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Disaster Mitigation and Response in Cities: Drawing Lessons from COVID-19 Pandemic

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ABSTRACT This paper discusses disaster management and city resilience in the midst of the upsurge of case of COVID-19, a global biological disaster. The emerging pandemic of the Novel Coronavirus, which is one of the worst biological disasters in 75 years, has questioned various local and national governments on the relevance of their disaster management policies. Through documentary review, case study analysis and secondary data the research paper discusses the failures of technologically advanced countries such as Italy in responding to the COVID-19 pandemic. There is need for policymakers to fully equip themselves through the development and maintenance of disaster management sectors in the government as well as to maintain disaster management funds. This is vital as disasters make cities prone to economic regression thereby increasing the vulnerability of communities to a web of interlocking and continuous disruptions.

INTRODUCTION

Disaster mitigation is vital in any city, especially cities in the global south that are more vulnerable to major disasters due to underdevelopment. Disasters and catastrophic events greatly threaten the sustainability and resilience of cities (Bauer and Scholz 2010; Ahmed and Charlesworth 2014). This disrupts everyday life due to their impact on the economy thereby threatening the livelihood of many communities. Disaster mitigation refers to measures and strategies that are employed to reduce the impacts and risks of hazards, through proactive measures taken before, during or after disaster or emergency occurrence. Disaster mitigation is an essential component of the local government as well as national security as crises affect city development in the long term (Carter 2008). The Coronavirus named COVID-19 has disturbed Chinese economic development and is spreading globally. This outbreak was triggered in December 2019 in Wuhan city in Hubei province of China and it continues to spread across the world (McKibbin and Fernando 2020). There is still a lot of uncertainty pertaining this disease and its impacts on the economy and the cities in the world, thus making it very difficult for governments to come up with mitigation strategies and an appropriate macroeconomic policy response.

Objectives

The paper seeks to contribute to the discussion around the globe, which is aimed at facilitating knowledge as to how cites, especially in the global south can better prepare themselves in coping with the coronavirus outbreak. With reference to the time of the striking of the COVID-19 disaster with a view to proffer recommendations in case of future disasters, the specific objectives of the study were:

1. To map the level of disaster preparedness in the global cities,
2. To describe patterns of interventions in the selected cities, and
3. To suggest strategies disaster preparedness in the global cities.

Background and Context

The rethinking of concepts like vulnerability, resilience and sustainability are crucial in

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encouraging city planners to incorporate disaster mitigation into the recovery process as well as reshape the development philosophy of a city (Das and Mukhopadhyay 2018; Sekar et al. 2019). This cements that disaster management is an on-going national requirement, which should be the governments' top priority due to increasing dangers to the earth, the environment and its people. Thus, in several countries local institutional responses have taken place within project frameworks amidst the coronavirus outbreak that aim at coordinating contributions by government and civil society (Das and Mukhopadhyay 2018). However, risk and exposure to disasters is determined by the size, age and level of financial and operational sustainability the city's institutions. This research's main purpose is to highlight various ways in which various governments have responded to the coronavirus outbreak and how best developing countries such as Zimbabwe can learn from that so as to assist its communities' resilience to biological disasters now and in the future. The research mainly focuses on China, Italy, Zimbabwe and South Africa.

Disasters have been a part of the earth and land systems throughout human history. However, the rate at which they have been occurring has increased mainly due to high interference of human activities in the earth's systems (Mata and Ziaja 2009; Sustainability, Stability and Security Initiative (SSSI) 2018). It is reported that from 1994 to 1998, average disasters recorded was 428 per annum but this figure increased to an average of 707 disaster events per year from 1999 to 2003 (Mavhura 2019). This highlights how both the rural and the urban environments are subject to a number of hazards that are natural or human induced.

Disaster management originated from a series of emergency activities in the face of disasters (Messer 2003; Sim et al. 2018). As a result of land degradation several countries have experienced natural disasters (Hironaka 2002). Disaster management is well prepared through various organisations such as the local or central government, NGOs and other civic groups. Thus, service delivery in the face of any disaster has drastically changed over time. This has been made possible through development initiatives where the introduction of organisations considered were public (local or central government), and non-profit and for-profit agencies as well as ordinary citizens who are the stakeholders and actors responsible for service provision at all stages of the process (Allen 2015; Winkowsk et al. 2019). Therefore, emergency management is historically collaborative from the beginning of the 20th century, multi-sector partnership was predominant in the field.

Literature Review

Conceptual Framework

Disaster management and mitigation are very important components of the rural and urban systems that determine communities' resilience to shocks (Das and Mukhopadhyay 2018; Sim et al. 2018; Falco et al. 2019). The ability of environments to cope after a disaster is dependent on sustainable development, vulnerability and risk.

Disaster mitigation and its links to development are important elements that promote sustainable development in a community (Adamolekun 1989; Carter 2008; Appignanesi 2018; De la Vega et al. 2019). This concept was established after a lot of development efforts by various organisations in the world. The main focus in the history of development was of industrialisation and material production but as time passed economic efficiency, output growth became relevant topics in development. Thus sustainability has been developed so as to incorporate its three pillars, which are the economic, social and the environment (SSSI 2018). In the sustainability web, economic sustainability is one element that can cause great disruption on the social and environmental sectors. Therefore, many organisations in the world mainly focus their efforts in developing countries on improving income distribution, as there is the growth of a large number of the poor in the communities (Allen 2015). The three pillars of sustainable development are threatened by the occurrence of natural disasters.

Economic sustainability is based on the preservation of assets (which are the earth's resources) that yields the maximum amount that an average person or a group of people might consume over some time period and remain well off at the end of the period as at the beginning (Mata

and Ziaja 2009). This clearly highlights that absence of natural capital has a pivotal role in restraining development. Disasters cause major disruption in the economy, looking at the outbreak of the coronavirus. The more industries and people are shutdown, the more regression in the economic sector and its effects will trickle down to the social and the environment components. Impacts of disasters greatly threaten sustainable development (Dube et al. 2014; Das and Mukhopadhyay 2018). Finally, it can be said that disasters are socially destabilising due to their impact on the community and loss of life.

In the face of a disaster such as the COVID-19 it is important in disaster mitigation to assess and identify with reasonable accuracy those assets, societies and settlements that are susceptible to the disaster (Sim et al. 2018). Vulnerability can be described as the extent to which a community, services, geographic area and a structure's likelihood to damage and disruption by the impact of a hazard (Mavhura 2019). It is based on the elements at risk such as infrastructure as well as the physical condition of people. The occurrence of emergencies and major disasters throughout history are increasing the vulnerability of various communities to these disasters. This is a result of world population growth, which puts pressure on the already limited resources (Allen 2015; van Noorloos and Kloosterboer 2018). Vulnerability to emergencies and disasters is considered as the degree of exposure to hazards and of people's resilient capacity. Therefore, vulnerability has two aspects, which are, susceptibility and resilience. Susceptibility is defined as the degree to which a society is exposed to hazards and resilience implies the society's ability to cope with disasters. A community can have both low and high resilience and susceptibility. There is a clear relationship between vulnerability to disasters as well as different stages of social, economic and technological growth (UNFCCC 2007; Carter 2008). This is most evident in developing countries such as Zimbabwe that have been affected by the coronavirus, as they are at greater risk of facing major loss to human life at a higher rate.

Risk refers to the measure of anticipated damages as a result of the occurrence of a disaster at a given area over a specific period of time (Messer 2003; Pharris 2019). Risk is a function of the likelihood of a certain hazardous event as well as the losses it is likely to cause. The extent of risk is influenced by the nature of hazard, vulnerability of those affected and economic value of those elements (Tinputz District 2014). Communities can be considered to be at risk when they are highly affected and exposed to hazards. Dimensions of risk are frequency and magnitude or intensity. Risk assessment is done by relating a natural or artificial hazard to the primary characteristics (for example, population distribution and development aspects) as well as disaster susceptibility of covered area (UNDP 2010). This process involves production of maps through the identification of high-risk areas. It is important for the national and local governments to be able to do risk assessment in the face of the coronavirus, as it is important for forecasting and planning for the futures as well as it helps in disaster prevention and mitigation (Pharris 2019).

Capacity refers to the means, resources as well as strengths, that exist in societies that give them the ability to withstand, cope, prepare for, quickly recover or alleviate from a disaster (Mjanga 2016). Capacity can also be classified into two groups, which are physical as well as socio-economic capacities. Physical capacity is mostly centred on infrastructure as well as skills that people have to cope within or after a disaster has occurred. For instance, during Cyclone Idai in Zimbabwe some people whose houses or crops were destroyed by the cyclone were able to recover belongings from their homes and farms (UNFCCC 2007; Kupika et al. 2019). Most disasters have left people suffering losses in the physical as well as material realm. Developed countries usually have the capacity to recover quicker because of their levels of wealth. After losing everything they have the capacity to cope, as they have the resources (Allen 2015).

Hazards always prevail, however they become disaster when the hazard's occurrence and community vulnerability increases the risk of being severely affected (Tinputz District 2014; Das and Mukhopadhyay 2018). However, the coronavirus is not a natural disaster, it is a biological disaster, which mainly affects human life more that the physical environment (Mavhunga 2020; Pharris 2019; WHO 2020). Therefore, there is need to evaluate the socio-economic capac-

ity of various nations in the face of this pandemic. Capacity is a critical component in disaster mitigation especially developing countries, as they are already incapacitated due too under development.

Issues in Existing Literature

Disaster is an unexpected adverse or unfortunate extreme event, causing damage to natural and manmade environment. which causes great damage to human beings as well as plants and animals (Das and Mukhopadhyay 2018a). These have put pressure on governments and societies that are already under developed and facing poor economic and social conditions (UNFCCC 2007; Pharris 2019; WHO 2020). It does not help that the world is facing vast urbanisation and population growth, which increases the vulnerability of people and economic assets to hazards creating new patterns of risk, making disaster management in cities complex (Chirisa 2013; Aghimien et al. 2018). Disaster management is a planned way or an approach implemented as a way of dealing disaster impacts (Lakhan 2015). It also refers to the organisation and management of resources as well as responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery so as to lessen disaster impact (Carter 2008; Ahmed and Charlesworth 2014). These definitions reflect much emphasis on the reactive sides of disasters and the post-disaster context. Disaster management is also about reducing risks (UNDP 2010; Todd and Todd 2011).

Many scholarly articles have portrayed the disaster management cycle in different forms and alternative terminology (Carter 2008; Kapucu 2012; Ahmed and Charlesworth 2014; Sim et al. 2018; Das and Mukhopadhyay 2018). The common element among these cycles is that they are not a linear process with a succession of events that can start and stop with each disaster occurrence (National Department of Health Directorate: Communicable Diseases 2020). Rather**,** there are four main phases in the cycle which are not occurring in isolation or specific order (International Federation for Information Processing (IFIP 2018). The cycle is an iterative process and the cycle stages may also overlap and the duration of each stage is dependent on the severity of the disaster (Adamolekun 1989; Ahmed and Charlesworth 2014). These phases are:

1. Mitigation: This first phase relates to the minimising of the effects of disaster, for instance, public education on the coronavirus and preventive measures on various social media platforms.
2. Preparedness: In relation to disaster management cycle preparedness is how the authorities plan to respond. Examples may also include preparedness plans, emergency trainings, and lockdowns and early warning systems.
3. Response: Responding to a disaster requires authorities to implement measures and efforts to minimise hazards from the disaster.
4. Recovery: process of going back to normalcy by affected community and instances include temporary housing grants and medical care.

It can be noted that one cannot divorce disaster mitigation from the disaster management, as it is a component of the cycle and is interlinked with other phases of the cycle (Carter 2008).

The term mitigation implies that some disaster impacts may be prevented however some may persist but can be modified or reduced if suitable action is taken (Coburn et al. 1994; Messer 2003; Pisano et al. 2020). Mitigation measures include specific actions aiming to reduce disaster effects on communities. Hazard mitigation are crucial exercises after a disaster. This is unlike mitigation activities which are undertaken before disaster occurrence. Disaster mitigation programs are executed after a disaster occurrence (Sim et al. 2018). However, after the occurrence of a disaster a risk assessment indicating potential for future disasters is crucial (Tinputz District 2014; Boldog et al. 2020). In the current global disaster, mitigation has already been implemented through safety codes governing land, sea and air transport systems, as the borders are closed and many countries have restricted travelling (Modh 2010; Pung et al. 2020). Since the disaster management cycle is iterative, it requires continuous adjustments, a dynamic process that needs decision making as well as interactions at various levels and amongst a diversity of organisations and actors, including individuals,

families, societies, non-governmental organisations, market institutions and government (Adamolekun 1989; Carter 2008; Kapucu 2012). There local institutions can participate in disaster mitigation at various levels of the disaster management cycle.

Mitigation and preparedness measure in developing nations for national disaster plans usually show a lack of detail and supporting financial resources (Angelidou 2016; Förster and Ammann 2018; Sekar et al. 2019). Cash-strapped central governments often delegate their responsibilities in disaster to local governments and NGOs (Mata and Ziaja 2009; SSSI 2018). Investing in vulnerability reduction assists to protect development as well limits impact of major emergencies such as the COVID-19 (Boldog et al. 2020; McKibbin and Fernando 2020; European Centre for Disease and Prevention and Control 2020). This improves the resilience of cities, and building city resilience which since the last decade have gained global campaign, with strong backing from different governments and organisations (Sekar et al. 2019). However, outbreaks prove to be difficult to control and contain.

Many scholars have advocated for the hypotheses of the relationship between population health as well as economic welfare and growth (Marquette 1997; Lakhan 2015; Bhagat 2018). An infectious disease outbreak impacts the economy in a variety of ways. Communication and information distribution technology are crucial for ensuring that communities respond sufficiently to disaster risk by being able to take informed decisions, as it is even further vital for co-ordination (Dainton 2019). Therefore, reducing vulnerability, and ability to respond to disasters is directly associated with the level of decentralised access to information, communication and decision-making and resource control.

METHODOLOGY

The present paper is based on the qualitative research approach, which is based on the descriptive aspect presentation based on the reviews and citations on the social context of the study. Document analysis, case study research approach and secondary data were implored in the research. Secondary sources such as books, journals, newspapers and policy documents were perused and analysed. Multiple sources of data were used, so as to get access to current data being published about the new pandemic (coronavirus) that has hit the world (McKibbin and Fernando 2020). The case study approach was vital in assessing a specific area in this study concentrating largely on countries that were first hit hard by the coronavirus, which are China and Italy, and also looking at cases in the Southern African region for instance Zimbabwe and South Africa and their efforts to mitigate the effects of the coronavirus before it worsens (Mavhunga 2020).

RESULTS

In the late 2019 in China's Wuhan city, a new infectious disease Coronavirus epidemic (COVID-19) emerged suddenly and spread steadily from China (Boldog et al. 2020). The virus gave no warning as it hit China first in Wuhan and the results were severe as thousands of people died. The disease then spread across the globe. Companies across the world experienced reductions in production as a result of lockdown restrictions imposed in China to curb the spread of the virus. Lockdown restrictions through travel ban slowed down global economic activities (Pharris 2019). Fear by consumers and firms misled normal consumption patterns leading to the creation of market anomalies. This assisted China to work faster in coming up with policies that assisted other nations in responding to the virus outbreak.

Case of Wuhan, China

Wuhan is one of the cities in China. It is a busy and important port city and the transport hub of China. Wuhan accounts for sixty percent of Mainland China's overall confirmed cases and around seventy-seven percent of the deaths. The city is estimated to contain a population of close to 9 million people (Boldog et al. 2020). Primary care services in China are delivered by a mix of providers including village doctors and health workers in rural clinics, general practitioners (GPs) in rural township and urban community hospitals, and secondary and tertiary hospitals. In response to the outbreak of Coronavirus Wuhan has selected 46 health facilities for

confirmed Coronavirus patients and is racing to re-purpose other locations into medical facilities.

The medical system is strained by the rate of increasing Covid19 patients (European Centre for Disease and Prevention and Control 2020). When the Covid19 broke out the Chinese government's counterpart aid strategy was implemented. It was centralised and allocated through a handful of official charity organisations, including the Wuhan Red Cross. When the Red Cross became overwhelmed, the government shifted the approach to aid dispersal from top-down command by the central government to authority for resource allocation is delegated from the central government to local governments, allowing donors and recipients to communicate directly about specific assistance needs**.** There was also the initiation by the government to build new hospitals in a short space of time. Ten percent of China's critical health workers was deployed in Wuhan to help fight against the Coronavirus. Patients confirmed to be infected received subsidies from the central and local governments for medical expenditures. Medical workers were also subsidised and those who got infected on duty were compensated (McKibbin and Fernando 2020).

The Chinese government also implemented a lockdown, which only allowed essential services to operate. The city also went through thorough cleaning and disinfection. The major challenge that the local authorities encountered was the shortage of beds and also medical care in new hospitals**.** The Wuhan city going forward is exercising and imposing strict and extreme hygiene in the process of slowly reopening businesses as well as monitoring movements and gatherings.

Case of Madrid, Spain

Spain's capital city Madrid is located in the centre of the Iberian Peninsula. It has a high living standard and the market size hence is considered as the main financial centre of Spain. It has an estimated 3.3 million inhabitants and a metropolitan area population of approximately 6.5 million. Madrid has the highest average life expectancy at birth in the European Union (Gil-Lacruz et al. 2020). Approximately seventeen percent of the population in the city are immigrants. The health sector in Madrid comprises of both the public and private sector. Ninety percent of Spaniards use the public healthcare system, called the National Health System. The system is much decentralised with service delivery organised at the regional level and the country ranks 19th on the 2018 Euro consumer health index.

Spain's social security payments cover the health insurance. There is however poor accessibility, and too much reliance on the private sector remains challenging. Hospitals in Madrid are now overwhelmed by Coronavirus patients since the outbreak of the virus in the country (Boldog et al. 2020). This has made the authorities to call upon retired healthcare workers and students are to assist in the fight against the pandemic. The authorities in Madrid have embarked on a number of actions in response to the outbreak of the virus. Events have been suspended, and closing of government buildings, schools and transport systems has also been implemented following the Prime Minister's announcement of state of alarm on the 13th of March 2020 and the lockdown on the 15th of March 2020. A support package of more than 200 billion Euros was announced and distributed to various cities by the government. Spain's initial slow response to the coronavirus caused the epidemic to become more severe. The authorities in Madrid still plan to continue the lockdown until further notice.

Case of Rome, Italy

Rome is the capital city of Italy and it also regarded as a migrant city. It has an estimated population of 4,355,725 residents. Minors are estimated to be seventeen percent of the population, while pensioners are 20.76 percent. Rome's health sector is run by both public and private healthcare. It has very good quality healthcare with highly trained and knowledgeable health personnel as well as effective and efficient hospitals, pharmacies and healthcare insurance (Pisano et al. 2020). However, due to the rising death toll and rate of infection of the Coronavirus, hospitals are grossly overwhelmed. When the Coronavirus hit Italy, various measures were implored by the government, including banning of public gatherings, travelling restrictions,

banned church gatherings and a countrywide lockdown. Italy's slow response to the outbreak of the virus has led to their facilities being overwhelmed and also high death rates (Malandrino et al. 2019). This has resulted in a strain on the public health sector as well as the economy. The government plans to keep people indoors until there are able to stabilise the situation.

Case of New York City, USA

New York City is amongst the largest cities in the United States of America. It comprises of 5 boroughs. The core of New York is the densely populated Manhattan which is among the worlds' main commercial, financial and cultural centres. The city has an estimated population of 8.3 million people and is also the major point of entry for legal immigrants. Its two key demographic features are density and diversity, as immigrants from various parts of the world make up 25.1 percent of the population (Lakhan 2015). City government projects in New York City are managed by New York City department of health and mental hygiene. Many healthcare systems in placing New York developed from non-profit charitable organisations. The city has a diverse healthcare sector consisting of five industry groups, which are hospitals, nursing and residential care facilities, offices of health practitioners, home healthcare services and outpatient departments, laboratory and other ambulatory care services. It also has the second largest digital healthcare innovation sector in the United States (Boldog et al. 2020).

Due to its population and diversity the city is the epicentre of the Coronavirus. The city authorities declared a state of emergency due to the Coronavirus and people are strictly under stay at home orders. By the time of research, a total of 4,500 people had been hospitalised in the city. State and local officials are making efforts to expand hospital capacity (adding more hospital beds, etc.) and there are plans to build field hospitals at now empty colleges on Long Island. Healthcare workers are struggling to keep up with the increasing number of Coronavirus patients. The central government and NGOs and other individuals are aiding the city financially in the provision of essentials to use in the hospitals. The lockdown will be implemented and monitored until further notice.

Mitigation Measures Across the Global South

Taking from China and Italy the global south especially South Africa and Zimbabwe had to take heed of the importance of first response in preparing disaster mitigation measures. Fragile and conflicted cities are most at risk from the Coronavirus as a result of poor health systems and low capacity, overburdened and under resourced health infrastructures (SSSI 2018; Mata and Ziaja 2009). In Zimbabwe, the health sector faces numerous challenges such as underpaid and unhappy medical staff, lack of necessary equipment and infrastructure to accommodate thousands of patients if the virus hits with the same magnitude as Italy and China (Mjanga 2016; Mavhura 2019). Populations in the global south tend to be younger and are already facing malnourishment, unemployment and poor living standards (Hansen and Dalsgaard 2008). Coronavirus and associated lockdown measures to curb the spread of the virus are affecting urban populations in a variety of ways. The urban poor, undocumented migrants and displaced people lacking regular income or healthcare are mostly affected by the pandemic (Lumun 2014; Islam and Winkel 2017). These are people living in informal housing with lack of suffivient service delivery (Fadaei 2014).

Case of Cape Town, South Africa

To the southwest coast of South Africa is Cape Town, a port city in the Western Cape Province, on a peninsula beneath the Table Mountain (Green 2008). The city has an estimated population of 4,617,560 people. Cape Town is the hub of diversity in South Africa and it is also a multicultural city, which is a destination for expatriates. The health sector comprises of both the private and public health systems that exist in parallel. The wealthiest ten percent of the population use the private system and are better served, while the rest use the government healthcare system. About seventy-nine percent of doctors are in the private sector, ten percent are qualified in other countries and a few work in the rural areas. The people to doctor ratio in the public sector

varies from 2,500 to 4,000 patients for every doctor. When the pandemic hit South Africa, the Mayoral committee in Cape Town revoked permits for previously approved events, banned gatherings and also enforced the national lockdown announced by the state (Smith 2020; Dube 2020). The main challenges in the health sector in Cape Town are the high doctor to patient ratios.

Case of Harare, Zimbabwe

Harare is the capital city of the Republic of Zimbabwe. It has an estimated population of 2,123,132 people (Muronda 2008). Thirty-four percent of the population is under 15 years, sixty-four percent is aged between 50-64 years and two percent is aged 65+. Also, ninety-eight percent of the population is of African origin. Sixty-five percent of healthcare services are provided by the public sector. There exists a vacancy rate for over fifty percent in the health sector and also there is a high doctor to patient ratio, as there exists a ratio of an estimated 1,600 physicians and 7,200 nurses for every 10,000 people in Zimbabwe (WHO 2020). Healthcare largely depends on donor aid and direct budget support to sustain public health institutions. There is no fully accessible national health insurance system, and therefore most of the country's citizens do not have medical aid. High rate of infant and maternal mortality and doctors strikes, which can last for more than six months make up the health sector in Harare.

When the Coronavirus broke out, the government implemented Statutory 77 of 2020, 82 of 2020 and 83 of 2020 (national lockdown order) (AFP 2020). Renovations were done of the Wilkins Hospital to house the affected as well as information dissemination campaigns were conducted about the Coronavirus. The main challenge faced by the outbreak of the coronavirus in Zimbabwe is that ninety percent of the country is in the informal sector therefore, and it is difficult to follow lockdown rules.

Many people, especially in Chitungwiza, lack access to clean water, and thus they are bound to use community boreholes, which makes it difficult to partake in social distancing exercise (Muronzi 2020). Lockdown restrictions as a result of Coronavirus requiring people to work from home is faced with challenges of load shedding. Going forward the government plans to continue with the country lockdown until further notice.

In Zimbabwe, people are concerned, as they cannot practice social distancing, as most people who live in areas such as Chitungwiza in Harare lack access to good water supply, and thus have to fetch water at community boreholes. Coronavirus has occurred in a country already suffering from poor supply of medicines and struggling economy with the government failing to pay striking health practitioners and to procure adequate supplies for state-run medical institutions (AFP 2020; Muronzi 2020). The weakening of the Zimbabwean currency, which was trading at 1: 42 against the US dollar indicating inflation, and was recorded at five hundred and forty percent in February and March, makes it very difficult for the government to implement mitigation strategies. It also does not help that civil servants' salaries are stagnant and not proportional to inflation rates. Isolating affected people as well as ensuring social distancing is an effective response (Marbot 2020). Exercising good hygiene is an economic cost and effective response which helps limit infections and thereby help decrease social and economic costs.

DISCUSSION

It is imperative that governments clearly define a disaster management policy so as to minimise disasters when they occur (Adamolekun 1989; AFP 2020). If such a policy is non-existent, measures to address disaster will be ill deûned and insufficient. Thus, there will be a rise in the loss of material as well as human resources in the nation as a whole (Ahmed and Charlesworth 2014). Indeed, disaster management is crucial in the pre-disaster phase, during or post disaster phase. It can be clearly seen that the outbreak of the coronavirus came when it was least expected and it hit the countries with the best healthcare facilities worst. Thus, to minimise effects of a disaster it does not only take economic stability but also organisation and it also relies on adequate information about the disaster in question. If there is little or no adequate information inadequate policies will be implemented. Clear formulation and execution of a national disaster management policy is crucial if a country is to establish and sustain sufficient provisions in

preparing and managing a disaster. Absence of such a policy makes efforts to deal with disaster ill defined and inadequate.

In most developing countries, however, there is no use in formulating a national disaster plan that exceeds available resource capacity. This indicates that information and resources are critical in dealing with a disaster such as the Coronavirus. Countries should not aim at being definitive about the virus outbreak, but rather make information available on likely economic costs of the disease. National development is negatively affected by loss of natural capital. Community resilient capacity also influence the level of productivity loss arising due to occurrence of natural disasters. From this economic perspective, the fast-increasing interconnectedness has worsened the spread of susceptibility to disaster.

CONCLUSION

The paper sought to map the level of disaster preparedness in the global cities, to describe patterns of interventions in the selected cities, and to suggest strategies disaster preparedness in the global cities. When the disaster of COVID-19 disaster struck, the world was not in any way prepared. The major epicentres became the cities and towns. As the problem continues to grow, disaster mitigation is deemed very central. It is the global cities that were first affected. Through time, the cities in developing countries are beginning to face the problem head on, yet they remain weak in terms of delivering the processes.

RECOMMENDATIONS

Imperative is a localised plan that addresses health and medical matters. It should be robust and comprehensive to cover aspects of preparedness, intervention currently and then interventions after the disaster. Important, in this plan, is the package for effective monitoring and evaluation of progress. The plan must be informed by opinions of experts, as they usually present themselves as 'foot soldiers' with hands on experience as they make important interventions. Required, then, is leadership and government that has the political will to listen and engage. Funds have to be availed for constant reviews and research given the rapid changes that may be happening to both society and the virus. The space of operations is never neutral and static. Constant feedback and awareness are part of the battle There is need to implement systematic approaches to mitigate an outbreak such as the COVID-19.

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