lockdown were experienced, the impacts have proved to have some negative results. The country's higher education authorities took the decision to continue online with the academic year, against the traditional face-to-face teaching and learning system. This article concentrates on the impact of COVID-19 on higher education and considers the challenges on the learning environment for students and academic staff. The article is based on the qualitative, interpretative empirical framework, which reflects on the content analysis of primary and secondary sources, and six interviews conducted with purposely selected academics, from three universities in South Africa. The interviewees identified critical concerns which must be considered as they reflect problems faced by the students and academics at all levels. The analysis is informed by the logic of evidence-based policy making.

**Keywords:** education, COVID-19, learning, challenges, on line learning, evidence-based approach

# **Introduction and Context**

The spread of COVID-19 throughout the world had an immense negative effect on all aspects of human life and action, in institutions, organisations, communities and families, as social interaction, a key element of human society, became a memory of the recent past. Inevitably, the educational sector has not been immune, despite the medical science showing that younger populations appear to be in a lower mortality risk category when compared to older adults (Salovey 2020b). The precautions emanating from the pandemic were associated with what has been called 'physical distancing' or/ and 'social distancing', or behaviours that were advised and adopted by the majority of the population wishing to continue living. The rationale was to reduce human to human transmission in highly populated geographical spaces or social networks that are dense, including university campuses (Salovey 2020a; Salovey 2020b). The response to COVID-19 has had extremely serious repercussion for higher education throughout the world in terms of perpetual uncertainties that have led to functional and structural economic and social problems and challenges at all organisational and institutional levels (Adam, Henstridge & Adam 2020; Gerszon, Mahler, Castaneda & Aguilar 2020) The response by universities globally, has been to rapidly amend policy, and implement strategies which would allow for learning to continue through electronic platforms. This called for collective agreements undertaken by all stakeholders and role players (university leaders, managers, academic and administrative staff, students, and institutional councils) to ensure that this was made possible, quickly, in order to facilitate the transition from face-to-face classes to online learning systems (Lederman 2020). This article examines the impact of COVID-19 on higher education and considers the challenges on the learning environment for students and academic staff, through an evidencebased approach.

# **Evidence-Based Decision Making**

Evidence-based decision-making is considered a process instrumental in leading to decisions with regard to a practice or a policy that is chosen. It is grounded in the logic that empirical research evidence, as well as existing relevant field experiential learning and relevant contextual evidence assist in understanding a situation and taking relevant actions. The theory has become the basis of a wide variety of social science and administrative disciplines, and has been utilised extensively in policy decision making. The overall logic is that relying on evidence allows for informed decisions. The contributions of practitioners, researchers, entrepreneurs, discipline specialists, politicians or administrators who are able to offer the most detailed and comprehensive view of the evidence that is expected to strengthen the researcher's information, are considered most suitable. When the collection of such information is complete, the synthesis and analysis of the information is the foundation of decisionmaking processes (Pfeffer & Sutto 2006). Within this process, the collection of information based on experience and knowledge in order to lead to the appropriate and well researched decision-making, is based fundamentally on three directly related dimensions: the best available evidence, the contextual evidence, and the experiential evidence. Their collection and utilisation lead to evidence-based decision-making (*Stanford Social Innovation Review* 2020).

Such a process begins with the gathering of the best available research evidence through the collection of contextual information on factors that are considered to be of key importance for the decision, hence the careful attention to the stakeholders' knowledge, expertise, connections and honesty. The interpretation of the evidence leads ultimately to the application of what has been learnt as it is expected that the three types of evidence are substantial enough to provide solutions to existing problems and challenges (Baba & Zadeh 2012:833-834).

During the application of the evidence stage, the consideration of all collective sources of evidence takes place, then evidence is analysed, dissected, and thought about very seriously, until the decision is taken for it to become prioritised and transformed through a serious and comprehensive deliberation of the research group that could lead to an actionable decision. Such a decision process must be characterised and rooted in the fundamentals of ethical thinking, accountability, cooperation, coordination, synergy, transparency, openness, explicitness, skilled leadership and a well-planned, debated, clearly defined and agreed upon facilitation process (Perkowska 2020). The logic of evidence-based decision making is used as a guide to examine the strategies adopted to move on line teaching at the onset of the pandemic.

## **Research Method**

An inductive-theory generalisation approach was followed based on the knowledge, understanding and experiences of six academics that have direct

experiences of universities and online teaching challenges during the closure of all universities in the country because of the coronavirus pandemic, together with details regarding the pandemic, as documented in the media. The interviewees represented three South African universities based in two provinces (two representatives each from a traditional, a comprehensive and a university of technology). The choice was based on the judgemental sampling paradigm and the interviews were open-ended. The thematic content analysis examined the realities of experiences of key stakeholders and role players at the universities and utilised the experience, knowledge and understanding, the successes, failures and challenges emanating from their personal and professional experiences. Anonymity and confidentiality were guaranteed to the interviewees.

Inductive reasoning is a method of reasoning in which the premises are viewed as supplying some evidence for the truth of the conclusion. It is also described as a method where one's experiences and observations, including what are learned from others, are synthesized to come up with a general truth (Alexandiris 2006; Saunders, Lewis & Thornhil 2012; Lodico Spaulding & Voegtle 2010; Neuman 2003; Bernard 2011; Goddard & Melville 2004).

# Findings

# The Response to the Pandemic

The hard lockdown included regulation on the movement of people and imposed a quarantine or self-isolation, social distancing, restrictions of movement, closure of places that attracted large crowds such as gymnasiums, pubs and night clubs, restaurants, casinos, museums and movie theatres, and included the shutdown of the whole landscape of education, from crèches to universities and technical colleges, as part of the effort to curb the spread of COVID-19. Universities and their staff were obligated to observe the lockdown, and their campuses and operations at all levels were overhauled, including lectures, seminars, tutorials, contact teaching, conferences, graduation ceremonies and research workshops. Throughout the country, all students were instructed to return home, and staff were instructed to work remotely through the utilisation of online teaching mechanisms. Although there were a small number of sporadic attempts by a handful of students to declare their determination not to leave their institutions, eventually the majority of them left their universities for home (Mapanga 2020). The South African government was clear that the academic year would not be lost, which resulted in various responses by institutional leadership.

# The National Institutional Leadership Response

The emergence of the pandemic and the first confirmed death were instrumental in changing the lives of everyone in South Africa. Universities, their students, staff, parents, and everyone involved in their functions and operations were no exception. Under such circumstances, the first thought was how the future of millions of young people would be guaranteed, what steps were required, and how operations would be delivered under such unanticipated challenging, and even frightening, circumstances. The major issue was the appropriate delivery of the academic programme. Universities South Africa (USAf), the membership organisation representing all universities in the country, coordinated and guided the processes required as it was understood that after the first national lockdown became an everyday reality, the most important issue for the higher leadership echelons of the national ministry and all 26 institutions, was to find the best way forward. Such a path of thinking, planning and implementing had only one target: embarking on teaching and learning innovations aiming at salvaging the academic year ahead (USAf 2020). This was an inevitable step forward as the Minister of the Department of Higher Education and Training was clear from day one, that the government's aim was to save the academic year, but there was a responsibility to save lives, hence students would not return to their campuses (Mapanga 2020). The Minister indicated that the department was in the process of implementing a 'risk-adjusted programme', without campus-based academic activity throughout the tertiary institutional terrain, including universities and Technical Vocational Education and Training (TVET) colleges. The reason for the decision was that the risks for the lives of 2,5 million students was too great for the institutions to operate successfully, given the opportunity at the appropriate time to plan and implement critical interventions such as multimodel remote learning systems that are effective at all levels. Such systems should be based on analogue, digital, and physical delivery of learning materials at all levels and this meant that all tertiary institutions were obligated by circumstances to ensure that they forged agreements with mobile operators to guarantee universal access deals for their students. Students expected to be provided by their institutions with material for instruction, as well as distribution of laptops and other devices for all students with National Students Financial Aid Scheme (NSFAS) assistance. The Minister assured all South Africans that there would be stimulus, possible relief, or emergency funding for public institutions in distress (IOL 2020).

USAF's facilitation of a meeting and a briefing by the National Institute for Communicable Diseases (NICD) to all vice-chancellors, regarding COVID-19 and its serious individual, group and societal repercussions followed. The University of Pretoria took medical advice and temporarily disabled the biometric access systems on all its campuses. The University of the Free State established a coronavirus task team composed of stakeholders from executive management, students and infectious diseases experts. The University of KwaZulu-Natal launched a 'war room' as a way of tackling the outbreak, led by its College of Health Sciences, which instituted surveillance, prevention and response measures for detection. Stellenbosch University and the University of Cape Town set up a business continuity management coordinating committee responsible for responding to the virus. The Central University of Technology established an incident-management task team as a proactive step. Rhodes University established a coronavirus task team to direct the university's preventative measures (Makupe 2020). The only group of students excepted from the ministerial directives were the final year medical students, who would return under serious control circumstances 'under strict conditions for 'in-service training' (Makupe 2020). The student return to hospitals would include active participation in examination of COVID-19 cases as the virus continued to spread very rapidly.

Given the realities of the tertiary education landscape in South Africa, it can be understood that all Higher Education Institutions (HEIs), even those institutions which, because of their history and present serious challenges, had to delve into new territories of advancement although they were aware that they are not ready or/and capable of venturing into remote teaching/learning. This reality meant that they felt the necessity of gearing their path into the future for a multiplicity of reasons, the most obvious being what was thought to be a protracted lockdown and the continuous and challenging, deadly uncertainty of the pandemic's future trajectory. The inevitability of cooperation, collaboration and synergy amongst the different institutions would and could ultimately lead the process and the continuity of sharing existing resources and information. They could debate, collaborate on solutions enhancing teaching, learning and research, look jointly for innovative steps forward in terms of the curriculum and the best ways for it to be delivered. Such undertakings can only be progressive steps towards enhancing emergency teaching. The delivery of learning devices for students in time in the continuous efforts to overcome the sector's need for data, was a challenge facing institutions with limited resources. Such institutions can be assisted through creative solutions, especially with students who reside in faraway localities (USAf 2020).

USAf has been adamant from the start that all universities not only made a serious effort to uphold their core functions, but had responded fully to their local contexts and cooperated fully with the government, the health designated authorities, other existing systems, the engineering and biomedical industries, multi-national organisations and civil society organs, in their honest efforts to find solutions to the pandemic. In addition, the institution became instrumental in the efforts to spread and share the realities and resources of remote teaching, learning and research, through reports of how universities ought to navigate Emergency Teaching and Learning in these circumstances.

## The Student Experiences

There is no debate on the issue that COVID-19 has put once more on the agenda the demand for equity and access as the students, together with their academic mentors faced once again the clear life- lines of an unequal educational system 26 years after the dawn of democracy in South Africa. The message from the majority of students, their teachers and mentors and the tertiary institutional leadership is that such problems rooted in the past history of the country need to be faced with new political will and fresh strategic and tactical intent. This despite the fact that according to the official estimate of the DHET Minister the pandemic's financial impact on SA universities was standing at over R3.8bn in mid-August 2020 (Human Sciences Research Council 2020)

The re-imagination of an institution of tertiary education based on the fundamental of South Africa's Constitution and the National Development Plan need to be founded on the lessons, impact planning the way forward for a future founded on equity and access, equality, social and economic justice and the expansion of democracy at levels. In the minds and hearts of students, especially the poor and the marginalised is whether the crisis facing their Universities is a short-term, medium- or long-term realities facing them,

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because they are aware that the existence of financial resources is of crucial importance at all levels. Students, their families and university leaderships are fully aware that all universities are functional or dysfunctional because of their financial situation that in the final analysis determines whether the necessary shift to on-line teaching and learning demands very substantial investments in all aspect of the technological landscape that would guarantee a proper teaching and learning preparation that guarantees the safe return of student in the campuses. Both are significantly capital intensive. These realities are directly and indirectly related with the two interrelated aspects of the country's financial crisis both in its short, medium- and long-term realities that have basically hit the poor and the marginalised (World Bank 2019).

In today's South African realities, the key question of long term financial and fiscal sustainability at all levels is of fundamental importance for university students as the possibilities of government subsidy cuts in university and research funding together with the continuous impoverishment of poor and middle-class families will have a negative effect on present and future students. All of these possible realities have and will continue to have serious negative repercussion on the future of universities and their students at all levels (Locatelli 2018; Stein 2019:144).

Inevitably, while universities throughout South Africa have been obligated to provide- lectures online with the objective of saving the academic year, the key issue identified by the interviewees was the reality of 'rich', 'poor' and the 'middle', identifying social groups of students in all institution's representative of the existing class and 'race' realities in the country. There was a common understanding and knowledge of all interviewees pointing out that what has been called the 'digital divide' was basically rooted in the existence or not of stable internet connections and direct/indirect access to hardware. There were two different groups related to these: those who had it and those who did not. The other important reality was that those who did not have them were those living in deep or semi-rural areas, faraway townships or/and urban informal settlements. As one on the interviewees from the traditional university pointed out:

> The realities for poor students, especially those in the first and second year and many postgraduates were harsh because they faced two key battles, to save the year, and to survive. We had direct contact with numbers of them throughout the country and we saw it all, it was really

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tough, it is difficult to try to find food and money for data and facing what we call focus to pass the year as the university leaderships declared, following the line of the Department of Higher Education. It is easy to talk and preach when you are not aware of the realities young people face in many ways, especially away from the city and the university surroundings and facilities.

There was an agreement amongst all interviewees that one of the most important setbacks within the new environment of technological direction to new knowledge was the disparity that existed amongst students that was a deterrent to the feasibility of innovations. Access to adequate resources, it was believed, is the key to what was described as a 'heavily locked door'. The internet was the epitome of this locked door in this case. Those academics attempted unsuccessfully to understand why a number of the student in their two universities refused to travel to their homes until they were coerced to accept defeat because it was difficult to understand the uncertainty of young students and their fear of possible failure, given the lack of a promised but not delivered laptop and enough data for their small cellular telephone. They knew well what was expected of them, they felt they had the potential, but they lacked the resources. The reality of passing the academic year became a nightmare. It became known that at least one of the three universities represented in the sample tested in one way or another, the readiness of the student to participate on the online teaching and learning exercise, as the university's leadership had realised the importance and difficulties associated with such a major challenge ahead. The problem faced by the same leadership as the interviewee confessed, was that before students responded to this exercise the university had already starting preparations for the teaching programmes of the online classes. It is a reality that such preparations have been thought to be routine for the research universities with lecturing staff and enough preliminary training in utilising existing technological systems and online teaching instruments.

The Minister of Higher Education made it clear that all students registered for NSFAS were guaranteed laptops and free data so that they would be enabled to move forward in their studies and pass the year (Van der Merwe 2020).

There was a division of opinions amongst the respondents in respect of their knowledge depending on the above issue. Both respondents from the
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comprehensive university were clear that a number of students had received data while many had not. There was the knowledge that the Ministry had notified the public, the universities and the students that the purchase of the laptops would be through tenders, hence the delays were expected, but students had serious problems as both of them, especially the most vulnerable ones, felt that they were left behind by both the universities and the Ministry. As one of the interviewees said:

> Students complained in e-mails, telephone calls, social media that they lost valuable academic time and they felt there were perpetually behind and most time was used to catch up. This was mostly evident amongst Honours and Masters through course work and a good number indicated that using their phones for identifying references, sources and typing assignments was extremely difficult and time consuming. The only thing I could do was encourage them to continue, tell them am available anytime as are my colleagues. The question to be asked is how useful is such an offer. This because I and all of us know that under such circumstances, the lectures that are offered on the online meeting platform are on many occasions not the best in quality because the disadvantage is that due to poor connectivity, they just cut in the middle of the lecture. Sometimes the audio is not audible.

One of the interviewees from the University of Technology indicated that this was the case with students who left the university's residence and moved to learning at home: a reality that had serious negative effects of their study patterns despite the fact that they had high performances during the year. The key issue was the serious battle to work under a new, completely different environment surrounded by a number of family members in a relatively small house. The sharing of limited space available then had negative effects, while the fact that they could only afford small phones with very limited storage created very serious connectivity problems. These student realities, it was said, created additional scholastic and human problems for the lecturers who had the duty and responsibility to help in dealing with such student problems and challenges, spending hours in their efforts to assist students in accessing online platforms. Such efforts were concentrating on the fight, sometimes without success, because it is understood that most of these students in need have been

left in such a situation not because of their own fault. Most of these students were determined to learn and they did not wish to fail or drop out. Despite the challenges, they were determined to succeed. Another interviewee from a University of Technology, was adamant that there was no hope for students who have been struggling financially and without resources because of the fact that remote learning cannot be managed without equipment and data, and those students who end up using their cellular telephones are forced to drop out because the connections are of poor quality, the electronic mail systems are dysfunctional and they have life survival problems. This means that the teaching and learning processes and their success are vital for both learners and lecturers, but what are also crucial are the circumstances under which the learners learn and participate in the process, their home environment, and the realities of their circumstances. The reality that surfaced was the shortage of data amongst students; in most cases this simply meant that students were unable to submit assignments on time and such realities led to a lack of productivity. Another problem that was described as serious by the interviewees was the position of the universities towards the large number of their international students, the vast majority of whom had paid more than double when compared to locals, and were facing problems at all levels that could easily lead to psychological problems and fears for their well-being in general. As the present times have been uncertain for everyone, it was felt that the university leadership needed to use the evidence of the experiences of students in order to be able to respond more effectively through their decisionmaking systems to the needs and plight of students.

# The Teaching Staff Experience

There were challenges faced by university teaching and learning processes which management had to respond to at different levels in their respective institutions. All interviewees, with one exception, were adamant that the support that staff was promised, was realised adequately. The university leadership at all levels promised students, parents, communities and society at large, that the online work would be supported fully with all appropriate tools and the whole teaching experience would lead to learning as good as the 'faceto-face' one (Husby & Modinos 2020: 185). Internationally and in South Africa, contact university academic staff have admittedly limited experience

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or/and training in the pedagogical design, planning and implementation based delivery of online teaching and learning (Powell 2020: 420). Such realities lead to the inevitable conclusion that academics with the new 'pandemic-based' teaching responsibilities, have been obligated by realities and circumstances to upskill non-existing knowledge of new teaching methods, teaching and learning platforms familiarity with ever-increasing levels of administrative responsibilities, in the context of a societal complete closed-down of almost every aspect of human society around them. Such initiatives faced challenges including the realities faced by one of the comprehensive universities in the country, where there was an outright rejection of the on-line planned teaching (Molosankwe 2020)

It was agreed that the environment created for the staff and students was conducive to teaching, but the reality was different, as one interviewee from a traditional university explained:

> It is easy for the senior leadership and management of a university to claim success and thus undermine the fact that this success is not complete at all levels, for both students and lecturers. Students have major problems, especially the poor ones and those living in places without electricity, but one needs to understand the realities of the lecturers, because these challenges are really new and not all lecturers and professors are technology experts, most of us with the new duties were really unaware that online teaching is such a long process, it is different, it is demanding because it revolves around different methods, structures, processes, strategies that need to be passed on to the teaching staff. This means that lecturers have to learn new techniques, new things, and new experiences, hence there is the need for training. We have kept in touch with our colleagues everywhere through the unions and those with who we have collaborated over the years. Everyone told us that there has been very limited training all over the place or no training at all. There were a number of colleagues who told us that they were trained for three hours and five hours, both of them in traditional universities, and then we were told that a few other were trained for two to three hours, days after they were obligated to start the online teaching. These are the realities of the whole situation. Lecturers were trained for one or two hours, after a number of weeks of remote learning roll-out.

Another interviewee from the traditional university indicated that in the past and at present, the reality that even full professors had not received serious and comprehensive training is a reason for them struggling with the transition. This means that a lecturer does the serious background work on a specific topic, transforms it into a well-presented slide presentation and readings with footnotes and references, and the students are requested to deal with what they are given. This means that that such a presentation is not extensive enough to significantly cater for the overall and extensive range of the requirements and advanced learning needs of the majority of students. A similar position was expressed by an interviewee from the comprehensive university, who was clear that the problem with this issue differed from one institution to the other for a number of realities related to not only the problems of the lecturers but primarily those of the students, as social inequalities that have widened, made it very difficult for the students who have to cope with a lack of resources.

These and other challenges throughout institutions could possibly be debated, planned and transformed into efforts at all levels towards reviewing the year's calendar, but such an initiative could be thought of as 'tough', 'difficult', 'time- consuming', 'impossible' or even 'extreme'. Such questions were extended to cover the reality that at all universities there were students who, because of their study choice, are obligated to be directly involved in laboratory experiments and practical's. A wide variety of modalities were also needed to be considered by university leaderships very carefully. There was agreement amongst employees of comprehensive and Universities of Technology that in most cases, the challenges facing academics in relation to issues of assessment and evaluation methods in the online arrangement were a major problem for the leadership of their institutions, because of the fact that the timing of such processes were questionable, and was related to the facilitation of the first semester examinations. The present reality dictated continuous assessments based on the online teaching, meaning that the university leadership ought to be prepared for introducing processes of planning and implementing new methods in teaching and administering the outstanding tasks dealing with new assignment projects and other assessments. These did not exist, and if there were beliefs that they did, the interviewees stated, the student monitoring was seriously problematic because of the possibilities and probabilities of student cheating in online examinations and/or tests. At a more human level, there was also agreement by four of the six interviewees, that the reality of life disruption and relentless workload had

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serious negative repercussions on the lives of academics, because of the everyday with data, technology, students, data delays and cut off, assessment and monitoring, all which are creating high levels of anxiety about the present, and the uncertainty of the future.

Lecturers at the traditional and the University of Technology indicated that, a number of the programmes and devices in their on-line operations were dysfunctional and there was a belief that webinars would be a better strategy for the future. It was also stated that one of the key issues for the academic staff of these institutions was the belief that students have high expectations, a reality that has created problems. It was stated that a lack of lecturing assistants and tutors, who could be of help in such operations, exacerbated the existing problems. These realities, it was stated, seemed to have very negative effects on first year students who were struggling to adapt to the online system, and this created a major timing problem for lecturers because of the instructions to email all students who seemed to have extremely limited or had no online activity for a one to-one consultation. It was stated that, the lecturers in these electronic letters indicated that they appreciated the fact that the online learning transition was possibly an overwhelming experience and, in the process, they welcomed direct contact from the students, so all didactic challenges and problems associated with any particular module or the workload could be dealt with. It was also mentioned that a plan for continuing with teaching was necessary and, that, in case the letter was not responded to, it would be repeated. It was felt that such relations and undertakings were extremely timeconsuming for the lecturers. The traditional university interviewees complained that it was an essential to deal with the issue regarding the very extensive amount of additional work required from lecturers in fulfilling their responsibilities through notes on slides and guiding students through content. The same could also be said about the assessment process and its outcomes because it required additionally work, honesty and validity at all levels. These realities are limiting the ability to use synchronous learning, hence the lecturers are obligated to produce well researched and structured lectures. On the other hand, lecturers have to face flooded email boxes because students sometimes do not find the information they are looking for in the first line of an email. Such realities, it was said, were very time-consuming weekly when work had to be prepared and delivered for a number of modules. It was stated that these conditions of lecturers' overtime work had significant negative family and psychological challenges.

The possibilities of alternatives to the present situation was a theme and difficult to deal with because of what was described in general as the 'bureaucratic realities' of the system, both in its 'totality' and its 'systemic components' (the 26 institutions). There was a common belief and understanding amongst all interviewees that there were and there are still, possibilities and probabilities for a number of alternatives that can only become a reality if all stakeholders and role players are prepared and eager to debate them and make decisions in an engaging and sincere manner. Re-working existing realities can lead to new decisions that can work in term of both curriculum and academic calendar transformation.

#### Conclusions

Throughout the various stages of the pandemic, the South African political leadership has ensured the country's population that both during and after the pandemic the government will ensure a thorough and well planned 'kick-start' of the economy through the utilisation of billions of rands (National Treasury2020a; 2020b). One reality that cannot be denied is that the participation of university leadership, academics, and research and administrative staff, is a requirement in the struggle towards combating the pandemic. This article, through its reflections on the analysis of data collected, has highlighted some of the problems and challenges faced by stakeholders and role players at institutions of higher education. Among others, the article showed that access to financial resources, a vital ingredient in increasing the possibilities of an effective response. The research findings further indicate that a key to success in the future depends primarily, but not exclusively, on the acquisition and maintenance of resources that lead to financial sustainability by institutions of higher education. For this to be achieved, the inevitability of increased state funding, and the pursuit of third-stream income cannot be ignored. This article has shown further that, through a reflection on the experiences of students and academic staff, that COVID-19 has encouraged inter-disciplinary and trans-disciplinary efforts towards finding solutions for the move to online learning, which reflects a payer of interdisciplinarity arising out of the crises presented by the pandemic.

Inevitably the future for South African institutions of higher education relies primarily on the ability of their leadership to manage the existing serious challenges, and to think, debate and plan the future. Such a future can only be

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successful when research on the successes of the past and present are studied seriously so that the planning of an innovative, transformative institution can be built or re-built. Analysis of short-term challenges and problems, through the evidence currently being produced through the various experiences of those who make up these institutions, will offer an opportunity to design plans for greater reliance.

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# Towards Student Inclusivity during COVID-19: Testing the #datafree Moya Messenger

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#### Abstract

The coronavirus has highlighted the socio-economic plights of many of our students who are not able to continue learning due to the lack of internet access and the high cost of data. As a result, a large majority of students may be excluded when our learning management systems are not zero-rated. On 15 April 2020, not all Network Providers have zero-rated the University of the Western Cape's iKamva e-learning management system. This has resulted in the need to implement innovative options. This exploratory case study piloted the #datafree Moya Messenger application which should allow 500 students access to instant messages without having data. The pilot performed ten tests to test the usability and accessibility of the application. Nine of the ten tests were achieved. Findings indicated challenges in the initial implementation of the application to the class and the need to have mobile data or WiFi turned on for use. Despite the intention to keep all students connected, the application was not available to iPhone users, so it was not entirely inclusionary. However, it may still be a more inclusive option than using e-learning systems that are not zero-rated.

**Keywords:** student inclusivity, zero-rated, socio-economic conditions, coronavirus (COVID-19), data-free mobile messenger

### Introduction

The World Health Organisation reported several pneumonia cases in China on 31 December 2019. The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Cov-2) was recognised as the causative agent of the coronavirus disease (COVID-19) (Department of Health: South Africa 2020). On 20 April 2020, Coronavirus has since spread to 213 countries, including South Africa (World Health Organization 2020). The coronavirus has led to a significant number of confirmed deaths, globally (World Health Organization 2020). The coronavirus as led to the unprecedented implementation of an initial 21-day lockdown in South Africa from midnight on Thursday, 26 March 2020. The initial lockdown was a avoid 'an enormous catastrophe' among the population (Department of Health: South Africa 2020). Lockdown was further extended by another two weeks on 9 April 2020 (Ramaphosa 2020).

As a result, South African tertiary institutions implemented early recess and vacated students in residences by 20 March 2020 (Nzimande 2020). All institutions were requested to complete a survey to determine their IT capability for offering online learning (Nzimande 2020). The results were due to be analysed by the 27 March 2020, to identify institutions who required immediate assistance. The Minister of Higher Education, Blade Nzimande, has recognised that institutions and students have differing levels of capabilities and access to devices which will impact the implementation of online learning (Nzimande 2020).

Evidence indicates that despite the penetration of mobile phones only 10.4% of South Africans had internet access at home in 2018 (Statistics South Africa 2018). Internet access is higher households in metropolitan areas (17.3%) compared to only 1.7% of rural households having internet access (Statistics South Africa 2018). Statistics South Africa (2018) indicates that households are more likely to have internet access at work, educational institutions or at Internet cafés. Therefore, interventions to achieve online learning must be carefully tailored to be effective, affordable and accessible to the South African population, especially for groups with low socio-economic status.

The inclusion of all students is supported by the Sustainable Development Goal 3: 'quality education for all' (United Nations 2015). South Africa's White Paper 6 has recognised an important fact that applies to all learners: 'particular life experiences or socio-economic deprivation' may lead to learners not learning effectively or may lead to the exclusion from the learning system (Department of Education 2001:7). While South Africa's White Paper 6 predominantly focuses on the inclusion of learners with special needs, this paper focuses 'inclusive education is a movement against exclusion of any kind and a reaction to political segregation and social inequality' (Gudjonsdottir and Óskarsdóttir 2015:2).

The increased pervasiveness of information communication and technology (ICT), such as mobile phones, and increasing internet access shows promise for delivering quality education for all. The use of ICT in education is often referred to as electronic learning (e-learning) or online learning of which mobile learning (m-learning) is a sub-segment (Moore, Dickson-Deane & Galyen 2011). M-learning refers to e-learning applications that are accomplished with the help of mobile technology (Nirgude & Naik 2017).

Learning management systems (LMS) that uses the internet to enable online learning has become widely used since the end of the 1990s (Solomon 2017). LMS allows an easy way for lecturers to upload learning resources, creating tests and assignments, monitor progress and enables the communication between lecturers and students (Solomon 2017). However, the potential of LMS to provide quality education for all will only be realised if the necessary infrastructure to provide internet access exists.

In South Africa, infrastructure and access to the internet are governed by South Africa's National e-Strategy. The strategy encompasses seven key areas:

- 1. *Enabling policies:* South Africa's ICT and related policies should be forward-looking, transparent and predictable to enable inclusive growth and development.
- 2. *Infrastructure:* The digital society will be underpinned by the availability of infrastructure throughout the country. Interventions are thus needed to stimulate both the public and private sector investments building on SA Connect and the introduction of supply-side interventions to promote competition and SMME development in the telecommunications and broadcasting industries.
- 3. *Universal access:* all South Africans should have access to affordable user devices and high-quality services irrespective of geography and social status.

- 4. *Security:* Citizens should trust the ICT environment, knowing that their information and transactions are protected.
- 5. *Content:* South Africans should be involved in the development of local content taking advantage of the global nature of the ICT sector. There is a big scope for South Africa to emerge as one of the leading content industries on the continent and in the world. This must be supported by strong and affordable content rights management.
- 6. *Innovation:* Innovations should be geared toward growing the ICT sector while simultaneously introducing ICT enabled solutions in other key sectors of the economy. Government and society as a whole should focus on the development of local intellectual property and knowledge to encourage local production and manufacturing.
- 7. *Skilling the nation:* A comprehensive skills development programme will create awareness and explain technologies to improve the uptake and usage of ICTs in societies (Department of Telecommunications and Postal Services: Republic of South Africa 2017).

Skilling the nation has effectuated the implementation of a South African National e-Skills Plan of Action (NeSPA) 2012 with the aim of 'Continuing e-Skilling the Nation for Equitable Prosperity and Global Competitiveness in the Knowledge Society' (Department: Communications 2012). Despite the National e-Strategy considering infrastructure (Department of Telecommunications and Postal Services: Republic of South Africa 2017), a strategy does not always translate into ecosystems, such as e-learning, that are operationally effective at a national level.

The problem was highlighted by the Deputy Higher Education Minister, Buti Manamela, who expressed his dismay at institutions who are resuming their academic programmes online on Monday 20 April 2020. He stated in an interview,

> No student should be left behind. Students who have no study gadgets or internet connectivity should not be treated as though they are the cause of #Covid\_19. We will ensure that we take all students along (Khumalo 2020).

He further indicated that teaching online would exclude students from 'poorer background' (Khumalo 2020). Hence, the objective of this study to construct and test an inclusive technological design in higher education.

# **Inclusive Design in Higher Education Model**

South Africa is referred to as the 'rainbow nation' and this is based on the diversity of our people. Evidence indicates that inclusion is dependent on an institutional commitment to addressing the needs of the increasing numbers of diverse students (Lawrie *et al.* 2017). Therefore, inclusivity must be cognisant of the diversity of students that can be based on:

- Educational diversity skills, abilities, educational experience, knowledge;
- Dispositional diversity identity, awareness, expectations, awareness;
- Circumstantial diversity Access to ICT, financial situation, geographical location and
- Cultural diversity Language, ethnicity, religion, social background (Morgan & Houghton 2011).

All four of these diversity factors apply to South African students and will need to be considered when implementing an inclusive technological design in higher education.

Models of inclusivity indicate a need to transition from assimilation (students integrated into an existing system) to making alternative provision (separate policies and practices for particular individuals or groups). The final transition moves towards an inclusive culture (flexible policies and practices focusing on the success of all students) (Al-Khamisy 2015).

Lawrie *et al.* (2017:5) highlight the methods for creating inclusivity through using inclusive pedagogies:

- pedagogies should meet the diversity of learners' needs, and should not create barriers for particular students or student groups;
- pedagogies should enable accessibility and be crafted through consultation amongst a variety of institutional stakeholders;

- assessment should be multimodal and flexible while maintaining academic standards;
- institutions should adopt a more holistic, comprehensive approach to supporting teaching and learning for diverse groups of learners.

The view of including a transformative pedagogy in the inclusive design for higher education is supported by Wood (2015).

#### **Research Model**

Wood's (2015) Inclusive Design in Higher Education model also includes the use of Information Communication and Technology (ICT), which is important for the continuation of learning during the Covid-19 lockdown period. The factors most applicable to this research, namely: institutional factors, individual factors, programme factors, accessibility, usability and personalised learning have been used to create the research model (refer to Figure 1). Each inclusion is discussed in further detail below.



Figure 1 Research model based on Wood (2015)

#### Institutional Factors

The University of the Western Cape (UWC), has a

history of creative struggle against oppression, discrimination and disadvantage. UWC's key concerns with access, equity and quality in higher education arise from extensive practical engagement in helping the historically marginalised participate fully in the life of the nation (University of the Western Cape 2019).

The University has recognised that not all students can engage in online teaching due to a lack of computer devices. Therefore, UWC has launched a crowdfunding appeal, #NoStudentWillBeLeftBehind, to raise funds to purchase computer devices for approximately 7500 students. The allocation of devices to students will be based on the University's need's assessment (University of the Western Cape 2020a).

The provision of devices for students at need will be assisted by the Centre for Innovative Education and Communication Technologies (CIECT) at UWC. CIECT has supported the adoption of innovative e-learning practices (Stoltenkamp 2019). iKamva (Sakai) is the implemented e-learning platform. iKamva is an IsiXhosa phrase which means: 'moving forward, the future' (Stoltenkamp 2019). The iKamva platform allows for lecturers to interact with students through the use of tools, such as tests and quizzes, calendar and course resources (University of the Western Cape 2020b).

IKamva mobile application, the mobile learning management systems, is also available to UWC students (Petersen 2020). The use of the iKamva mobile application was found to be low (24.6%) among third-year Information Systems students, with a preference for using the e-learning platform (Petersen 2020). However, on 15 April 2020, not all Network Providers have zero-rated the University of the Western Cape's iKamva learning management system. Therefore, students would need reliable internet access at home or sufficient funds to purchase data. Based on Statistics South Africa (2018), this may lead to the exclusion of a potentially significant student population.

# **Programme Factors**

Programme factors are likely to differ across degrees and universities. UWC has seven faculties, such as Arts, Community and Health Science, Dentistry

and Economic and Management Science (EMS). Programmes included certificate options as well degrees (University of the Western Cape 2020c). The differences in programmes are likely to impact the implementation of online learning.

Training must be provided to academic staff who are not familiar with online learning. It cannot be expected that a sudden change to online learning for programmes that are traditionally taught face to face will be seamless. Hence, New York University moved classes with the highest enrolments online first and also determined which courses could not use this medium (*The Chronicle of Higher Education 2020*).

Programmes cannot run in isolation and there is still a need to provide forms of programme administration. Examples of the required administration may be deregistering students from programmes who will be unable to engage in online learning. Research indicates that academic or administrative work can be done in isolation or by using remote consulting (Cao *et al.* 2020).

However, the literature supports that demographics and individual instructor differences are the prominent factors that may influence the success of online learning (Fish & Snodgrass 2018). Programme factors shown to influence instructor perspectives on online education includes 'program difficulty, interaction between students and instructors, interaction between the student and the instructor, cheating and technology preference' (Fish & Snodgrass 2018:15). These programme factors must be considered when designing an inclusive model.

#### Individual Factors

Programme factors alluded to the importance of considering student demographics. The exclusion of South African students is based on the fact that more than 50% of students enrolled in the higher education system are from disadvantaged, black, working-class households who reside in townships or villages (Mzileni 2020). This demographic is evidenced by a significant percentage of students who are dependent on the National Student Financial Aid Scheme (NSFAS) (Mzileni 2020).

The pandemic has also raised the need to address mental health and well-being, with students in China suffering from higher levels of psychological distress (Ho, Chee & Ho 2020). Evidence indicates that increased anxiety in Chinese college students was caused by 'economic effects,

and effects on daily life, as well as delays in academic activities' (Cao *et al.* 2020:1). The view is supported by a quote from a University of Cape Town (UCT) student,

What's stressing me is the fact that it's my final year, I obviously set goals for myself now I'm not sure anymore ... I wanted to do really well this year so that applying (for jobs) is easy for me next year, now this whole setup is discouraging (Mofokeng 2020).

Lockdown is also resulting in isolation from others during the learning process that can reduce motivation (Osguthorpe & Graham 2003). The statement is evidenced by a quote from a UCT student,

My problem is that I tend to procrastinate a lot, on campus I avoid that by going to the labs and getting some work done before I head home (res), now I'm stuck at home (Mofokeng 2020).

However, it is noted that 'ICT can have a positive impact on learners in further education in areas such as student motivation, retention, attendance and attainment' (Walker & Logan 2009:13).

Also, 18.1% of the South African population lives in informal – or traditional dwellings (Statistics South Africa 2018). Informal- or traditional dwellings frequently have limited or no access to water and electricity. However, 'having adequate access to appropriate forms of energy is critical for improving living standards, health and reducing poverty' (Statistics South Africa 2015). The following quote from a UCT student supports this point,

It's depressing. I hope it won't take that long for UCT to open because the living situation at home is not conducive to studying (Mofokeng 2020).

# **Personalised Learning**

Online learning provides asynchronous education as students can learn at a time and place that is convenient for them, without having to be present on campus. Therefore, it allows students the ability to personalise their learning (Orfanou, Tselios & Katsanos 2015). The use of m-learning and e-learning

allows students to access educational content, regardless of time and location. However, without zero-rating, the use of m-learning and e-learning are not viable options as they will not be accessible to all students.

However, UWC's iKamva platform allows for synchronous- and asynchronous engagement. Asynchronous engagement is usually less dataintensive as learning does not have to occur in real-time. An example of asynchronous engagement on iKamva is discussion forums (University of the Western Cape 2020b). Discussion forums allow for lecturers to post topics, related to course work. Students can post responses at a time that is most convenient for them. Lecturers can set a due date for submission and discussion forum posts may be allocated a grade book. Lecturers and fellow students can provide feedback on responses. The feedback allows for lecturer and student engagement. Additionally, responses can be used as a form of assessment when used in combination with the grade book (CEICT 2019).

Synchronous engagement may be more suitable for students who require immediate responses and feedback. Synchronous engagement allows for real-time interaction and can be implemented through the use of tools such as Google Hangout and iKamva's BigBlueButton. However, the use of synchronous engagement comes at the expense of higher data costs and may result in students being excluded.

#### Accessibility

Friemel (2016) contends that internet access is strongly correlated to sociodemographic factors such as income, education, age and gender. A 'digital divide' results from disparities in these factors: the digital divide refers to the gaps in digital technology that lead to social exclusion and the unequal distribution of resources and life chances (Friemel 2016). Therefore, the implementation of online learning may not be accessible to the South African population who experiences 'technological forms of exclusion' as well as educational and income inequalities (Gillwald, Mothobi & Rademan 2017). Therefore, the resulting digital divide between rich and poor is notable (Gillwald, Mothobi & Rademan 2017), a divide which likely hinders the achievement of quality education.

Given the need to find more accessible alternatives to LMS, the use of a mobile instant messenger (MIM) was considered. The consideration is based on the MIM serving as a substitute for a LMS (Pimmer *et al.* 2019) and the

growing number of MIM users, such as WhatsApp, in South Africa. WhatsApp in South Africa has overtaken Facebook as the most active social media platform (Kemp 2019). The literature indicates that the MIM in education allows for 'temporal [anytime and anywhere], user-friendly, minimal cost, and multi-modality features' (Tang & Hew 2017:85). The uses of MIM in education includes 'journaling, dialogic, transmissive, constructionist with peer feedback, helpline, and assessment' (Tang & Hew 2017:85).

# Usability

The literature indicates an interrelationship between accessibility and usability (Wood 2015). International Organization for Standardization (ISO), 1998 defines usability as 'the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use' (Wood 2015).

Usability is a success factor in e-learning as it improves students' learning experience and the achievement of learning outcomes (Meiselwitz & Sadera 2008; Pangestu & Karsen 2017). Literature indicates that if a system does not save users time and effort then it reduces the likelihood of the system being used (Venkatesh *et al.* 2003).

M-learning may have usability constraints due to mobile phones having smaller screens (Zhang, Zhang & Halstead-Nussloch 2014). Petersen (2020) indicated that students preferred using iKamva e-learning platform as opposed to the m-learning application for this reason.

The integration of a user-friendly MIM, WhatsApp, as the LMS for students who live in remote areas in Ghana, shows promise for overcoming contextual difficulties faced in online learning. However, even incorporating a MIM such as WhatsApp, will exclude students without internet access or money to purchase data.

# #datafree Moya Messenger

Based on the research model, the literature indicates the need to take institutional-, programme- and individual factors into consideration when implementing an accessible and usable alternative to all students. The use of MIM, such as WhatsApp, as an option could be considered. The literature indicates that the use of WhatsApp as a learning tool at the university level is a viable option. The benefits of using WhatsApp in education include that the application is user-friendly, cost-efficient and provides multi-modality features (Tang & Hew 2017). The predominant uses of WhatsApp in education include 'journaling, dialogic, transmissive, constructionist with peer feedback, helpline, and assessment' (Tang & Hew 2017:85). A study tested WhatsApp in remote areas in Ghana, with limited internet access and electricity, and found that it assists distance learning (Koomson 2018).

Despite the benefits of using MIM in education, there are challenges experienced. Challenges include 'device ownership, internet access, improper language use and interference with private lives' (Tang & Hew 2017:85). However, the Ghanaian study evidenced that,

... a blended mobile learning context is not a nuisance to students, rather it is a 'helpmate' to help resolve many of the contextual difficulties that plague them in a distance learning situation in Ghana (Koomson 2018:45).

Despite the positive outcomes of implementing WhatsApp for educational purposes in Ghana, it must be noted that South African data prices are significantly higher than most of Africa (Healing 2019).

Therefore, in South Africa, using MIM may not achieve the desired level of inclusivity among students with a low socio-economic status who can not afford to purchase data. As a result, this research examined the use of a South African MIM, Moya Messenger. Moya Messenger allows users to communicate via text messages, without incurring data cost. However, users will incur data charges for sending attachments and will be exposed to marketing (Businesstech 2018).

Moya Messenger provides the following functionality:

- Unlimited text: 100% #datafree\*
- Group chat #datafree.
- Discover a growing range of #datafree content and services, all in the one app.
- End-to-end security: automatic end-to-end encryption of all messages.
- Message attachments: fully supported, but not #datafree\*\*

- Contacts: automatically find contacts who have Moya.
- Always logged in: never miss a message.
- Offline messages: messages saved when your phone is off.
- No data charges for text messages when you use a SIM card from a supported mobile network.

Attachments are fully supported, such as photos, videos, documents etc. However, sending attachments is not #datafree. Before sending you will be warned you need mobile data or WiFi' (biNu 2020a).

Moya Messenger uses their reverse billing agreements with MTN, Vodacom, Cell C and Telkom to provide the free messaging service (Businesstech 2018). The Moya Messenger application has a growing user base. The application is actively used by over one million South African every month and 650 000 users every day (Rajgopaul 2019). Users also have access to data-free content such as Wikipedia, 'Cosmopolitan magazine, Assupol Insurance, iQ Academy, Adzuna Job Search, Sanlam Insurance, DirectAxis and Nivea amongst others' (Rajgopaul 2019).

# **Research Design**

The research used an exploratory case study. The researcher aimed to gain a better understanding of implementing a data-free mobile messenger application to improve inclusivity for students during a global pandemic. The case study approach is extensively used for research where the focus is often concerned with the effects and impact of the system, rather than the technical aspects of information system per se (Myers 1997). This research focuses on a single case of testing the Moya Messenger application during the Covid-19 pandemic.

A case study may be used exploratory research and attempts to capture the meaning in an interactional experience (Myers 1997). The study used tests conducted in a lecturer group to assess whether the Moya Messenger application would be a viable option to use in larger, more diverse students groups located in urban and rural locations.

The data collection for a case study utilised two methods. Based on Yin (2003), this study collected evidence from testing a technological artefact, the Moya Messenger application. Additionally, user reviews for the Moya

Messenger application on the Google Play store were analysed, using the research model themes, to provide more detailed information from actual users. The data will evidence whether the Moya Messenger application will allow for a more inclusive alternative to non-zero-rated LMS.

The timescale required for the case study is short, and the method has been used successfully to investigate the interaction between users and systems. Due to the short research timeframes obtaining ethical clearance to obtain student responses will be completed as the next phase of this research. The research design will aid in providing a better understanding of the viability to use the data free MIM application for educational purposes during a global pandemic, especially for students with lower socioeconomic status. However, a limitation of a case study design is that these results may not be generalised.

#### Tests

Based on the research model (Figure 1), the following tests were performed (refer to Table 1).

No	Theme	Test
1	Accessibility	Install the #datafree Moya Messenger from Google
		Play store
2	Accessibility	Complete registration
3	Accessibility	Use the application with no mobile data or WiFi
		switched on
4	Usability	Send a text message
5	Usability	Send an attachment
6	Usability	Create a group for lecturers
7	Accessibility	Add group members
	and usability	
8	Usability	Send a voice note to a group
9	Personalised	The application is available for use regardless of
	learning	time and geographical location
10	Accessibility	Analyse data usage

#### **Table 1 Tests per Research Model Themes**

# Results

The results of each test are provided in the following section.

# Test 1: Installation

Despite the promise of free instant messages without data, students still require 15.8MB of data to download the application from the Google Play store <u>https://play.google.com/store/apps/details?id=nu.bi.moya&hl=en\_ZA</u> (refer to Figure 2).



Figure 2: Installing the Moya application

#### **Test 2: Registration**

At the onset, the required registration was also not successful as the server was not available (refer to Figure 3). It required two attempts to successfully

register on the application. Registration also required air time to receive a onetime pin via SMS (refer to Figure 4).



Figure 3: First attempt to **Figure 4: Verification** 

register

#### Test 3: No Mobile Data or WiFi Switched On

To test whether the Moyo Messenger would still function without access to data, mobile data and WiFi were both switched off. The lack of mobile data or WiFi, prevented end-to-end security as the encryption could not be executed (refer to Figure 5).

Messages were also not sent and the application indicated 'waiting' (refer to Figure 7). Messages were sent when either mobile data or WiFi was switched

back on. The results indicated that despite no data being required to send messages, mobile data or WiFi have to be turned on. There is still a need to have a reliable internet connection.



#### Test 4: Send a Text Message

The Moya Messenger interface is simple to use. The green arrow button to send and the paper clip to add attachments. The interface is similar to other MIMs, such as WhatsApp, so there should be a seamless transition for WhatsApp users to the Moya Messenger application (refer to Figure 7).

Moya Messenger also indicates via a  $\checkmark$  whether a message has been delivered and the time. It also indicates whether all sent messages have been read by the

recipient. Fellow lecturers indicated that the text message delivery time was fast when mobile data was activated.

#### **Test 5: Send an Attachment**

Figure 8 indicates the attachments that may be sent. A notice provides a reminder that sending attachments are not #datafree. Attachments are not automatically downloaded and receivers are notified of the size of the attachment (refer to Figure 9). Therefore, users can decide if they wish to download the attachment. Hence, there is more control over the amount of data that is being used by this application.

Sending attachments in the lecturer group was an easy and efficient process. However, sending and downloading attachments required data which could still result in students being excluded from obtaining course-related content.

<ul> <li>UWC notifications a</li> </ul>	. < :	← last seen 1 week ago
	- (14-31)	Choose file
		Choose picture
Today		Result 4: Fast switched on Take picture
Test 1: Data usage for sending this mea	iow 🗸 🕞	Send location
Type a message	0 🤛	Record video
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#### Figure 7: Send a text message

# Figure 8: Send an attachment

### Figure 9: Receiving an image attachment



#### Test 6: Create a Group

The Moya Messenger application will allow lecturers to create groups for their programmes (refer to Figure 10). The application allows lecturers to create a read-only site, this will not allow students to post messages. It will serve the same purpose as posting an announcement on iKamva or creating an Admin-only group on WhatsApp.

Selecting the read-only option will limit lecturer and student engagement but allows important announcements to be sent quickly. The read-only option will provide a mechanism for posting important information only and limiting the discussion on the items posted.

Making the group public allows access to everyone and the link may also be shared. However, this increases the risk of non-registered students accessing the group.

#### **Test 7: Add Group Members**

The safest method is to add students individually (refer to Figure 11). Moya Messenger allows you to search for users and then add them. If students are not using the Moya Messenger, it allows lecturers to share a link so that they can join. However, this could be a time-consuming task, especially for large groups of students. The alternative is to delegate the addition of student numbers to tutors, if this is a viable option.



#### Figure 11: Add a Group Member

#### Test 8: Send a Voice Note to a Group

BiNu (2020) indicates that attachments are not #datafree, although 'record voice' was indicated as #datafree in Figure 8. The label for the 'record voice' attachment has been changed and a warning is displayed to indicate that it is not data-free (refer to Figure 12).

However, sending a short voice note was not data intensive. Data is also required by the receiver to download the voice note. The voice note sent to the lecturer group indicated that voice note sound quality was satisfactory.

# Test 9: The Application is Available for Use Regardless of Time and Geographical Location

The application should be available in all areas where there is access to WiFi or a mobile network (refer to Figure 13). The functionality of Moya Messenger also allows for messages to be saved when your phone is off. Therefore, it should provide access even in more rural locations.

However, the testing for the lecturer group may highlight that the Moya Messenger application is more efficient for this group as lecturers had better network connectivity in urban areas than students may have in more rural areas.

#### Figure 12: Send a voice note to a group

Figure 13: The application is available for use regardless of time and geographical location



#### Test 10: Analyse Data Usage

Figure 14 indicates the data usage by the Moya Messenger application (64.5 KB). No data was used to send #datafree text messages but data was used to create the group, to send attachments and to download attachments.

Compared to WhatsApp, where there is also no automatic download of attachments, (166.4 KB), Moya Messenger used less data even with the download of a picture and voice attachment (refer to Figure 15).



# **User Reviews on Google Play Store**

The Moya Messenger application obtained a 4.2 out of 5 rating from 9012 reviews (biNu 2020b). Comparatively, WhatsApp messenger received a 4.3 out of 5 rating but had substantially more reviews (116 102 165) (WhatsApp Inc. Communication 2020). Table 2 displays reviews for the Moya Messenger application on the Google Play store, retrieved on 6 July 2020 (biNu 2020b). Results were sorted by 1-star to identify the most critical feedback and by 5-star to highlight the most complimentary feedback. The reviews were analysed using the themes from the research model and to expand the findings from the test runs.

User reviews were corrected for grammar and punctuation to improve readability e.g. 'i' was corrected to 'I'.

Test	Critical 1-star reviews	Complementary 5 –star reviews
Test 1: Installation	An analysis of reviews indicated that there were users who experienced problems with the installation of the application. Charlene Dullisear 04 June 2020 provided the following critical review that resulted in her deleting the application, 'I installed the app but when I put in my phone number it kept saying could not g[e]t a stable con[n]ection it whent on for ova [over] 2 hours eventual[l]y I deleted the app waist [waste] of datak'.	There were no reviews regarding installation specifically although a review by Sune Brits 16 April 2020 indicated, 'I love it cose-[because] I don't have wifi or data but now since I have this app I can talk to all my friends and, I deleted 2 of my games for this I LOVE IT'. The user chose to install the MIM over games and could be indicative of the user not having sufficient space on her phone. This may also be indicative of a less expensive smartphone.

Table 2: Google Play User Reviews

Test 2: Registration	Reviews indicated that users also experienced problems with registration. This was highlighted by the following review: Cayden Layman 08 June 2020 'I cannot get this to work. I keep getting an 'unable to establish a secure connection' message!'. However, the biNu team assisted to try and resolve the problem on the same day.	There were no 5-star reviews found for registration but it can be assumed that users providing 5-star ratings had successfully installed and registered the application.
Test 3: No mobile data or WiFi switched on	Tumelo Mogale 15 June 2020 'This app is a spam nothing is free once I turned off my wifi to see if it's legit it said NO INTERNET CONNECTION'. However, the biNu team provided assistance and instructions that despite messages not using data, mobile data or WiFi needed to be switched on.	There were no specific reviews regarding the need to switch keep mobile data or WiFi switched on. However, the fact that users were effectively using the Moya Messenger application indicates that users may have read the installation requirements or learnt via trial and error.
Test 4: Send a text message	A review indicated that using less expensive smartphones may not work as efficiently. This was highlighted by the following review: Andries Joubert 07 June 2020, ' <i>I</i> have a Vodacom kicka	The following reviews indicate that the application works for users who may have access to less disposable income, such as pensioners: Johan Bezuidenhout 29 June 2020, <i>'This is a great app</i>

	phone, not big. Most of the time the writing of the logs is so small I can see nothing logically suppose to be the same size irrespective kind of phone settings only increase [the] size of letters of chat message'.	for as me pensioner, thank you, thank you, thank you,now I can talk to my grandchildren the whole day!!'. Younger users, as indicated by their profile picture, also echoed this sentiment: Dolly Mpangazitha 23 June 2020, 'I like it so much that when I am even broke, I manage to send important messages and chat with friends'.
Test 5: Send an attachment	A critical review indicated that users would like attachments to be data free as well. This is evidenced by Loretta Smith 13 June 2019, 'it is not cool at all I have introduced so many people to this application but you cannot send any attachments if you do not have data or wi fi yet you advertise free can you please explain'. However, the Moya Messenger application indicates that sending attachments are not #datafree.	A complementary user review by B Lbard 22 April 2020, ' Love that it indicates [the] amount of data used with images etc.' appreciated that even if sending were not data-free you were able to check the amount of data before downloading. However, Red dust International 17 June 2020, also echoes the critical review for attachments to be data free as well, 'Very good, just the attachment part must be sorted out, data-free $\mathcal{W} \cong \mathcal{W}$ '.

Test 6: Create a group	A user reviews indicated that group creators wanted more authority to decide their members despite a ban implemented by biNu. The user also indicated that they wanted to see group members' profile pictures. Cecil Tau 22 June 2020, expressed dismay, 'Maybe you are not aware but it is up to an individual user who gets banned E.g. I'm the owner in the group I created and I can ban anyone I choose. Please No more correspondence Just enable the group chat owner to reverse the ban Another problem is that I seem to be the only one who can't see people's profile pictures in I'm dying here in in in it in in it in it in it in it in it in it is expected by the in it in it in it is it in it is it in it is is it	A complimentary review by Randall Jacobs 16 June 2020, ' to make a group is easy thought it would be hard [difficult], nice app' indicates the ease of setting up a group. However, there is no indication of the group size. Dr Eric Dilima 19 April 2020, 'From [now] onwards, my church members must all use this app for group chats, I love it' provides evidence for use among community groups, such as churches.
Test 7: Add group members	There were no reviews found that related specifically to adding group members. However, Meagan Wilters 06 May 2020, indicated that she couldn't chat in the group, 'I can't chat in any groups'. This was supported by	There were no positive reviews found regarding adding group members.
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	Mimi ME 05 February 2020, 'I gave it one star because it doesn't allow me to go into any Group chat I really feel its unfair and unreasonable' and Jon Phuti 15 October 2019 'Fix your group chats!!'. This could indicate a problem in setting up the group.	
Test 8: Send a voice note to a group	No critical reviews were found regarding sending voice notes to groups. However, there were issues experienced by users in terms of chatting, then it may impact their ability to send and receive voice notes too.	Positive reviews on sending a voice note to a group were not found. However, Thembi Zwide 09 June 2020 indicated that 'It's an amazing app, I love that I can now record voice notes and I'm able to correct my messages. Highly recommended'.
Test 9: The application is available for use regardless of time and geographica I location	The following reviews highlight the need for the application to have network connectivity even if it does not use data to send messages. Cheryl Phipps 12 December 2019 stated, 'Supposed to be data free, but messages only come through when in wifi range' and Matimba Kubayi 14 November 2019, 'This is a scam, no matter how many times I use it nothing goes	Despite this positive review it still highlights the dependence on network connectivity: Sinqobile Ncube 11 June 2020, ' <i>it is</i> so good but the network for Cell c is so bad .its says no network connection'. The dependence on network connectivity may be a bigger impact on students in more rural areas.

	through. It needs a constant network connection, it's not #datafree at all'. Another scathing review indicated that they would rather pay to use a different instant messenger application, Denise Stopforth 14 January 2020 'If I could I would have given this app 0 stars. The chat bubbles, the appearance of the chat bubbles, the LIE of the absurd '#datafree' statement or 'slogan'. Horrible app. You can't even type your own message when a message arrived. This app won't let you. I'll rather buy data and use WhatsApp. I'm disgusted with this app. If something bad happens and you don't have money or datahow do you send photos or voice notes or maybe call for	Despite the scathing review by Denise Stopforth, Barry P. Connors 03 June 2020 indicated, '[A] GREAT alternative to Whatsapp. UPDATED: the Moya team is quick to solve any issues that may arise. A great app'.
	maybe call for instance????? Get rid of this app, PLEASE'.	
Test 10: Analyse data usage	User reviews highlighted that the application is not entirely data free, Im_a_cute_demon 07 June 2020, 'It says it doesn't use	Despite the critical reviews, Shereen Snyders 21 June 2020 states, ' <i>it</i> 's a very helpful app especially when you don't have data'.

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data so I went into my settings to check.yess it doesn't use a lot but still your advertising is wrong' and Thoheeda Goolam Mahoned 16 May 2020 'though[t] [yo]u guys said it[']s data free but [yo]u actually need data. I really like it and expected it to be internet free using no data or wifi'. However, biNu indicates that mobile data must be switched although users are not charged to	Saleem Hoosen 31 May 2019, also indicates the contrary 'for an app that is free to send messages, it is impressive. I've tried it with no airtime and it works 100%'. These reviews support the biNu statement that text messages and group chat are data-free through reverse billing to mobile operators (biNu 2020a).
'though[t] [vo]u guys said	100%'. These reviews
it[ ']s data free but [yo]u	support the biNu statement
actually need data. I really	that text messages and
like it and expected it to be	group chat are data-free
internet free using no data	through reverse billing to
or wifi'. However, biNu	mobile operators (biNu
indicates that mobile data	2020a).
must be switched although	
users are not charged to	
send messages. MIMs	
require internet access to	
work so it is not internet	
free. BiNu also states that	
only text messages and	
group chat are data free, not	
everything (biNu 2020a).	

# **Summary of Results**

Table 3 summarises the results of the ten tests performed. The Moya Messenger application achieved the desired results in 90% of the tests. The only exception is that mobile data or WiFi needs to be switched on, although no data is required to send text messages. The performance is comparative to the functionality provided by WhatsApp but used comparatively less data. The test results were supported by user reviews from the Google Play store.

Additionally, the use of the Moya Messenger application for students is supported by a reviewer on Google Play store, Thembela Richard Dyongwana 26 March 2020,

Best app ever especially when it comes to information, so wish it can be distributed to all students so that they can create their groups to provide each other with information. Now that there is [a] lockdown in RSA why don't all our higher learning facilities use MOYA to give information to their students, it will assist even those that are poor that are living in rural areas (biNu 2020b).

The review is also supported by the following users, Asavela Vela 02 June 2020,

It's a very good app because I can search for a job, do online courses for free and today I want to finish what I'm studying and get my certificate, thanks to you guys because some of us can't afford the money to study. Thanks! Thanks! Thanks!!! (biNu 2020b).

No	Theme	Test	Test result	User reviews
1	Accessibility	Install the #datafree Moya application from Google Play store	Achieved	Achieved
2	Accessibility	Complete registration	Achieved	Achieved
3	Accessibility	Use the application with no mobile data or WiFi switched on	Not achieved	Not achieved
4	Usability	Send a text message	Achieved	Achieved
5	Usability	Send an attachment	Achieved	Achieved
6	Usability	Create a group for lecturers	Achieved	Achieved for other groups
7	Accessibility and usability	Add group members	Achieved	Not explicitly mentioned
8	Usability	Send a voice note to a group	Achieved	Not explicitly mentioned
9	Personalised learning	The application is available for use	Satisfactory	Satisfactory

 Table 3: Summary of Results

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		regardless of time and geographical location		
		location		
10	Accessibility	Analyse data usage	Satisfactory	Satisfactory

These reviews highlight that the application can be used for other activities that may be beneficial to students, especially during the lockdown.

After the initial tests were successfully run among lecturers in two departments and an analysis of Google user reviews completed, a pilot study was implemented in a student group.

# **Pilot Study**

The Moya Messenger application was piloted in an Accounting course of 495 students and five tutors during the lockdown. The initial test group for the lecturers (refer to test 6) was easy to set up with less than five users. Lecturers had smartphones, data and access to WiFi which may have improved the efficiency of setting up this group. However, the set up for the student group was more difficult and time-consuming when the group size increased. Additionally, the student group were from diverse socioeconomic status and geographical areas. The student group contained students from urban as well as rural areas.

Based on the feedback from the Accounting lecturer, the application was unable to cope with the high number of students who tried to join the group simultaneously. The group was then split smaller groups of 100 students each. Students joined by using the link provided (refer to Figure 10: Create a Group). The link was then sent to each group of 100 students every day. Therefore, the process to create the group for the Accounting course took a week.

Initial feedback from students indicated that iPhone users were excluded due to the application only being available on the Android operating system. However, the tutors and students were able to effectively communicate using the application.

# Discussion

The following section discusses the findings in relation to the research model and the existing literature.

Subsequent to drafting this article, Network Providers zero-rated the University of the Western Cape's iKamva e-learning platform. Therefore, student access to learning materials was improved. However, students still incurred data costs to use synchronous learning such as BigBlueButton and watching learning materials on external sites, such a YouTube. The lack of synchronous learning may impact student performance in programmes as lecturer engagement during the lockdown is negatively affected.

However, the use of MIMs provides a more cost-effective method to facilitate synchronous and personalised learning. The literature indicates positive student perceptions for using tools, such as MIM, in education. The research model and findings confirm the importance of including accessible tools. The finding is supported by a study conducted in a South African higher education institution using WhatsApp MIM. Using WhatsApp highlights the benefits 'of accessibility, timeliness, quality and relevance of data' in a collaborative learning environment (Ahmad 2020:30).

The use of MIM, such as WhatsApp, is still limited to students who can afford to purchase data. Therefore, the Moya Messenger application may be a more accessible option for students as it requires no data to send text messages. However, the installation of the Moya Messenger application is dependent on having network connectivity. The dependence on network connectivity may be a more important consideration for students in rural areas.

The literature also indicates that MIM, such as WhatsApp, provides an easy to use interface, thus improving usability (Barhoumi 2020). The Moya Messenger application uses a similar interface to WhatsApp. Therefore, the transition to Moya Messenger from WhatsApp should be easier as it builds on students' existing habits of using MIMs. However, user reviews indicate that students may still need some basic training. Training should emphasise that mobile data or WiFi need to be switched on for the Moya Messenger application to work and that not all functionality is data-free.

The ability to set up student groups, despite being more time consuming, grants students the ability to engage with lecturers and fellow students. The data-free group chat will provide engagement that may assist in students' mental health and well-being, especially during the lockdown period. The advantage of Moya Messenger is the additional free functionality, such as searching for jobs and completing online courses.

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# Conclusion

The use of the Moya Messenger was intended to provide an alternative to LMS for all students. Taking institutional-, programme- and individual factors into consideration, the Moya Messenger allows for a usable and accessible option to support personalised learning. However, due to the application only being available on Android mobile devices, iPhone users were excluded. It was found that Moya Messenger was available for download on devices, using Windows 10 operating system. If iPhone users were using this operating instead of a MacBook, then this could provide an alternative method of reaching iPhone users.

The use of Moya Messenger as a data-free alternative to UWC's iKamva LMS would improve if sending attachments were also #datafree. This would allow items such as lecture slides and assessments to be available to all students, even if they have no available data. However, the application still allows students with low socioeconomic status to engage with their fellow students and lecturers. The engagement will allow students to be kept up to date on University decisions, such as the restarting the academic programme.

The second phase of this study will test students' perceptions of using the Moya Messenger application in the class of 495 Accounting students. The results will provide further insights into whether the application allows for more inclusive design in Higher Education.

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# **Disruptions from COVID-19: Challenges and Opportunities for Research Outputs in South African Higher Education**

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#### Abstract

The novel Coronavirus Disease 2019 (COVID-19) has presented several challenges worldwide. Like other sectors of the world, institutions of higher learning equally have their own challenges which must be addressed in earnest to avoid severe disruption to the South African academic milieu. While there are many envisaged challenges, there are fairly possible opportunities to expect and the academic sector must be prepared. This chapter presents the possible challenges and opportunities for research outputs in South African Higher Education focusing specifically on the disruptions motivated by COVID-19. Using the indices spelt out in the 2015 policy on research outputs by the Department of Higher Education and Training, as well as the 2019 policy on creative outputs, the chapter discusses the envisaged challenges to research productivity in South Africa as a result of COVID-19. The study adopted the Knowledge Management Framework to address the possible opportunities from the COVID-19 situation. It was established that COVID-19 itself presents new research opportunities that researchers and stakeholders must consider.

Keywords: Coronavirus, higher education, research, innovation, opportunities

# Introduction

Academics and researchers in South African institutions of higher learning, following the COVID-19 (Coronavirus Disease 2019) pandemic, may be facing their biggest confrontation since the Department of Higher Education (DHET) introduced and prioritised research outputs in the 2003 Policy and Procedures for the Measurement of Research Outputs of Public Higher Education Institutions. For Luruli and Mouton (2016), the South African government has a longstanding tradition of supporting research at public higher education institutions. However, the COVID-19 outbreak, and its motivated disruption to several sectors, including the academia, presents imminent instability to research productivity in South Africa if not well managed. As such, disruptions from the pandemic suggest multidimensional consequences to higher education, and the research ambit of higher institutions is no exception. Albeit that the notion of disruption in South African higher education is not new given the history of student protests in the last few years, especially during the era of 'Fees Must Fall', the genre of this coronavirusmotivated disruption is however distinctive as it brings with it such concepts as social distancing which implies limited physical interactions among humans.

Since the outbreak of the new coronavirus in Wuhan in 2019, it has spread across the entire world resulting in several deaths in many parts of the world. Virtually all continents of the world have had their share. The situation has motivated several countries to develop quick coping mechanisms with the aim of flattening the curve of the virus. From closure of airports, to reduced mobility, and to complete lockdown for an extended period, several nations in the world are attempting to curtail the adverse effects of the virus. The resulting coping mechanisms will no doubt affect several sectors of the world as not only does the virus have worrying effects on human lives, it is bound to affect the smooth running of the entire world. The United Nations (2020:2) reports that the virus has the potential to significantly slow down the global economy. In fact, as the virus situation is expected to affect all spheres of our lives, higher education is expected to also be affected.

Institutions of higher learning in South Africa have prioritised research outputs through an upward trajectory of research publications, innovative ideas and postgraduate graduations. In the DHET's *Research Outputs Policy* (2015: 4), research output is defined,

as textual output where research is understood as original, systematic investigation undertaken in order to gain new knowledge and understanding. Peer review of the research is a fundamental prerequisite of all recognised outputs and is the mechanism of ensuring and thus enhancing quality.

The policy considers outputs such as in journals, books, and published conference proceedings which meet the criteria spelt out in the policy. Over the years, the DHET has awarded subsidies to universities who have through their researchers produced journal articles, books and proceedings that meet the criteria listed by the DHET. With such support and encouragement from the government, publishing scientific works has become a part of academic development in South African institutions. However, the policy alluded to omitted outputs produced by 'creations' which has thus necessitated the formulation of an additional *Policy on the Evaluation of Creative Outputs and Innovations Produced by South African Public Higher Education Institutions* (2017). This added Creative Outputs Policy (2017: 3) now includes 'other forms of scholarly outputs, specifically those from the creative and performing arts as well as innovations'. As such, reference to research outputs in this chapter includes the forms of outputs stated in the Research Outputs Policy of 2015 and the 2017 policy on Creative Outputs.

It is a general perception that research undertaken at higher institutions is tied to societal progress and development. Maphalla and Malan (2014:24) concede that higher education institutions play an essential role in producing scientific knowledge through applied research that will enhance the quality of life of the society and strengthen the economy. As such, research outputs from higher education institutions becomes increasingly important for the growth and development of the society and it is an area that needs utmost attention during this era of COVID-19 disruption. For several years, the notions that Higher Education is the major driver of the knowledge system which leads to economic development, and that universities are key to the development of a nation, have seen the DHET in South Africa invest heavily in research advancement. As such, it is important to counter the negative consequences from COVID-19 by preparing plans to mitigate the possible risks brought by the virus. Although fundamentally different from the COVID-19 situation, Jansen (2018) reckons that disruption, and the possible loss of weeks and months in the teaching calendar, threatens the future of the South African Universities.

If the disruption to higher education systems blossoms, the giant strides made by academics and universities over the years may presumably face an earthquake in 2020. More than just interrupted learning, research productivity may also face its challenges as the research outputs components stated by the DHET rely heavily on a fully operational higher institution system. As with disruptions emanating from student protests, the disruption emanating from COVID-19 also has consequences, and such disruptions make it challenging for universities to deliver their services on time due to shortages in terms of staff needs, funds, and physical facilities (Ajadi 2010:20). While the disruption is inevitable, mitigating strategies must be developed to present fresh opportunities for research productivity in South African higher institutions. Just as the coronavirus has ripple effects on business sectors, it has equally dangerous effects on higher education and particularly, research productivity being the focus of this study. For job security, the United Nations has recommended an internationally coordinated policy response that can help lower the impact on global unemployment. Therefore, for research outputs in higher education to continue to grow, there is a significant need to manage the risks posed by the virus.

# Knowledge Risk Management Framework as Response to Disruption

The Knowledge Risk Management (KRM) Framework is a general model used in strengthening knowledge management activities in the context of achieving organisational excellence. According to Massingham (2010: 466), KRM is an emerging field of academic enquiry that intersects the fields of Risk Management (RM) and Knowledge Management (KM). RM is defined as an approach or framework of choice in many disciplines, including health care, research, engineering design, and the insurance sector which relies on the best available forward projections of natural hazards and accidents. For KM, it is considered as a lifelong perspective of learning that promotes constant opportunities for skills development and learning, both formal and informal (Villalba 2006).

Massingham (2010) notes that KRM offers a solution to the difficulties associated with conventional risk management methods. He argues that the principal aim of KRM is to work better with the cognitive constraints that are

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presented in a complex environment by trying to reduce the risk of knowledge loss. Trkman and Desouza (2012: 5) define KRM

as a likelihood of any loss from an event connected with the identification, storage or protection of knowledge that may decrease the operational or strategic benefit of any party involved in the network.

Tantau and Paicu (2013) support this notion by arguing that since the ability of an organization to manage risks derives from its capacity to manage knowledge, KRM stands as a prerequisite for competitive advantage in managing knowledge within an organisation. It is within this context that this study draws strengths from KRM to address the risks presented by the COVID-19 to the academic sector of South Africa, particularly the institutions of higher learning. Although Trkmana and Desouza (2012) state that the field of KRM is mainly of interest in the environments of information technology, project management, and organizational networks, its emphasis and concentration on knowledge and learning makes it applicable to the education sector.

Conceptually, KRM is created to manage knowledge even better by ensuring measures to retain and protect knowledge effectively in order for organisations to continue to survive competitively. Tannenbaum and Alliger (2000) provide a systematic approach model towards management of knowledge by dividing them into four components namely: knowledge sharing, knowledge accessibility, knowledge assimilation and knowledge application. These four components share affinity with this study in that research outputs and knowledge production are intertwined. The production of any form of research output is an attempt made by a researcher or a group of researchers to share knowledge. As such, the knowledge becomes accessible to wide variety of audience who assimilate the findings and apply or reproduce based on the researchers' ideas. For higher institutions to mitigate the disruptions which present risks to production of knowledge as a result of the COVID-19 virus, the KRM framework becomes useful. Hence, issues that are pertinent to knowledge production such as the sharing of knowledge; accessibility of knowledge; assimilation of knowledge; and application of knowledge are efficiently addressed in order to continue to advance research productivity in South African higher institutions in spite of the motivated disruption by the novel coronavirus.

# **Reflections on COVID-19 and Possible Challenges to Research Outputs in South African Higher Education**

Coronavirus and its motivated disruptions have constructed a redirection for the entire world to pursue. In fact, many country leaders have used war-like terms to explain the battle their countries are fighting with regards to the virus. President Cyril Ramaphosa of South Africa declared that the country is in a national state of disaster. On the education sector, the impact of COVID-19 on South African higher education institutions has forced a rethink of the traditional approach to teaching and learning. The disruption brought by the virus has compelled an aggressive overhaul of educational activities and so should research and innovation be overhauled. As such, this has brought to the fore an emphasis on what the situation implies for the higher education sector in South Africa. The situation has brought about some response strategies to the disruptions brought by the virus especially by transforming and migrating educational activities from face to face to online platforms. For this study, the focus is on research productivity in higher education, and the research outputs indices outlined by the DHET form the backdrop for the discussion. Put more explicitly, how research outputs in South Africa can continue to maintain its upward trajectory despite the disruption is of interest.

An upward trajectory of research publications has been the hallmark of many institutions of higher learning in South Africa in the past years. This is unsurprising when one considers the notion that knowledge production is the pinnacle of institutions of higher learning, and the DHET has encouraged research productivity by providing financial resources and incentives. An opinion also shared by Chiware and Skelly (2016:1) that research publications have become a national norm for researchers in South African tertiary education institutions to publish, and publishing is part of the performance management and promotion criteria of several institutions on the African continent. In fact, on the African continent, South Africa is the highest producer of publications (Chiware & Skelly 2016). In the current year, due to the disruptive nature of coronavirus, possible risks facing research outputs must be mitigated if South Africa hopes to continue to lead in research publications.

The lockdown has significantly affected the availability of resources for researchers. With restricted movements, institutions of higher learning were shut down. This poses some challenges for researchers who rely on resources such as laboratories, university internet access and on-site university subscriptions. Tho and Yeung (2016:97) also affirm that scientists need to carry out experiments to test theories, whereas students need to conduct experiments to understand the theories, and as such, 'laboratories are essentially simulation environments where one can create various experiments and learning experiences'. In another study, Ghavifekr et al. (2017:41) establish that the lack of access to institutional resources is a complex challenge facing researchers across the world. The situation created by the coronavirus is severe for researchers in need of physical university resources to produce research outputs. While most scientists rely on laboratory work, others rely on university library access where materials are made available for free or at a low cost, and many others rely on university internet access. What becomes a challenge therefore is that an inability to access these facilities puts a burden on the productivity of researchers nationwide and quickly, there is a need to respond with a strategy. Such challenges are also likely to be faced by researchers whose outputs are creative. Artists, sculptors, actors, directors, cinematographers all alluded to in the 2017 Creative Outputs policy who need studios or locations for their outputs also face similar challenges as those who use laboratories. The situation affects everyone in some ways and it is necessary to prepare response strategies.

Furthermore, there might be challenges for field researchers whose methods include observations, interactions and understanding of people in their natural environment. For Prew and Lin (2019), field experiments, like scientists in the laboratories, are also fraught with their own challenges. They intimate that such challenges include environment set-up and participation rates. With the declarations on restricted movement and social distancing, it is appropriate to assume that researchers may encounter challenges in visiting their fields for research purposes and as such unable to collect data for research publications. These sorts of uncertainties make it more challenging for academics and potential participants to be entirely committed to the research process. It is an undisputable fact that commitment on the part of the researcher and research participants is a vital element to a research project's success, as this certainly affect the success or failure of the project (Ghazinejad, Hussein & Zidane 2018). It is also noteworthy to mention that considering the ethical requirements in research, it is only right that participants partake only in studies in which they have consented to. At a time when people are generally careful and unsettled due to the coronavirus situation, field researchers are further

likely to encounter challenges gathering participants. In this case, the use of technology has to be incorporated into data collection. The envisaged challenge however is whether research participants are able to perform effectively using online and virtual platforms and whether data collected online can be as efficient as those collected in the natural settings.

Reflections are also made on postgraduate studies. The postgraduate study is often the stage where researchers are trained as it provides an ideal opportunity for emerging researchers (Oparinde & Govender 2019). Having recognised this, established researchers have, over the years, collaborated with their postgraduate students in producing research publications. Also, institutions of higher learning have identified the importance of postgraduate students. As a result, these institutions attempt to attract as many postgraduate students as possible, for example through funding opportunities and tuition waivers. Also popular is that these institutions arrange for research capacity development programmes that will advance the research skills of the postgraduate students. Evidently, postgraduate students are essential to knowledge production in South African higher institutions.

As Larivie`re (2011:16) puts it, postgraduate students are an important part of the academic workforce and they contribute abundantly to the advancement of knowledge in their scientific discipline. He commends the essential role of postgraduate programmes, not only for the 'reproduction' of researchers, but also for the research system, since they contribute, during their studies, to a considerable proportion of the new knowledge being created. This is a credible position in South African higher education where postgraduate students are known for collaborating with their mentors/supervisors to publish academic papers following the completion of their research thesis. However, as important as postgraduate students are, the disruption to higher education resulting from coronavirus may also pose some challenges for postgraduate research. decrease in the completion rates of postgraduate students when one considers the array of challenges the disruption brings with it. As with independent researchers, postgraduate students also face the possible challenge of a limited availability of resources during this period as resources required to complete their research and writings may not be readily available at their disposal.

In fact, with everything at a standstill at the initial stage of the virus in South Africa, capacity building initiatives by institutions of higher learning in South Africa were interrupted until online training programs became popular as a response strategy by many institutions. Since the total shutdown came rather abruptly, and institutions were not prepared for it in South Africa, it is safe to assume that many of these capacity building initiatives were at some point paused or disrupted, thus leading to reduced/delayed learning opportunities for postgraduate students. Especially for fresh postgraduate students, the importance of such capacity building initiatives cannot be underscored when one considers the roles of such initiatives in strengthening postgraduate students and enhancing their research capacity.

The disruption brought by the virus also saw a paucity in intellectual gatherings with some events cancelled while others were rescheduled or accommodated virtually. Beyond just a mere presentation, intellectual gatherings, such as conferences, are an indispensable resource to academics the world over as it affords them the opportunity to network and interact with other established researchers in their fields of interest. Through conferences, symposia, workshops, and seminars, researchers have increased collaborative opportunities with colleagues from other academic institutions with similar and innovative research interests. According to Oester *et al.* (2017:1), a conference is not just an avenue for a scientist to present their research to the wider community, but it can be an important venue for brainstorming, networking and making vital connections that can lead to new initiatives, papers and funding, in a way that virtual, online meetings cannot.

Similarly, Parsons (2015) intimate that attending a conference is more than having face-to-face interactions with leaders in one's field, it is also a way to start collaborations on papers or projects, and to more directly advance one's career by finding new positions, or to build your programme by using these meetings to recruit faculty students or interns. What is obvious from is that the importance of conferences cannot be underestimated when it comes to the development of researchers, and consequently, their outputs. By having such intellectual discussions in intellectual gatherings, researchers with their varied expertise generate new initiatives leading to research publications such as books, articles, and proceedings, among others. Adversely, the pandemic nature of the coronavirus presents a possible danger taking into account the argument by Stevens *et al.* (2016), that if there is a drop-in conference attendance, there would be an inevitable decline in areas such as knowledge sharing, career development, and research collaboration.

For most researchers, the physical connection and networking at conferences is important in ways virtual conferences are unable to replicate.

The imminent danger therefore is that without such gatherings, academics are unable to accrue the full benefits of conferences and it is evident that virtual or online conferences cannot fully actualise the purpose of face-to-face conferences as affirmed by (Oester *et al.* 2017). Having highlighted that intellectual gatherings are of main benefits to researchers, a complete lack of such events for academics in South African higher institutions would imply a drop-in collaboration rates, as well as a reduction in new initiatives that result in publications. However, this is not an option as it would have been imprudent to pause research and innovation activities until the aftermath of the virus. As a matter of fact, for productive South African academics, they are often encouraged to attend conferences through their research incentives in order to produce more research outputs. Despite the difficult situation putting restrictions on physical intellectual gathering, the use of virtual methods for conferencing is important and necessary if it is expected that research outputs would remain to grow in South Africa

The coronavirus pandemic may also present imminent problems for funding opportunities. One of the major drivers of research productivity is the availability of funding. Funding contributes to research productivity by providing resources for researchers to conduct their research works. Apart from this, they also provide support for postgraduate students, academic conferences, academic exchange, postdoctoral fellows and so on. While some of these funding bodies are government departments, others are independent bodies. Evidently, one cannot underemphasise the role of finance in research productivity. To Ebadi and Schiffauerova (2015), funding is one of the main determinants of scientific activities, and securing funding is one of the most important factors for a researcher, enabling him/her to carry out research projects. They contend that funding can influence the size and efficiency of research and development, as well as its productivity. In an akin view, Szaszi (2015) agrees that research can only exist with good and secure funding as it is a dominant part of investigators' activity. Szaszi argues vehemently that supporting research through funding is of utmost importance and is the best way to generate an environment of innovation in research.

Clearly, it is impossible to eliminate funding from research if significant outputs are expected. This explains the DHET's support for South African higher institutions through incentives as well as funding opportunities for research activities including travels. Currently, the coronavirus pandemic has seen government bodies allocate some emergency and unplanned funds to combat the pandemic. The envisaged economic effect of the lockdown presents a challenge for funding bodies who then need to reprioritise their funding allocations. This presents risks to funding opportunities in the aftermath of the coronavirus-motivated disruptions. While countries may be focusing on battling unemployment issues, they will equally be hoping to resuscitate from the possible economic meltdown resulting from loss of revenues during the lockdown. Research ambits in institutions of higher learning are also unlikely to avoid the wide economic effect of the disruption. However, research outputs are equally important for economic development implying that while trying to get the economy strong again, funding bodies must also be aware that prioritising the aspect of research and innovation is critical. Also, researchers who have developed research ideas from COVID-19 should begin to source for funds using different issues relating to the pandemic as their research focus.

# **Capitalising on Opportunities for Research Outputs**

At a time when academics and researchers are faced with dilemma stemming from the nationwide lockdown in South Africa and disruption to academic activities, it is pertinent to discuss suggestions and recommendations on how to deal with the possible disruptions facing scientific publications in the country's higher institutions. It is of utmost importance for academics and researchers to devise a means to savour research outputs in order to continue to maintain the upward trajectory already in place in South African institutions. Importantly, as recommended by Christensen *et al.* (2018), one of the major ways of dealing with disruption is by aggressively investing in existing capabilities in order to slow or delay the onset of disruption. In the case of coronavirus, the disruption is with us. An aggressive strategy that invests in existing capabilities would indeed be relevant in combatting the possible implications stemming from the coronavirus-motivated disruption on higher education.

At current, it is rather challenging to establish the exact degree of effect the disruption may have on research productivity as this will best be examined in the near future. In fact, based on the dynamics involved in research, some disciplines (such as those that could rely on desktop studies) may witness increases in their research output while others (such as creative contributions) may see decreases. While this cannot be ascertained and is not the focus of this study, it is important nonetheless to build a system for research that is resilient to the disruption. Already, the situation has seen institutions of higher learning and stakeholders build a form of resilience in order to tackle the disruption. This is indeed an imperative strategy if institutions in South Africa intend to sustain research outputs and reduce the possible danger the coronavirusmotivated disruption brings to fore. An emergency response team to address the possible challenges that may face research productivity in South Africa is important for all institutions of higher learning.

The task of the emergency response team would be, among others, to revisit the issue of incentivisation of researchers if research productivity appears to be on the backfoot. As discussed earlier, researchers need to be further enticed with incentives so that they can develop innovative ways of increasing their outputs amidst the disruption. This strongly adheres with Christensen *et al.*'s (2018) suggestion to aggressively invest in existing ideas to deal with repelling the disruption. Secondly, researchers may be encouraged to redirect the focus of their research onto COVID-19. Essentially, they must be inspired to locate COVID-19 within their disciplines and sub-disciplines *viz-a-viz* what impact the disruption has on these disciplines. The current coronavirus pandemic creates an open avenue for fresh forms of research publications, and academics must tap into this to maintain a progressive trajectory for research publications as it is still recent and contemporary.

Although it has been established that the DHET has invested funds into research productivity, it is even more important in the current state that more funds be injected for researchers to carry out their studies, especially those working on the convictions of COVID-19 given that journals and publishing houses are currently encouraging publications mirroring the pandemic. Research management bodies must develop innovative ways of getting funds for research, especially those targeting COVID-19 in academic disciplines. Finally, researchers must be tasked with embracing the Fourth Industrial Revolution (4IR) and injecting the concept into their research as it has become obvious that the era of digitalisation is upon us and to continue to keep up, especially with growth in research, 4IR has to take a more rightful position for new technologies to be able to process information faster, and as a result, drive economic growth, research outputs and other important sectors of the world. While the discussion presented here may not completely mitigate the effect of the disruption on research outputs, moving in the discussed directions would help significantly in diminishing the effect and preventing a reduction in research outputs in South Africa as a result of the COVID-19 pandemic.

# Conclusion

Worldwide, the coronavirus pandemic has caused havoc and it is lucid that the continued existence of the virus presents damaging effects for the world. While it is impossible to avoid the negative effects of the virus, it is feasible to have coping strategies in place to cushion the effect. As such, it becomes necessary for decision-makers to brainstorm on ideas that will reduce the hazardous effects of the virus. In higher education for instance, the ministry of education, universities and research management bodies must prepare for the aftermath by developing strategies to deal with the virus. Research outputs in South Africa have been on an upward trajectory for many years and it is important to maintain the momentum by putting strategies in place to mitigate the dangers brought by the COVID-19 disruption. This paper has discussed the potentially alarming effects of the virus on research outputs as well as the strategies to manage the threats of the disruption. To avoid a drop-in research outputs due to the disruption to higher education, the key elements involved in research productivity must be addressed. Importantly, COVID-19 should be considered as a research opportunity and focusing on research ideas pertaining to COVID-19 would widen the scope and extent of research outputs in South Africa.

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# The Digital University: Of March Hares and Tortoises

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'Why did you call him Tortoise, if he wasn't one?' Alice asked.'We called him Tortoise because he taught us'. (Lewis Carroll, *Alice in Wonderland*).

# Abstract

The learning environment of universities is changing dramatically with the coming of COVID-19. Universities were summarily evacuated and plans put in place to ensure online teaching. In some senses, this was the quickening of a trend that was already unfolding, while for others it signaled new territory. This article explores the coming of online education by highlighting the experiences of lecturers who have already taught courses, while raising questions about disciplinary boundaries and knowledge production. It situates this discussion by exploring the challenges to the traditional notions of the role of universities, and the changing orientations of the academy, against the backdrop of the global juggernaut of privatised higher education.

Keywords: Online learning, knowledge, big data, COVID-19

# The Coming of the Wicked

That is the path of wickedness Tho some call it the road to heaven ... (Rhymer quoted in Nicholl 1997:17).

The onset of COVID-19 brought to the fore the contrast which Brown, Harris,

and Russell make between 'wicked problems' and 'tame problems'. The latter can be solved with existing modes of inquiry and decision-making. A wicked problem is a complex issue that defies complete definition, for which there can be no final solution, since any resolution generates further issues, and where solutions are not true or false or good or bad, but the best that can be done at the time (Brown, Harris & Russell 2010: 4). Building on this idea, Bunders, Bunders, and Zweekhorst introduce the idea of super-wicked problems in which:

time is running out to find and test solutions .... There is no central authority .... Those seeking to solve the problem are also causing it ... vested interests ... hamper an adequate response and the finding of new options .... humans show a preference for an immediate reward, even if the reward that comes later has much more value .... Thus, not only are partial solutions that work immediately favoured over more structural solutions, but public opinion is also likely to change in favour of the quick fix as time progresses (2015: 23).

In the unfolding crisis of COVID-19, we witness the symptoms of wicked problems with the rush to produce a vaccine, the competing for resources by nation-states, the attempted delegitimisation of the World Health Organisation (WHO) and the quick-fix of lockdowns. In a somewhat similar vein, Laszlo writes that:

in a condition of chaos, the slightest modification can expand and change the dynamics of the whole system. This is not necessarily a negative factor: there are many instances of chaos, and some of them are highly creative .... Chaos harbours danger as well as promise .... Society ... enters a chaotic state from time to time. This is not a state of anarchy but of ultrasensitivity – the prelude to change. In a chaotic condition, society is sensitive to every small fluctuation, to every new idea, new movement, new way of thinking and acting .... in conditions of turbulence and turmoil people are willing to consider alternatives which during a more stable period would have been very likely dismissed (2005: 59-61).

Is it a time of 'danger' or 'promise'? Are people simply wanting to get

back to the way things were or 'consider alternatives', and if so, what are those alternatives?

In trying to understand the longer-term impact of COVID-19 on universities, it is difficult to make predictions or to plot policies, in what Thompson and Beck describe as a conjuncture of 'decision-making under conditions of contradictory certainties' (cited in Urry 2016: 153). But, in pivotal moments, there are possibilities of hurrying change that was slowly coming into being. Against this background of 'wicked problems', this article, rather than putting a raft of policy formulations forward, raises a myriad of issues to consider in thinking about the future of universities.

# The Closing and Opening

And just as astonishing is the knowledge That we are, more or less, The makers of the future. We create what time will frame. And a beautiful dream shaped And realised by a beautiful mind, Is one of the greatest gifts We can make our fellow beings (Okri 1999: 56).

On April 30 2020, Minister of Higher Education, Training, Science and Innovation Blade Nzimande, announced that it was

... decided not to resume with campus-based academic activity throughout the PSET sector, including all Universities and TVET Colleges, both public and private, during the Level Four (4) lockdown period.

He suggested that efforts would be made in,

Developing and implementing effective multi-modal remote learning systems (digital, analogue and physical delivery of learning materials) to provide a reasonable level of academic support to all our students at all institutions to resume academic learning and teaching support. As we are in an unprecedented emergency, we have to use all available tools to reach our students fully cognisant that it will not substitute the need for contact learning when conditions permit. This we will do making sure that No student or institution is left behind (Nzimande 2020).

The details as to how the Minister would ensure that 'No student or institution is left behind' were hazy and raised several questions. How would students, who had been asked to leave their university residences and return to deep rural areas for the duration of the lockdown, be able to access online classes? What about those who did not have access to laptops? Would the quick-fire transition to online deepen the uneven development of higher education institutions?

These were among the issues raised by a group of academics from across the country, who echoed these sentiments when they called for a Social Pedagogy for Pandemic Covid19, which:

• Must allow for students to be active citizens and engage in a socially responsive way. This requires us to adjust our teaching based on unfolding experiences within the context of a pandemic in a manner that links teaching and learning with communities, within the global context.

• This entails building on the education for liberation trajectories of people's equal education and the free education conceptualisations generated from the #FeesMustFall momentum.

• Preparation for this pedagogy will involve a programme of dialogue, resourcing, and development engaging teachers, students, and our respective social, economic, and political environments as well as state and institutional partners.

• This consultative process allows teachers and students to continuously develop and review methods as the process unfolds.

• Assessment before returning to campus or school-based teaching must be formative to contribute to a programme of just recovery. Further formative and summative assessments after return to campuses and schools will ensure academic integrity and fair progression.

It was a shopping list that, like Dr. Nzimande's statement, raised more ques-

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tions than answers. Details, such as the time-frame for dialogue, what would constitute a 'just recovery' or be 'socially responsive', what would be the litmus test for meaningful dialogue to take place, for how long, and given that the poor do not have access to the internet, how will they participate, were, like the Minister's announcement, scanty in detail. One virtue is that the intervention put on the table, these pertinent issues. But, these questions were largely ignored as universities hastened online to 'save' the academic year. Academics soon became consumed in the technical aspects of such a move, and those who asked searching questions about the impact on the future of universities and knowledge production were seen as nay-sayers, Luddites even.

# **Student and Staff Experience**

Have all thoughts, possibilities, ideas, Philosophies been exhausted? (Okri 1999: 27).

What were the immediate reactions of students? Siya Shazi, a student of Information Systems at UKZN, related his experiences of online learning in the *Daily Vox*:

The online learning programme started at UKZN just after the lockdown began at the end of March. With UKZN specifically, there really has been challenges with data. They gave us 500 mb only for us to find out that this is limited to certain specific sites .... I have to use data to download articles online, to go into YouTube to watch a video so that I can have enough information that will help me in order to be ready to write something that is conducive for an academic paper ..... The psychological impact of it has really not been discussed. It's affecting me ... we are behind in terms of ensuring that everyone has a laptop and Wifi and free data wherever they are ..... There is a lack of leadership and coming together to ensure that there is a solidarity fund where there will be funds for people who are being affected by the pandemic. It has been difficult for me personally due to limited data and not being funded. I had to move out from res where there was wifi. After that having to get WiFi was a serious challenge .... Even

though it wasn't allowed to move around, when I would go to the shop I would go with my phone to download as many articles as possible so that I wouldn't use as much data to download .... There are many students behind in learning and work. They've always seen a teacher or lecturer in front of them or someone to study with but due to this, they are alone. I think that's where the biggest challenge is. This is the time for people to love one another and reach out and ask if you are coping .... I think that's where we are lacking as well. We are lacking in resources but also lacking in reaching out to others (Moosa 2020).

Shazi was raising challenges in the most considered and moving of ways. Many universities scrambled to address these issues across campuses. Some managements were more agile than others, while Minister Nzimande was mostly silent, after his promise that no student would be left behind. Universities were left to their own devices, both literally and figuratively. Meanwhile, at many universities, online learning was travelling with the speed of a March Hare. Hard-shelled academics, used to the steady-as-you-go pace of the classroom, incrementally sprinkling a few new tricks like power-point presentations, have had to poke out their heads (suitably masked) and respond to the online pandemic. One of the earliest to go online was the University of Johannesburg. I was keen to get immediate impressions and views from those who had gone online. As soon as I became aware that one of my colleagues had just completed teaching a class of 879 first year students, I sent him a set of exploratory questions:

• What was your experience of moving to online teaching from the onset of lockdown?

Initially, the experience was quite daunting to me because I was not conversant with teaching online and had never used Blackboard's new set-up. However, after going through a quick crash-course on how the Blackboard works, I began to slowly grow in confidence using the Blackboard forum for online teaching, until I became quite savvy in using the platform.

The experience also seemed surreal at times because I have been teaching face-to-face for seven years and so the sudden shift to online teaching seemed weird because I was not standing in front of the students and engaging with them on a one-to-one basis. I was very much worried about whether the students would be able to understand the lecture material which was being dis-

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seminated through podcasts and lecture slides.

I encouraged the students to ask others via the Discussion Forum which I created, however, it never proved to be the same as engaging students on a face-to-face basis as I was accustomed to.

Assessments were initially nerve-wracking for me because I was worried, at least initially, whether most students had access to computers and data, and also about their performance since they were learning virtually for the very first time. However, once it was established that most students had access to computers and data and that they were performing decently, even though they were not being challenged critically in their assessments (barring the exam), I then calmed down.

#### • What forms of testing did you use, if any?

The students were assessed via mostly true/false guizzes, a test that had a short answer (5 Mark) questions, medium-range (15 Mark) questions and an exam, which was constituted of two essay questions, which required them to apply learned concepts and theories to the South African context. The efficacy of the true/false quizzes was questioned by some colleagues because of their nature of most probably promoting binary thinking among the First Year students in a discipline such as Sociology, which is supposed to encourage critical thinking, and which accounts for the plethora of realities that confront us in our daily lived realities. The criticism was fair, however, there was a method in the madness of assessing the students through true/false quizzes. Firstly, the idea was meant to assess students in a quick and light fashion that would require them to know the module's material without having to spend much time on Blackboard, and in the process, use a lot of their precious data on one module. Secondly, the idea was to ensure that students knew the basic concepts around the First Year module without having to initially go deep into problematising these concepts and theories. Such an exercise was partly reserved for the Test and then the exam.

#### • What was class attendance like?

Every week, an average of 750 out of the 879 registered students were able to engage with the lecture material that was posted weekly on the Blackboard.

#### • What were the pros, if any?

The pros were that learning was able to continue because most students have

paid their tuition fees for 2020. Being introduced to online teaching, even though it meant being thrown into the deep end without any warning for both staff and students will serve both parties well moving forward, because online teaching appears to be the future of teaching and learning, given the messages of the university, before the lockdown, on the basis that online teaching is compatible with the Fourth Industrial Revolution, which the university leadership has been championing.

#### • What were the cons, if any?

Online teaching is very demanding, especially when it comes to teaching huge undergraduate classes. As the lecturer, you are always kept on your toes because students will e-mail you at any given time, unlike during face-to-face teaching and learning, where students would normally consult during set days and times during the week. Due to the unpredictable nature of technology, when it comes to assessments, you will be kept busy the whole time, entertaining students' queries and fears during assessment submission days, and this might entail not sleeping at times, for you to cater and respond to students expeditiously, who will be e-mailing in panic over one problem or another. Thus, managing online assessments with huge undergraduate classes is both physically and emotionally draining. It really saps your energy.

#### • *How did it impact on you?*

I have mixed feelings. It was my first time teaching virtually, for the whole Term and the experience proved to be quite draining. However, the fact that most of the students gave it their whole (came to the party in terms of engaging with the module), managed to temper and somewhat overshadow the challenges of online teaching and learning.

## • What do you see as the future of teaching?

After this lockdown, I am increasingly seeing virtual teaching and learning being the future in most SA universities.

A lecturer who taught a third-year class of just over 200 students also related her experiences:

#### • What was class attendance like?

No 'attendance' per se - I developed the module so that they can access the 'classes' at any time and multiple times. Posting weekly PowerPoint slides
with my voice speaking through each slide; additional readings and/or YouTube videos; and checklists in preparation for their assignments/proposals. I did, however, track the number of views on Blackboard, and the majority of students accessed them.

# • What were the pros if any?

From informal student feedback, as well as feedback from the third-year tutor, it was evident that students liked the approach I took and the material I posted. The marks also show that they did well – which I take as a win. I learned a lot, in terms of the culture of teaching and how that needs to change during these times – so I hope I can incorporate this in my future teachings.

## • What were the cons if any?

I missed the face-to-face interaction. I did have the odd Zoom session (for consultation) to try and connect with students, but only about 40 out of 217 attended. The cons mostly had to do with the administrative strains that came with the lockdown. Some students could not access Blackboard or upload assignments due to bad internet connectivity. I had to find ways to accommodate all of them (my motto: leave NO student behind!), which often meant me teaching over the phone to them at strange hours of the day and night (when they had 'better' connectivity or using a friend or family member's phone – I did four 1 am sessions), or over weekends, or communicating lectures via WhatsApp. Luckily it all worked out, it just meant extra time spent and going the extra distance during my time. Some students wrote to me in utter panic and I had to constantly reassure them that things will be okay – this went beyond classwork and into their emotional wellbeing as well. This happened a lot. So, I was constantly consulting students around the 'new normal' and how they can manage their challenges.

# • How did it impact on you?

Dealing with student queries that go *way* beyond just coursework takes an emotional toll. I am the type of lecturer who aims to give my all to my students, and their <u>serious</u> issues haunt me. The boundaries between teacher and student have been blurred and cannot be ignored by our institution. My work-life spill-over has been complicated. It sounds silly, but the number of emails was just an administrative nightmare and I feel close to burn out.

The new learning environment, at least at one university, has taken off relatively smoothly. The direct classroom experience has not meant students are dealt with remotely. Many have used technology as a way to communicate directly with lecturers, cutting down distance. At the same time, lecturers have found that there is no limit to 'office hours' and they have to double as both therapist and teacher. The psychological services of the university were widely used, and one wonders how these services will function in the context of online learning.

Overall, one gets a real sense that at UJ, lecturers hit the ground running. The take-up rate from students was incredibly high. But there was a toll taken on lecturers. Despite the 'distance', it appears that students entered the lives of lecturers in much more persistent, time-consuming and intrusive ways.

Meanwhile, it was noteworthy that lecturers got on with things, determined that the year would not be lost as innovations were made, like accessing lectures at any time and tests in terms of quizzes that eased students into a new way of learning.

As the date of students being allowed back to university was pushed back and warnings issued that the danger of the virus was ongoing, universities have begun to think about changes in their ways of working in the longer-term, central to which is online learning.

# The (Twin) Towers of Learning?

'I couldn't afford to learn it', said the Mock Turtle with a sigh. 'I only took the regular course'. 'What was that?' inquired Alice'. Reeling and Writhing, of course, to begin with', the Mock Turtle replied; 'and then the different branches of Arithmetic – Ambition, Distraction, Uglification, and Derision' (Lewis Carroll, Alice in Wonderland).

The move to online learning, done with the speed of Achilles, has the potential to change the notion of the university in fundamental ways.

The philosopher Agamben argues that the turn to online goes beyond the diminution of life experience and ways of seeing, given the dominance of the computer screen: Much more decisive is what is taking place is something that, significantly, is not spoken of at all: namely, the end of being a student ... as a form of life .... To be a student entailed, first of all, a form of life in which studying and listening to lectures were certainly decisive features, but no less important were encounters and constant exchanges with other scholarii .... This form of life evolved in various ways over the centuries, but, from the clerici vagantes of the Middle Ages to the student movements of the twentieth century, the social dimension of the phenomenon remained constant. Anyone who has taught in a university classroom knows well how, in front of one's very eyes, friendships are made, and, according to their cultural and political interests, small study and research groups are formed that continue even after classes have ended. All this, which has lasted for almost ten centuries, now ends forever. Students will no longer live in the cities where their universities are located. Instead, they will listen to lectures closed up in their rooms and sometimes separated by hundreds of kilometres from those who were formerly their classmates. Small cities that were once prestigious university towns will see their communities of students, who frequently made up the most lively part, disappear from their streets (Agamben 2020).

While Agamben might be accused of romanticising universities, he goes on to concede that universities had grown complacent and that their place as vanguard of knowledge production and dissemination were eroding:

About every social phenomenon that dies it can be said that, in a certain sense, it deserved its end; it is certain that our universities reached such a degree of corruption and specialist ignorance that it isn't possible to mourn them, and the form of life of students, consequently, has been equally impoverished.

Chunks of the academy have long quarantined themselves from experiences outside the laager, living in the world of texts and textbooks. A point Geoff Dyer makes eloquently:

That is the hallmark of academic criticism: it kills everything it touches. Walk around a university campus and there is an almost

palpable smell of death about the place because hundreds of academics are busy killing everything they touch. I recently met an academic who said he taught German literature. I was aghast: to think, this man who had been in universities all his life was teaching Rilke....You don't teach Rilke I wanted to say...You turn him into dust and then you go off to conferences where dozens of other academic-morticians gather with the express intention of killing Rilke and turning him into dust .... how can you know anything about literature if all you've done is read books? (1997: 101).

The 'deconstructivist' method that is all the rage at universities was exposed in 2018 when it was revealed that three researchers in the United States had stage-managed a hoax by publishing fake research in respected journals. Their intention was to expose ideological bias and a lack of careful reviewing oversight. Of the 20 articles submitted, 7 were accepted after review processes. One of the articles, 'Human Reaction to Rape Culture and Queer Performativity at Urban Dog Parks in Portland, Oregon' sought to inquire; 'Do dogs suffer oppression based upon (perceived) gender?' Another of the articles which passed peer review made the case that a man masturbating while thinking of a woman without her consent is committing sexual assault. Entitled 'Rubbing One Out: Defining Metasexual Violence of Objectification Through Nonconsensual Masturbation'. It set out its thesis:

> By drawing upon empirical studies of psychological harms of objectification, especially through depersonalization, and exploring several veins of theoretical literature on nonphysical forms of sexual violence, this article seeks to situate non-consensual male autoerotic fantasizing about women as a form of metasexual violence that depersonalises her, injures her being on an affective level, contributes to consequent harms of objectification and rape culture, and can appropriate her identity for the purpose of male sexual gratification (cited in Mounk 2018).

The scam had echoes of an earlier hoax by psychist Alan Sokal, that published what he himself considered a load of nonsense in the journal Social Text: Early in 1994, Sokal set himself to writing an article full of what he saw as the worst sins of cultural studies and science studies: appeals to authority rather than logic to support arguments, unreadable prose, mistaken claims about scientific theories, and a general failure to give the scientific method its due. But he had to do his work carefully. The article had to be 'bad' enough to make his point – but 'good' enough to find a perch from which to make it .... Unlike most scholars, however, Sokal was searching for references that struck him as nonsensical. He gathered a collection of the best (or worst) he could find and built an impenetrable essay around them. The result: a mix of plausible claims that go too far, implausible claims that go nowhere at all (concealed in syntax so dense as to be almost unreadable), and fringe philosophical theories set forth as widely accepted scientific advances. He topped these off with a vast number of endnotes and the occasional truth, and christened the piece 'Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity' (Lingua Franca 2000: 3).

The publication of these articles, some in what is referred to as high impact journals, raises deep questions about the whole process of peer review and the faddishness of academic life, but also how the drive to publish in particular journals that demand an arcane and jargonised style isolates the academy from the public domain. The nature and form of the performance evaluation system for academics often serves to reinforce these tendencies. The emphasis is to concentrate on a narrow area of one discipline, defending your turf like any worthy drug lord, and resulting in what Mills-Wright called 'the lazy safety of specialization' (Mills-Wright 1959/2000: 21).

At places like the University of Johannesburg, there have been real attempts to value interventions in the media by academics, with COVID-19 being an example of this, as staff made a series of interventions that were widely read. It is of course also the moment of 'wicked problems' that the possibility of fame and funding can open the door to fraud. The most significant and potentially damaging case of quick-fire, unverified research arose when a number of scientists began to question the findings in a number of papers published in high level medical journals, including Lancet and the New England Journal of Medicine, by a small US analytics company called Surgisphere, with just 11 employees. After more probing, it was discovered that the research was based on an analysis of health records from patients on six continents, including Africa, where there were hardly any patients at the time, and where it was unlikely that records would be linked to an international health database (Davey 2020). Nothwithstanding, Universities are still places in which independent, rigorous research can be conducted. However, the temptation to quantify academic output, follow the money and erode ethical boundaries needs to be resisted. At the core of our work surely are those traditional pillars; methodological meticulousness and interpretive imagination.

Meanwhile, one of the ironies of South African society is that, as we have massified tertiary education, we have also seen record levels of unemployment. It brings back haunting memories of a book I read in the 1980s, entitled The Overeducated American by Richard Freeman. These are difficult issues to raise, as students, many first-generation, see university as a way to achieve class mobility. One of the consequences is that upon leaving university with degree in hand, they may have to take jobs as salespersons for example, which push those without credentials further downwards. Gary Roth, author of The Educated Underclass: Students and the Promise of Social Mobility (2019), has in many ways updated Freeman's book and shows how those with degrees hardly ever find jobs that match their field of study. Still, we live in an age obsessed with certification, and as COVID-19 smashes the economy and 4IR makes more and more occupations redundant, the form and content of a university degree has come under increased scrutiny. Some, such as Curtis Bonk, have welcomed the development and spread of online education as helping to flatten the world. He argues that:

Web technology offers new hope for educating the citizens of this planet. It is the opening up of education that ultimately makes a flatter or more robust economic world possible. In the twenty-first century, education trumps the economy as the key card to participation in the world ... (Bonk 2009: 7-8; 39).

But this notion of the flat world does not bear up to everyday experience. Education is not necessarily the key to participation in the economy. Pandemics, and the uncertainty they generate, only serve to increase managerial power, as supply chains and changes in market needs mean faster decision-making at the top. Most will have poor if limited Wi-Fi, and cramped living space, while the personal interactions and networks of sharing are eroded. The best lecturers are those who can present glossy, easy to digest power-point presentations.

On the other side, the value of online learning is that it allows the university, often harder to turn than the Titanic, to be nimbler, to throw its cabins open to more and more people. Students can spend a month at university, then be able to learn from home and return for another few weeks. This would allow for multiple entry and exit points and create the conditions for accessible lifelong learning. A once-off three or four-year degree as a way of thinking about education that is standardised into layers of knowledge, or what Ivan Illich called 'prefabricated blocks' (1973: 25), is an anachronism. Despite the supposed opening up of the system, adult learning is largely on the decline, with many opting for unregulated short courses that give a certificate in the end. The flexibility offered by online learning allows people to keep returning, making lifelong learning, re-skilling, and upgrading a real possibility. Online students can enjoy the flexibility of accessing knowledge at different times and go back to lectures they find interesting or challenging.

There is the danger though, that these limited duration activities are separated from each other. What Rosa calls 'episodes of experience' are supplanting 'experiences which leave a mark, which connect to, or are relevant for, our identity and history; experiences which touch or change who we are' (Rosa 2010: 94–95).

And, what will the impact of limited duration activities have on creativity and innovation?

Simply having a computer and expecting students to get on with it occludes the problems which students have with learning, the personal troubles that beset them. And, there is the danger of solitude; the classroom gives you interactions, debate, a chance to cross swords with your peers. As Joseph Viner put it, the 'nonsense people can come to believe if they think alone' (cited in Baum & McPherson 2019: 246). The danger may be however, that feedback is reduced so dramatically that there can be an overall detachment.

One has to guard against 'not so much the use of technology in the service of education as the usurpation of education in the service of technological enterprise' (Noble 1998: 267). There are questions which COVID-19 raises that strike at the heart of research and knowledge. What does traditional field-work mean in the age of the pandemic? Are methodologies like participant-observation and life-histories over and will we witness a turn to Big Data? As Mayer-Schonberger and Cukier point out:

In the age of small data, we were driven by hypotheses about how the world worked, which we then attempted to validate by collecting and analysing data. In the future, our understanding will be driven more by the abundance of data rather than by hypotheses (2013: 68-69).

But, as Sardar points out, an uncritical reliance on Big Data is fraught with danger:

Big Data does not differentiate between facts and 'alternative facts', truth or lies, knowledge or bullshit, news or fake news, politics or conspiracy theories, legitimate concerns of dissidents or the paranoia of anonymous on-line mobs, genuine comedy or racism, and bigotry masquerading as 'earthy humour', irony and sarcasm. All is shovelled up. As such, Big Data is a repository for plain ignorance: blatant lies, obvious bullshit, and all the dark paraphernalia we find on social media, on-line platforms and other digital apparatus .... It is essentially a postnormal phenomenon. The main drivers of postnormal times - the 4S's - are clearly exhibited by Big Data: Speed (it is instantaneous), Scope (it is global), Scale (it reaches not just the individual level but also extracts the very essence of what makes an individual truly unique); and Simultaneity (it works simultaneously across all aspect of human and planetary life). As such, Big Data ... accumulates widely diverging truths, falsehoods, behaviours, orientations, ideologies, and worldviews (2020: 6).

This danger is accompanied by the question of who owns Big Data? As Harari notes:

Big Data algorithms might create digital dictatorships in which all power is concentrated in the hands of a tiny elite while most people suffer not from exploitation, but from something far worse – irrelevance (Harari 2018: 19).

One of the major changes to the university, with the push to digitisation, is the eroding of student experience. Universities have just come through the Fees Must Fall struggle – that was a major victory. It spurred

battles around decolonising the curriculum, with seminars and classrooms witnessing serious debates, ranging from sexuality, racism, and the economy. Many of the political parties' backbenches cut their teeth in student organisations. With the evacuation of students from the university, this incubator has been and will be removed, as will the major force challenging managerialism of universities and the insularity of academics. Alongside this, what does the move to digital mean for what we regard as knowledge? What impact does this have on decolonising the curriculum, which was the drive through 2018-2019? In this debate, suprisingly little attention has been paid to the deolonising/independence period of the 60s in Africa. How did African universities respond and what lessons can we learn from it? (for an excellent review article, see Christopher Clapham 2020).

How will students organise? Will there be different ways to exert pressure and resist policies of management and universities that move beyond the mass? Many a Vice-Chancellor might breathe a sigh of relief to have the student mass off-line as it were. However, there will be new forms of activism, as the digital university is always open to viral attacks that can paralyse an institution in ways that students in mass (they are often a minority anyways) can only dream of.

There are other dangers too lurking for local universities, with the arrival of what is referred to as Massive Online Open Courses (MOOC's). Ivancheva and Swartz (2020) have shown how online programme management providers (OPMs), shorthand for companies that provide services for online higher education, have become big business.

In their article, they reveal that:

Senior managers from UK and South African public universities are tempted to, and increasingly do, partner with OPMs. The business model for the OPMs is simple: for up to 50 - 70% of revenue from shared online courses or degrees, and for access to huge amounts of student data, OPMs offer as little as some start-up capital and services like marketing, recruitment, and digital platforms – all assets and functions which most universities already have in-house or through subcontractors.

This must be viewed alongside the rise of an Emerging Global Model (EGM) in recent times. These organisations,

represent the leading edge of higher education's embrace of the forces of globalism. [They] are characterised by an intensity of research that far exceeds past experience. They are engaged in worldwide competetion for students, faculty, staff, and funding; they operate in an environment in which traditional political, linguistic, and access boundaries are increasingly porous. These top universities look beyond the boundaries of their countries in which they are located to define their scope as trans-national in nature (Mohrman, Ma & Baker 2008: 6).

MOOC's lend themselves to a 'notion of knowledge ... quite close to the notion of information ... set of facts, pieces of data, or concrete bits of a larger process' (Rhoads, Berdan & Toven-Lindsey 2013: 92).

Online also raises the issue of universities with 'big' reputations dominating the market. Why not take a degree from Harvard rather than UJ? Already, Harvard has half-a-million students registered online. They can pay celebrity academics to do podcasts and use this to attract students. Let's be serious, my students would prefer a lecture from Cornel West than me; a degree from Yale than from MUT (Mangosuthu University of Technology). As Jonathan Rees points to, the onset of super-professors reinforces,

the class differences that MOOCs created between different strata of faculty. How could mere mortals compete against the best teachers at the best universities piped into living rooms around the world, teaching MOOCs that covered all the subjects that people everywhere craved to learn? But what happens to the professors who get left behind? As online classes got scaled up, the thinking went, and MOOCs get scaled-down, all the rest of us would be left as ministers without portfolios (2016).

There is a danger that we will flatten out students and global experiences. But, we bring our histories to the classroom. COVID-19 has brought home how the notion of some pure science delinked from the social is fraught with dangers. While university professors are still engaged in trench warfare, policing the border of their disciplines, and grudgingly conceding some form of inter-disciplinarity, the world as Laszlo shows, has pushed ahead:

The demands on scientists are great, and they are distributed through-

out the social and the natural sciences. These are not problems for the sociologist or the political scientist alone. They are also problems for the ecologist, the urbanist, the psychologist, the demographer, the economist, the chemist and the physicist – and for the cybernetician and systems scientist. Within the current boundaries of the disciplines, no scientist is able to successfully confront them. The scientific establishment was traditionally reluctant to undertake such inter-disciplinary projects to apply science to human problems This, however, is changing. Disciplinary boundaries are not eternal (2005: 89).

Ngugi's plea of not remaining 'cocooned in our libraries and scholarly disciplines, muttering to ourselves: I am only a surgeon; I am a scientist; I am an economist; or I am simply a critic, a teacher, a lecturer' but rather 'turn the struggles into the spheres of common knowledge and above all, justice into passion' is as relevant as ever, but will not be advanced by the machine of 4IR (Ngugi 2005: 105-6). As Ziauddin Sardar warns:

wisdom may not be an attribute that could be transferred to a machine – however 'intelligent' it may be. It is one thing to provide selected traits of wisdom to AI and quite another for AI to actually act wisely. And if we are teaching wisdom to AI, exactly what kind of wisdom is being imparted? .... Wisdom cannot be simply reduced to a set of rules. There are certain key aspects of wisdom – often absent from the discourse that focuses solely on rules and logical components that are specifically human: empathy, compassion, love, forgiveness, sincerity, humility, patience, gratitude, courage, modesty, introspection, contemplation – the old fashioned, time-honored, virtues so essential for acting wisely but so demanding to teach a machine. The very virtues we need to navigate postnormal times ... (2020: 9).

# **Confronting Wickedness**

All ideas technological and scientific-Have they all been richly realised Fully minded and made to serve And enoble and feed humankind?... Look at history and see what you find (Okri 1999: 27). Timothy Mitchell's book, *The Rule of Experts* takes us to Egypt in 1942 and shows how in the battle between the Germans and Allies at Al-Alamein, some 50,000 to 70,000 Allies were killed. Mitchell relates that in the same year, another 'non-human' force invaded Egypt. This second invader was Anopheles Gambiae, a mosquito. Its' invasion resulted in many more fatalities than the War. Estimates suggested that 750,000 people might have contracted the disease over three years and between 100,000 and 200,000 people died. Despite this incredible loss of life, the mosquito has been written out of history, because 'it cannot speak' (Mitchell 2002: 50).

Mitchell cajoles us to think beyond the human world to the nonhuman, viruses, and insects as agents of history trespassing borders, both geographic and disciplinary:

> The connections between a war, an epidemic, and a famine depended upon connections between rivers, dams, fertilizers, food webs .... What seems remarkable is the way the properties of these various elements interacted .... But there are no accounts that take seriously how these elements interact. It is as if the elements are somehow incommensurable .... Each of these processes and forces has its own science, which identifies the agents, time lines, geo-spatial scales, and modes of interaction appropriate to its analysis. This tends to leave each of them isolated in their separate sciences. The isolation may be appropriate for the task of a particular science or technical expertise, but its limitations are striking .... Since those interactions belong ... to some of the most profound transformations of the modern era, this presents a problem for social science. Instead of developing the kinds of analysis that might address these interactions, responding to the techno-scientific transformations of the twentieth century, social theory is still largely trapped in the methods and divisions of labour of the nineteenth century (2002: 27-28).

In 2020, the challenges posed by COVID-19 force us to develop methodologies that go beyond the separation of the sciences into natural and social and to encourage ways of thinking that 'address interactions'.

One of the dangers is that as universities grapple with new ways and forms of teaching, research could be seen as what 'other people do', reducing us to consumers and disseminators of knowledge, not its originators. But, what has been referred to as 'discovery' research must remain as one of the core goals of universities; original research that gets fed back into classrooms and into society at large. How to place research alongside teaching in importance is a challenge. The League of European Research Universities neatly sums up this relationship:

> Basic research ... creates the new knowledge that is the ultimate source of most innovation in the economy, society and culture; and provides a framework for an education through which the scepticism, creativity and high-level capability that society needs are embodied in people. Research-intensive universities that couple world class research and education provide the most efficient means of providing this combination of basic research and research-based education. Research universities uniquely have the disciplinary breadth perennially to reconfigure their research efforts to address research needs and opportunities. Basic research should flourish alongside strategic and applied research and professional practice (cited in Taylor 2006: 3).

One gets the sense that, while there will be a blend of online and classroom lectures; a hybrid model of a university will emerge. My university is built in the form of a laager that 'protected' whites and prevented Black students from entering. The racial laager has long been breached and thousands of Black students now stream in every day. Still a laager, but a non-racial one. With online learning, the university is breaking out. Accessibility will be increased as layers of students can register, with the flexibility of periodically returning to study and not having to give up their jobs or re-training themselves to get one. Rather than captive of a once off degree that was attained twenty years before, whose curriculum was already twenty years old, the possibility exists of re-tooling and re-skilling. Collini's point for these times is apposite:

> We need to be able to articulate an understanding of what universities are for that is adequate to our time if we are to be able to decide what to do. This does not mean being committed to resisting change or to clinging to how things were done the day before yesterday, still less to denying the fundamental forces in the world that are bound to affect the character and functioning of universities. Quite the contrary, in fact. If things were not changing so quickly, we might manage to

hobble along leaving our working assumptions implicit, not needing to be exposed, scrutinized and developed. But we're most emphatically not in that position. We simply have to talk about these general matters because the changes we are experiencing are so extensive and so fundamental that we cannot any longer feel confident that we have any working assumptions that are widely agreed (Collini 2017: 17-16).

We are entering an uneasy period of old and new in which we need to think through the paths we follow. The academy is replete with those simply hoping to escape the currents of the time, defending their 'academic freedom', demanding to be left alone or simply continuing like automatons to drift with the currents. In this pivotal moment, confronted with 'wicked problems', not to respond creatively or simply hare ahead, publish more, graduate more speedily, hoping to outrun the virus of our times, will risk us suffering the fate of Aeschylus, who met his end when an eagle dropped a tortoise on him, thinking his bald head was a stone (Critchley 2009). It bears remembering that Aeschylus is known as the father of tragedy.

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