AFRICAN PARLIAMENTS

*Evidence systems for governance
and development*

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LIST OF ACRONYMS

3D	Three-dimensional
4IR	Fourth Industrial Revolution
ACRES	Centre for Rapid Evidence Synthesis
AFIDEP	African Institute for Development Policy
AFLI	Africa Leadership Institute
AfrEA	African Evaluation Association
ALP	African Legislature Project
APNODE	African Parliamentarians' Network on Development Evaluation
BDP	Botswana Democratic Party
BEPP	Bureau of Evaluation of Public Policies
BEPPAAG	Bureau of Evaluation of Public Policies and Government Action Analysis
BVR	Biometric Voter Registration
CDFs	Constituency Development Funds
CSC	Committee Score Card
CSIR	Council for Scientific and Industrial Research
CSOs	Civil Society Organisations
DAC	Development Assistance Committee
DPME	Department of Performance (later planning) Monitoring and Evaluation
DRS	Department of Research Services (DRS)
EALA	East African Legislative Assembly
ECOWAS	Economic Community of West African States
EIDM	Evidence-Informed Decision-Making
ETWG	Evaluation Technical Working Group
EVI	Electronic Voter Identification
FES	Friedrich Ebert Foundation
FRELIMO	Frente de Libertação de Moçambique
GDP	Gross Domestic Product
GEF	Government Evaluation Facility
GNPBO	Global Network of Parliament Budget Offices
GPFE	Global Parliamentarians' Forum on Evaluation
GTAC	Government Technical Assistance Centre
HEIs	Higher Education Institutions
HR	Human Resources
HSRC	Human Sciences Research Council
ICT	Information and Communication Technologies
IDS	Institute of Development Studies

IIAG	Ibrahim Index of African Governance
INASP	International Network for the Availability of Scientific Publications
IoT	Internet of Things
IPAB	Benin Parliamentary Institute
IPU	Inter-Parliamentary Union
KEWOPA	Kenya Women Parliamentary Association
KEWOSA	Kenya Women Senators Association
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments and Agencies
MEJN	Malawi Economic Justice Network
MPs	Members of Parliament
MPL	Members of Provincial Legislatures
NCOP	National Council of Provinces
NEDLC	National Economic Development and Labour Council
NES	National Evaluation System
NGOs	Non-Governmental Organisations
NMETWG	National M&E Technical Working Group
NPM	New Public Management
OECD	Organisation for Economic Co-operation and Development
OPM	Office of the Prime Minister
PARMAN	Project for Support of the Strengthening and Modernization of the National Assembly
PBOs	Parliamentary Budget Offices
PC-EIDM	Parliamentary Caucus on Evidence-Informed Oversight and Decision-Making
PCOs	Parliamentary Constituency Offices
PFMA	Public Finance Management Act
POT	Parliamentary Oversight Tool
PPE	Personal Protective Equipment
PRS	Parliamentary Research Service
RSP	Revolutionary State Party
RTS	Results Transmission System
SADC-PF	Southern African Development Community Parliamentary Forum
SCOA	Standing Committee on Appropriations
SCOPA	Standing Committee on Public Accounts
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
Stats SA	Statistics South Africa
SWAPO	South West Africa People's Organisation

UNACEB	State Budget Control and Assessment Analysis Unit
UNDP	United Nations Development Program
UNEG	United Nations Evaluation Group
VOPES	Voluntary Organisations of Professional Evaluators
WBI	World Bank Institute
ZANU-PF	Zimbabwe African National Union-Patriotic Front
ZEPARU	Zimbabwe Economic Policy and Analysis Research Unit

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PARLIAMENTS LOOKING FORWARD: TECHNOLOGY, FOURTH INDUSTRIAL REVOLUTION AND COMPLEX PROBLEMS

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Introduction

This chapter presents a forward-looking perspective for African legislatures to consider when building and sustaining systems of evidence suitable to generate quality evidence for informed policymaking in the context of rapidly changing global conditions of the twenty-first century. Advancements in technology have led to waves of digital transformation with economic and social activities shifting online and altering the way individuals, organisations and governments operate globally with indications that this trajectory will be exponential in the near future (Schuler, 2020). Businesses and corporations are at the forefront of the transformation and are rapidly innovating, adapting and shaping the use of technologies to achieve their business imperatives. Governments, particularly those in developing countries, have, however, been slow to adopt technologies at a similar pace despite the immense possibilities that such advancement offers to leapfrog from the transitional industrial age stage of development to the information, knowledge, and data-driven age of contemporary times (Ciuriak & Ptashkina, 2019).

With the backdrop of these developments, governments are continually having to contend with persistent and seemingly intractable and complex problems such as, among others, climate change, pandemics, and international migration, all of which intersect across sectors and subsystems with potentially catastrophic effects. Despite the gravity of the problems, they have been inadequately addressed by rational and technical solutions put forward by public management (Head, 2008). The Covid-19 pandemic is a prime example of such a complex problem, albeit very recent, where a health crisis has had far reaching effects on people, communities, businesses, economies and governments, sparking waves of disruption and exposing the skewed logic and value systems that underpinned the strategic imperatives of people, governments and corporations worldwide (OECD, 2020). In addition, the effects of the Covid-19 pandemic have been felt disproportionately in societies across the world, mirroring the pattern of existing inequalities and power imbalances, further exacerbating conditions for the vulnerable across age, gender, socio-economic status, ethnicities and geographies (Blundell et al., 2020).

Digital technologies can be applied in diverse ways to inform and formulate strategies for complex problems such as the Covid-19 pandemic. Countries that have been seen as successful in planning and coordinating government response to the Covid-19 pandemic, have integrated digital technologies

with policy and health care to arrive at successful outcomes in managing and containing the effects of the pandemic (Whitelaw, Mamas, Topol & Van Spall, 2020). Such successes in application and use of technologies by governments are few and far between. There are, however, concerns that unfettered use of technologies by individuals, corporations and governments to infringe on citizens' rights and privacy without proper regulation, poses potential challenges to legislators and policymakers (Schuler, 2020).

This chapter describes the opportunities, challenges and fears emerging from the wave of digitisation and technological advancement sweeping across society. It covers the extent to which parliaments have adopted technologies across their systems of evidence, delves into the way parliamentary decision-making occurs at different levels, and describes how African parliaments operate within the evolving context of increasingly complex, interrelated, non-linear problems, with a case in point being African parliaments' responses to the Covid-19 pandemic. Finally, it concludes by discussing the implications of the twin disrupters, Fourth Industrial Revolution (4IR) and complex problems such as the Covid-19 pandemic to parliamentary political, managerial and technical decision-making.

The Fourth Industrial Revolution (4IR) and the transformation of society

The invention of a device capable of inexpensively mass producing and spreading knowledge on a variety of subjects in faster ways than ever experienced before, leading to profound effects on society and shaping the world as we know it today, is arguably an event of great relevance to the topics discussed in this chapter (Dittmar, 2011). In 1436, a German goldsmith, Johannes Gutenberg, invented a movable version of the printing press, an innovation that became the driving force of the renaissance and prompted a scientific revolution leading to the birth of a global news network¹ akin to contemporary mainstream media, doubling literacy rates in Europe in every subsequent century and triggering the transition of civic participation from merely sharing public opinion to launching popular revolutions that disrupted monarchies and governments (Schlossberg, 2011). The centuries that followed were marked by equally impressive inventions although the invention of the

¹ The traditional media as we know it today was modelled off the patterns of distribution that followed the demand for knowledge generated by the printing press.

printing press was particularly pertinent because it transformed the way that people shared ideas and used and valued knowledge. In the twenty-first century we can draw multiple parallels on social, economic, political and cultural fronts with the onset of the Fourth Industrial Revolution (4IR),² which is, primarily, impacting significantly on the way that knowledge is generated, shared, valued and cultured by individuals, businesses, organisations and governments (Xu, David & Kim, 2018).

The impact of 4IR on society may be better understood by revisiting previous industrial revolutions and their impact on economy and society. The invention of the steam engine in 1760 ushered in the first industrial revolution that shaped the transition from cultivation, feudal modes of social and commercial organisation to that of manufacturing using coal as the main energy source and trains for transportation. The second industrial revolution that started in 1900 was prompted by the invention of the internal combustion engine and the dawn of the era of rapid industrialisation with oil and electricity as the main sources of energy for mass production. Innovations around electronics and information technology sparked the third industrial revolution during which production was automated and a digital revolution ensued. The invention of the computer, internet and artificial intelligence, among other innovations, heralded the beginning of the Fourth Industrial Revolution (4IR) with disruptive technologies, web-enabled communications, computer-generated product design and three-dimensional (3D) printing amongst its key technologies. The novel and efficient ways in which these technologies are able to combine physical, digital and biological inputs enables fundamental transformation at the systems level in the production, management and governance spheres (Xu et al., 2018).

In today's world, with neoliberalist ideologies and capitalism driving the global economy and the prevailing context of globalisation, digital technologies have had mixed results on the African continent with its high unemployment rates. On one hand, digital technologies have provided economic opportunities for thousands to participate in the global gig economy when they would otherwise

² The 4IR, a transformational change, is characterised by the rise in ubiquitous and mobile technology; cheaper, smaller, and stronger sensors; and artificial and machine learning (Deloitte, 2018). The 4IR is not just ubiquitous to innovative technologies, but also the dynamic entanglements between these technologies with an unprecedented level of data gathering and of communication of physical systems both with humans, as well as with each other in real-time. This chapter only focuses on a subsection of disruptive technologies, specifically how it impacts citizen engagement, politics and governance.

have been grappling with structural unemployment. In this way, digital technologies could be seen as enablers for economic progress. However, a nuanced analysis of the gig economy enabled by digital technologies and platforms, exposes the vast profits made by global tech companies at the expense of workers earning low wages and working long hours, and further magnifies the gap between rich and poor and the global inequalities and inequities intermeshed within this tech-enabled system (Naughton, 2019).

For the opportunities arising from the 4IR and digital technologies to benefit society as a whole and considering that the technological changes are occurring at an exponential pace never witnessed before, it is important for policymakers to recognise that the changes associated with this revolution will bring about shifts in power, wealth and knowledge akin to the changes brought about at the time of the invention of printing press (Bianchi & Labory, 2018). For Africa, the most pertinent of these disruptive technologies is undoubtedly the invention of the mobile phone and a boom in mobile telephony infrastructure across sub-Saharan Africa (SSA). Such technologies have driven a series of innovations related to the Internet of Things (IoT), web- and mobile-enabled communication platforms, social media platforms such as Facebook and Twitter all of which have shown consequent disruptive effects on business through e-commerce, social and political organising and networking that have been deployed in protests, demonstrations and revolutions (Arthur, 2020; Hanson, 2020; Hanson & Puplampu, 2018).

Technologies and systematic evidence use in parliaments

With the drive for New Public Management (NPM) practices in government and governance modernisation reforms, African parliaments have begun to adapt technologies to modernise organisational systems and processes. Administrative and managerial processes such as financial management, Human Resources (HR) management and organisational communications have been, in most cases, successfully transformed from the laborious manual processes to electronic and digital forms that have brought demonstrated efficiency and productivity gains. Similarly, parliamentary libraries have been able to digitise their paper documents and records with tech-enabled storage and archival systems that have made it much simpler to retrieve, store and organise large amounts of information. Hansard departments have benefitted

from the adoption of technologies that record, transcribe and store audio files of plenary debates on the floor of parliaments. However, the application of technology across processes in parliaments has not been uniform.

The work of research departments and parliamentary budget offices have largely been left out of this technology adoption wave despite the potential for these technical processes to support systematic evidence generation which is integral to evidence-based policymaking by individual parliamentarians and parliamentary committees. This may have occurred for several reasons: first, across the globe, technologies for business processes for finance and HR management are simply more available and accessible because the way that technological advancement has grown is a function of the drive and interests of the private corporations that lead innovations. As such, technological solutions for specific public sector organisations are limited other than for a few strategic exceptions such as communications, defence, and sector-specific areas like health, where governments have partnered with private companies to drive innovation in those areas (Schuler, 2020).

Another reason why technology adoption in parliaments is skewed is due to the intrinsic characteristics of parliaments as political institutions. Studies have shown that within public institutions the technological reforms for functions that have less exposure to political contestation are more successful than those functions that sit within the prism of political bargaining, negotiating and contestation that is customary in political parties (Cordella & Bonina, 2012). A common conception in evidence-based policymaking circles is that evidence use is political and is subjective to the user's interests and motives. However, the documented experiences of parliamentary researchers and budget officers involved in systematic evidence generation indicate that evidence generation itself is political. The process of introducing reforms to improve these functions that are inherently politicised will undoubtedly be slower and more complicated to undertake as reform designers and implementers will need to understand and ably navigate the political landscape to expect some level of success (Antonio & Francesco, 2012).

These are important considerations for those working to improve technological capabilities in parliaments. Successful undertakings of such capacity development projects will likely require a good understanding of the ecosystems of technology and the technological solutions that are available

for use, as well as an astute grasp of the political dynamics within parliaments where the newly introduced technological applications are expected to create value (Cordella & Bonina, 2012).

In addition to the reasons contributing to the skewed nature of technology adoption within parliament, discussions with parliamentary staff over the course of the CLEAR-AA parliamentary support programme reveal the undercurrents of demand and supply of evidence in parliaments which also play a significant role in how technology could be effectively applied to achieve the best results. There is a growing demand for evidence by parliamentarians and other parliamentary staff which puts immense pressure on the often overloaded clerks, parliamentary researchers, budget officers and legal officers to systematically respond to evidence requests. The digitisation of previously time-consuming processes such as interview transcriptions or using artificial intelligence and machine learning for data analysis and synthesis of data contained in hundreds of government reports are ways in which the process of systematically generating evidence could be made easier with the use of 4IR technologies. Demand for evidence will continue to grow as parliamentarians are pressurised by citizen expectations and demands and the use of technology can be leveraged to reduce the onerous burden of work on parliamentary staff.

Suppliers of evidence used by African parliaments are becoming increasingly diversified. Most commonly, the evidence used by parliaments for policymaking is from the executive arm of government in form of reports. However, over the past decade Civil Society Organisations (CSOs) that monitor parliamentary work have begun to provide evidence to parliaments on various subjects and topics. Think tanks and research centres in universities and Higher Education Institutions (HEIs) are increasingly involved in providing specialist evidence targeted at policymakers and legislators, some of which work directly with parliamentary committees. Citizen-generated evidence is becoming a key feature of evidence supply for parliamentary committees, typically with support from NGOs. Parliaments are in a good position to integrate this diverse data to create a rich pool of evidence for policymaking and digital technologies are an important tool for streamlining and systemising information.

Perhaps the most interesting outcome of the advent of digital and mobile technologies in Africa over the past two decades is the proliferation of robust citizen engagement with governments. Digital technologies have enabled millions of Africans to communicate and interact with each other

and with policymakers on various channels, particularly through social media (Mabweazara, 2015). For legislators on the African continent, this has implications on the government's role for either empowering or curtailing this wave of public participation and engagement.

Impact of disruptive technologies and digitalisation on parliament, governance, and democracy

As asserted by Arthur (2020), users of disruptive technologies can communicate with each other directly and indirectly through iterative processes which was previously not the case with traditional media. The prominence of disruptive technologies has resulted in the internet progressing society from a largely representative to a participatory democracy which involves more active audiences who have control over channels and messaging. This is exacerbated by the lower costs of producing and sharing information. Furthermore, through new media, individuals and groups have access to powerful, speedy, and relatively low-cost tools for recruitment, fund-raising, dissemination of information and images, collective discussions, and mobilisation for action (Wolfsfeld et al., 2013).

4IR and disruptive technologies have further taken over the advantage previously held by governments in terms of dominance and control of state media and have further shaped how governance is taking place and how political parties and MPs are communicating messages (Arthur, 2020). Other benefits have included enabling increased civic engagement by allowing politicians and policymakers to leverage online platforms and digital applications to engage with constituents in real time; to gather nuanced feedback on citizens' concerns; and to enhance and advance civil discourse. This has further played a role in empowering citizens to collectively hold elected officials accountable by tracking the effectiveness of the implementation of policies thus closing the democratic divide between 'policymakers' and 'policy takers.'

The flipside is also true, as with all disruptive technologies there are winners and losers. Technology can serve as a purveyor of 'fake news', disinformation, radicalisation and polarisation. Well-resourced governments and/or politicians with devious motives can leverage digitalisation and the internet to misinform people and undermine a democracy. The case of Cambridge Analytica, which

is addressed in subsequent paragraphs readily comes to mind. At the level of local politics, such technologies can be used to spread lies, sow ethnic/religious/race divisions and create confusion about what is real and what is not.

Having discussed the increasing availability of disruptive technologies, it is paramount to examine how these are shifting the African political landscape. Several scholars concur that increased digitalisation and rise in disruptive technologies have provided good platforms to mobilise and connect with target audiences as a means of building trust (Arthur 2020; Taprial & Kanwar, 2012). Social media platforms have facilitated new forms of political activism due to the low cost of enabling mobilisation and participation in protest action. For example, social media was key to the Arab Spring (Karolak, 2018). Disruptive technologies are further making it easier to organise political events at short notice as they allow citizens to receive messages in real time on various platforms. The #FeesMustFall and #BringBackOurGirls campaigns in South Africa and Nigeria are prime examples of such digital activism (Mutsvairo & Karam, 2018).

Disruptive technologies are used by MPs to communicate with citizens and have been beneficial in allowing citizens to express their views. Many MPs have continuously utilised social media platforms to communicate and disseminate their party policies, positions on key socio-economic and governance issues; to discuss and solicit the voice of people on key and current issues; and to mobilise support and membership for the parties (Arthur, 2020). Indeed, according to Dzisah (2018), social networking sites (Facebook), cross-platform messaging and Voice over Internet Protocol (VoIP), WhatsApp, and microblogging services (Twitter) are among the most popular social media platforms and have notable benefits in enhancing political participation.

Digital cameras combined with sites such as YouTube create new possibilities for exposing and challenging abuses of power (Diamond, 2010, p. 76). Ordinary citizens now have the possibility to record and share events and incidents and this has enabled citizens to tell their version of events to wider audiences thereby inflecting political discourse and shaping perceptions and attitudes. Arthur (2020) further argues that disruptive technologies are significant in their potential to boost public trust in the legislature and political systems as they serve as effective oversight tools and for enhancing citizens engagement with government (Mehr, 2017; Androutsopoulou & Charalabidis, 2018).

While the digitisation and increased use of disruptive technologies have presented advantages to participation in governance processes as shown above, their limitations also need to be stated (Arthur, 2020). Serious concerns have been raised over the proliferation of 'fake news' and breaches of personal privacy, as was the case when Cambridge Analytica harvested the Facebook profiles and personal data of millions of people without their consent and used it for political advertising. According to Hammond (2018), the past decade has witnessed disruptive digital technologies putting pressure on incumbent governments and reshaping democracy in fundamental, sometimes detrimental, ways. Central to this has been the expansion of social networks, and the way in which they have created a new space of political participation and opinion-formation (Hammond, 2018). To this end, the new media has produced a crisis of authority which engulfs journalism, academia, and politics, resulting in many people no trusting the information that they are provided with.

Further, as Arthur (2020) and (Omidyar, 2018) point out, social media tends to create small, deeply polarised groups of individuals who tend to believe everything they hear, irrespective of the reliability of the source and thereby helping to advance the cause of those who are bent on creating and sustaining a divided and polarised society. Thus, rather than creating a horizontal forum for communication, social media has in fact amplified certain voices who act as a key point of identification for the diffuse networked crowd. Trolls and bots disguised as citizens are manipulating information and fomenting polarisation and creating distrust and confusion in the political and democratic landscape of many countries.

Some innovations such as biometric voter registration and identification machines, electronic results transmission, database management systems, and digital networks have enhanced the quality of polls in African countries and reduced electoral disputes (Iwuoha, 2018). However, concerns have been raised on malfunctioning of biometric identification machines or hacking of electoral transmission machines which could facilitate the rigging of the electoral process and outcomes. For instance, during Ghana's 2016 presidential elections, the Electoral Commission directed its staff to stop electronically transmitting the electoral results to the tallying centres out of fear that the system had been hacked. Similarly, Kenya's 2017 presidential election was annulled by the country's Supreme Court after allegations of hacking and other extensive irregularities in the electronic transmission of votes (Arthur, 2020).

More recently, in February 2020, Malawi's constitutional court annulled last year's disputed presidential election results, citing 'widespread' irregularities and ordered a new vote. Such attempts to intervene in elections through sophisticated hacking operations and the spread of disinformation – real or perceived – threaten parliaments and the essence of democracy which relies on an informed electorate to reach reasonable decisions on public policy.

Increased digitisation has seen the rise of citizen journalism where citizens use mobile phones and social media to produce content for mainstream media and this has given citizens 'voice' by allowing them to transmit their views rationally and become represented in mainstream channels, bypass mainstream norms and practices, and actively enter political life on their own terms. This has contributed to citizens using various channels to hold governments accountable for development outcomes. Technology has undoubtedly created seismic shifts in how people communicate and engage on social, economic, and political fronts. The extent to which African governments and parliaments recognise the need to adapt to changing conditions and deploy technologies within public institutions to improve institutional performance is explored further in the sub-section below.

Exploring the intersection of technology, evidence systems and parliamentary decision-making

As the broader society contends with the disruptive effects of technology and 4IR, it is important to understand how African parliaments have responded and this can be done by exploring the intersection between technology, parliamentary evidence systems and parliamentary decision-making. The discussion below draws from CLEAR-AA's work with parliaments over the past five years and is largely influenced by the experiences of parliamentarians and staff in Uganda, Kenya, Ghana, Zambia, Rwanda, Tanzania, South Africa, Malawi, the East African Legislative Assembly and the ECOWAS parliament. Parliamentary evidence systems are designed to support parliamentary decision-making and these systems rely on technologies for efficiency gains. However, a critical consideration for parliaments is that technological advancements should be meaningfully deployed to facilitate effective parliamentary decision-making. An additional consideration is the use of ethical and value-driven strategies to limit the effects of technological advancements and checking the excesses of political contestation that translate into unethical results (Blaser Mapitsa et al., 2020).

Defining the context of complex problems

Scholars and practitioners have typically analysed the problems faced by governments and by society at large in a pattern that established cause and effect from a single perspective by first applying bureaucratic and managerial approaches that draw on rational/technical measures and dimensions typically ascribed to economic and political considerations, and often only draw on aspects of social and cultural discourse as an afterthought (Head, 2008). While these approaches may have had some successes (although evidence overwhelmingly indicates otherwise) in addressing some problems, they are certainly unsuitable in dealing with contemporary complex problems that are not restricted to certain geographies and terrains. Nor are they limited to particular marginalised social classes and excluded groups where causes are myriad, and effects are indiscriminate and catastrophic. Problems such as climate change and its consequences on the environment and on weather patterns, for example, bushfires causing cities to shut down have led to crises in developed Covid-19 pandemic that caused unprecedented disruptions across society with entire countries and major cities across the world under lockdown. This section focuses on the Covid-19 pandemic as a case for analysis of the parliamentary response, the use of technology and implications of parliaments' evidence systems in Africa.

Global trends resulting from the Covid-19 pandemic

The Covid-19 pandemic is a prime example of how a public health problem can transform into and present as economic and governance problems. The governance problem (as opposed to the public health or economic problems per se) is that parliaments are governance structures based on the geographic and national sovereignty of the national state. The pandemic's impacts, however, are largely driven by global factors requiring global responses including the international movement of people spreading the virus; cessation of local economic activity due to lockdowns disrupting global supply chains and trade flows; the need for coordination of global public health, financing, and economic recovery. All these impacts are subject to substantial variations in access and quality of health care across countries, differential access to personal protective equipment (PPE), ventilators and expertise, and vulnerabilities due to poverty and inequality.

Cumulatively this means that while the probability of infection is random and 'equal opportunity', the probability of recovery is heavily dependent not only on epidemiological factors such as age (elderly more vulnerable), gender (women have better survival rates, children don't seem to get infected at a much lower rate), but also on personal income levels to finance the necessary health care, and the overall ability of inundated public health services to cope with the onslaught. The least skilled (and by extension poorest) people are least likely to have an occupation and the internet facilities to work from home. This highlights the digital divide and exacerbates the unequal burden borne by different segments of the population.

Against this backdrop, the responses of African parliaments have been varied and few were prepared to deal with this level of disruption. This was not a unique situation in the early days of the pandemic as most governments across the globe had a chaotic response. However, evidence shows that compared to elsewhere in the world, African countries imposed some of the most stringent government responses, shutting down schools, banning gatherings, closing public transportation, and instituting work from home measures, among others (Hale, Petherick, Phillips & Webster, 2020). The responses of some African parliaments to the Covid-19 pandemic are elaborated upon below as they juxtapose against their mandates of oversight, legislation, and representation, intersecting with use of technology that has raised important questions as to which of the three mandates emphasised the use of 4IR during parliamentary work.

In recent times, the outbreaks of Ebola stands out vividly as an epidemic that affected several African countries. The outbreaks required that the medical and health responses be drawn from local, state, and international resources. These efforts were largely motivated by the United Nations' pronouncement on Ebola as a 'threat to international peace and security'. Between 2014 and 2016 the outbreaks recorded thousands of cases and over 10 000 deaths in West Africa alone (CDC, 2016). Pailey (2017) concludes that local communities, individuals, and the Liberian diaspora supported government and donor community-led medical responses in fighting the epidemic. In the case of Ebola, the executive role in curbing the pandemic overshadowed the role of parliament in the countries affected by the pandemic as has been the experience during the Covid-19 outbreak where the executive is managing the pandemic with limited input from the legislative arm of government (OECD, 2020).

Figure 6.1 Confirmed Covid-19 cases in selected African countries

Source: African Arguments, Coronavirus in Africa tracker confirmed cases as of 8 September 2020

Covid-19 affected the world in unprecedented epic proportions and has caused countries across the world to declare national states of emergency and to institute lockdown measures to curb the Coronavirus (2019-nCoV). International guidelines reiterate the need to integrate gender and human rights considerations in the way parliaments exercise their legislative and oversight roles during the uncertainties taking place during the Covid-19 period (Inter Parliamentary Union, 2020a; 2020b). Initially, African parliaments were forced to shut down the physical execution of their work as were the non-essential sectors. Figure 6.1 above depicts the number of confirmed cases in selected African countries since Covid-19 was first reported in Egypt in February 2020. South Africa, Egypt, Morocco, Ethiopia, Nigeria, Algeria, and Ghana had the highest number of confirmed cases as of 8 September 2020. The ripple effect of Covid-19 through lockdown measures impeded the African parliaments that were under lockdown from fulfilling the triple mandates of representation, legislation, and oversight. Covid-19 also exposed the fragility of the ecosystems for evidence within which parliamentarians operate. The limited access and use of technological tools by parliamentarians to work remotely are an instance in which this fragility was revealed. This section highlights several issues that arise when parliaments seek to fulfil their triple roles in operating within the complexities that result from Covid-19.

Representation

The opportunity presented by the increasing uptake of mobile technology on the continent could be useful in enhancing citizen engagement for parliaments.

Disseminating information through mobile technology would have been more efficient if there had been previous investment to support virtual communication to offer information for evidence uptake during political campaigns, during citizen engagement, or during parliamentary sessions. This lost opportunity meant that during the Covid-19 pandemic, measures were instead geared more towards adhering to social distancing rules for parliamentary sessions to proceed after lockdown measures were eased. Limits were set in Kenya and Tanzania for the number of MPs that could be physically present in the chambers when parliament was in session and this was coupled with strict hygiene and screening measures in parliaments. Parliaments including those of Zimbabwe, South Africa, Kenya, Zambia ceased all parliamentary work immediately after lockdown announcements. In addition, civic engagement and educating communities on observing the stringent regulations of Covid-19 lockdown was done remotely through media such as radio and social media platforms. Opposition parties in South Africa's parliament rallied behind the government through social and visual media platforms to encourage citizens to follow the lockdown regulations instituted in March 2020. Unfortunately, certain instances show that during political campaigns parliamentarians were seen to interact with citizens in contravention of Covid-19 protocols. This is unfortunate as MPs are expected to adhere to lockdown regulations and to rather make use of social platforms but certain MPs appeared to have disregarded this option.

Instead, the elections in Burundi and Guinea, as well as Malawi's judicial ruling for the 2020 presidential elections proceeded according to internationally accepted protocols on social distancing (Human Rights Watch, 2020; Mulauzi, 2020; Wolters, 2020). Incidences of public political officials not adhering to quarantine regulations and hosting public community gatherings place citizens at risk (Lwanga, 2020). Furthermore, although executive strongarm tactics were reported in the media, silence from parliament on the violence perpetrated on citizens by the police as reported in some of Africa's largest cities during the enforcement of lockdown regulation is disconcerting. Leaving the executive itself to deal with such devastating results of enforcing lockdown measures further erodes citizen trust in parliaments to represent their interests.

Legislation

Legislation is an important aspect of parliamentary work and some of the technological aspects that parliaments adopt to work remotely include holding

virtual sessions for plenary sessions. The adoption of laws by parliament will facilitate the executive's response to Covid-19. The fast-tracked Corona Virus Act of 2020 passed by the UK parliament regulated the co-ordinated response of UK health and related sectors towards the pandemic. A similar accelerated experience in the case in Nigeria where the federal legislature proposed an Infectious Disease Control Bill to replace the archaic 1926 Quarantine Act. However, the alacrity with which this legislation was adopted raises some concerns as it took place in Nigeria's parliamentary ecosystem of evidence which is considered fragile.

The approval of the budget is also an important mandate of parliaments. During the Covid-19 pandemic the executive branch of many African governments adopted extraordinary measures with associated budget implications. In these cases, parliaments were required to approve supplementary budgets and budget amendments to support Covid-19 measures. In April 2020, Kenya's parliament approved a supplementary budget for the reallocation of government spending towards Covid-19 responses such as the provision of water to communities. In June 2020, South Africa's second house, the National Council of Provinces passed the Division of Revenue Bill during a virtual plenary sitting for all spheres of government which included R20 billion allocated to provinces to respond to Covid-19 challenges (Parliament of the Republic of Kenya 2020; Parliament of the Republic of South Africa, 2020). However, Covid-19 has also revealed contradictions in parliaments' role in approving national budgets. The approval of supplementary budgets can also be exorbitant to citizens in the face of economic recession and restrictions brought about by measures to curb Covid-19. The adoption of Uganda's supplementary budget in early 2020 included a parliamentary budget of USh20 billion for MPs to use in their constituencies to support Covid-19 response by government and this resulted in a public outcry (Parliament of Uganda, 2020; Kazibwe, 2020). Parliaments will need to be innovative and adopt new ways of working because the pandemic has revealed that procedures that are in place to perform budgetary function need to be flexible in accommodating the approval and subsequent oversight of budgets. This will, for instance, require the research offices and PBO to expediently relay condensed user-friendly information (probably by using technology) to MPs on the socio-economic impact that Covid-19 budgets will have on national development priorities and subsequently how this will affect citizens.

Oversight

The oversight role of parliaments calls for MPs to utilise the ecosystems of evidence available to them to hold the executive accountable (Oronje & Zulu, 2018; Sallas-Mensah, 2011). The lockdown measures may have hindered parliamentarians from accessing evidence from parliamentary systems such as researchers and libraries. Nonetheless, the lockdown measures instituted by many countries to curb Covid-19 provided an opportunity for the use of technological tools to enhance MPs' oversight role. The virtual hosting of committee hearings, for example, Kenya's senate committee on citizens' access to universal health care in the context of health legislation, while the Economic Freedom Front, an opposition party in South Africa, used media platforms to call the executive to account for the measures implemented during lockdown (Parliament of Kenya, n.d.; Evans, 2020). Few parliaments in Africa can be said to be adequately resourced to provide support to parliamentarians in fulfilling their triple roles. The same can be said of the continental body, the Pan African Parliament, which is tasked with oversight of Africa's ambitious Agenda 2063 and the rest of the African Union organs. The vulnerability of the fragile ecosystems for evidence in which these parliaments operate will be exposed in the face of Covid-19 and this will further hinder the capacity of parliament to pass laws and hold the executive accountable. This is further exacerbated by the need for enforcement of lockdown regulations through the coercive power of the state during states of emergency (SANDF in SA, for instance). Parliament is needed to act as a check on the executive's application of these coercive powers and uphold human rights, while being under lockdown itself. In an emergency, separation of powers becomes problematic, as does the unequal access to IT infrastructure which translates into unequal access to vital information (e.g. press conferences which are video conferenced through Zoom or MS Teams).

These examples are contrary to the real experiences of citizens who have been forced to become versatile in their use of technology to communicate their disconnect while the fulfilment of parliamentary mandates appears to have made limited use of technological tools therefore raising the question of whether complex problems are compounded by the onslaught of crises such as the global pandemic of Covid-19. In the case of the parliamentary mandates being met, the use of 4IR in parliaments seems to have unfolded in an incremental manner as opposed to the rapid uptake of technology in the rest of society prompted by the pandemic.

What is the way forward?

Technology has changed how governments work in an environment where complex problems such as health pandemics and climate change are a pressing reality for policymakers. On the one hand, technology has presented benefits for parliaments to respond to shocks such as the Covid-19 pandemic, allowing for virtual plenary and committee sessions to be held through video conferencing technologies, for information digitalised by libraries in parliaments to be made evidence accessible to parliamentarians and other users at a touch of a key. However, it also means that the traditional, bureaucratic ways in which parliaments have operated are no longer suited to new conditions such as dispersed, remote working staff and, as such, parliaments must reshape their hierarchical command and control features, exchanging them for more flexible, decentralised and agile modes of working.

Technology is redefining people's ideas of what democracy means and galvanising citizen and public participation in unprecedented ways, shifting from the notion that one person means one vote to the reality that one device equals one voice. Citizens have become more active through use of new media and are deciding directly on more things more often, as shown by the surge of petitions, initiatives, and referendums across the globe. Technology is not only accelerating this trend, but it also is forging more digital interaction between citizens and their representatives. Grassroots movements, civil society and citizens are leveraging the digital age to open new possibilities for greater participation in the democratic process. It is for these reasons that Shaw and Hanson (2019) contend that Africa needs to leverage digital technologies to become a disruptor itself, advancing its own variety of development and democratic governance in which its innovations and related disruptive technologies can facilitate its global role beyond the holding of elections. However, challenges arise with inclusivity in access to ICTs and new media as individuals from lower socio-economic backgrounds may not be able to participate in new media engagements due to lack of access. The digital divide in the continent relating to data costs and access to devices to access the internet often excludes groups which are already marginalised and presents a challenge to the important notion of no one being left behind.

Parliaments must adopt more collaborative, inclusive and deliberative organisational channels to engage adequately with the new ways in which

empowered members of the public are interacting with parliaments and the ways in which they are communicating. In doing so, a revised landscape of citizen engagement and awareness will be engendered, one in which ordinary people are able to inform the agenda-setting process by sharing their lived experiences and challenges in real time, while engaging with each other and their parliamentary representatives to devise solutions to identified issues.

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